

www.unep.org
United Nations Environment Programme
PO Box 30552, 00100
Nairobi, Kenya
Tel: (254-20) 7621234
Email: publications@unep.org
Web: www.unep.org



UNEP's Compendium of Innovative Laws

promoting Green Economy & Sustainable Development

UNEP's Compendium of Innovative Laws: promoting Green Economy & Sustainable Development

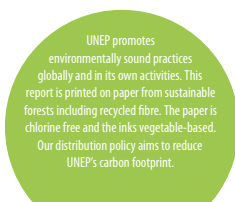
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Foreword

In this critical era of a development oriented world, holistic development, which caters for the social, economic and environmental aspects of our society, is the most desirable for our times. Green economy introduces a notion of global prosperity that looks beyond the traditional confines of economic growth, to the social and environmental tenets, seeking to enhance sustainable development, poverty eradication and predicating the implementation of Agenda 21 and subsequent commitments, including the Rio+20 *The Future We Want Declaration*.

The transition to green economy will, without a doubt, be accelerated or deterred by the existing and future body of laws and regulations, the strength of enforcement, as well as the capacity and flexibility of implementing institutions.

Laws, regulations and institutions are pertinent in determining the success of green economy in achieving a holistic and integrated development. Laws and institutions provide the requisite basis for enabling action, granting authority, defining relations and triggering change. These laws and regulations must be used to mobilize all the tenets of green economy to their full potential in order to protect the natural resources for the current and future generations.

UNEP's Compendium of Innovative Laws Promoting Green Economy for Sustainable Development and Poverty Eradication demonstrates that many countries in the world have indeed embedded and continue to embed the concept of green economy into their legal systems. It shows, with imperative evidence that it is possible to ingrain green economy tools in the law, and further that the legal approach is necessary to provide the normative and organizational underpinnings of green economy transition. This further demonstrates that for green economy to succeed, revamping our various national and regional laws and regulations is inevitable.

The Compendium presents a compilation of laws and regulations from around the world, that have been found innovative and creatively promoting green economy. It highlights the innovative provisions which promote resource efficiency and sustainable consumption and production towards a transition to green economy, in order to demonstrate to governments and policy makers how legislative instruments can be used to enhance social equity, economic development and reduce environmental risks and ecological scarcities.

The Compendium contains a compilation of laws that significantly deviates from a business as usual scenario to demonstrate that law-makers can truly innovate, driving development agenda forward with new policy approaches, regulatory methods, and legislative provisions, which will, if properly implemented promote green economy.

As outlined in "The Future We Want" the implementation of green economy should contribute to poverty eradication, sustainable economic growth, enhanced social inclusion, improved human welfare, and create opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems. The Compendium therefore evaluates constitutions, framework laws and sectoral laws in 10 major sectors of the economy to illustrate how laws and regulations can as much as possible be used to reach the above goals, and further evoke discussions and scholarly studies on the legal approach to green economy with the eventual goal of seeing a surge of laws, regulations and institutions towards a green economy.

Executive Summary

The world economic development agenda is here to stay. This development will continue to bank on the same depletable natural resources and to count on the same human resources to improve or sustain the living conditions of humankind. It is this cognizance that is the backdrop and momentum of the green economy transition: the recognition that we have to change how we approach development, to make it more sustainable, socially inclusive and one that conserves rather than diminishes our natural resources.

This ongoing revolution should be viewed, not as a replacement of the 1992 Rio outcomes and particularly Agenda 21 call to sustainable development, but rather as reinforcement, albeit on a larger scale, to the ongoing implementation of sustainable development and poverty eradication.

The primary proof of this is the affirmation by the UNEP member states in the 2012 Rio + 20 outcome document *'The Future We Want'*, that there are “*different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking but should not be a rigid set of rules.*” The member states further affirmed that green economy should be guided by and in accordance with all the Rio Principles, Agenda 21 and the Johannesburg Plan of Implementation and contribute towards achieving relevant internationally agreed development goals, including the Millennium Development Goals, thus making green economy an important tool of achieving sustainable development.

The Rio+20 outcome document proceeds to give guidelines on green economy policies: recognizing the need for consistency with international laws; respect for national sovereignty; participation of all relevant stakeholders; empowerment for all and respect of all human rights; recognition and enhancement of the role of indigenous peoples and their communities; improvement of livelihoods and empowerment of the poor and vulnerable groups; promotion of productive activities, social inclusion, and sustainable consumption and production patterns; and continued efforts to strive for inclusive, equitable development, among others.

The Future We Want also acknowledges that the rule of law, governance and institutions, at the national and international levels, as well as an enabling environment, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty.

The place of laws, regulations, policies and institutions in promoting the transition to a green economy, being so effectively underscored by these groundbreaking statements, therefore needs to be evaluated, researched on, and highlighted in order to promote more innovative legal measures that support green economy.

This compendium focuses on important national and sub-national laws and regulatory instruments from around the world, documenting and highlighting innovative provisions which promote resource efficiency and sustainable consumption and production towards a transition to green economy on the pathway to sustainable development and poverty eradication. The aim is to demonstrate how legislation and regulatory instruments is working to enhance the sustainable management of natural resources, lowering negative environmental impacts, increasing resource efficiency and reducing waste. This compilation will then support legal drafters and policy-

makers in the development and use of laws and other regulatory approaches to advance the sustainable development agenda.

The Compendium reviews the findings of five regional surveys generated by UNEP to uncover the key trends and innovative provisions on green economy in the context of poverty eradication and sustainable development. As such, the report reviews North America (Canada and the United States), Europe (including both members and non-members of the European Union), Latin America and the Caribbean, the Asia-Pacific region and Africa. The surveys are comprehensive in their scope, addressing both general constitutional and framework laws, and also industry sector specific laws and rules. The surveys were generated by UNEP legal consultants and their teams

The scope of legal instruments evaluated includes national constitutions and framework laws and sectoral laws that contain innovative provisions towards a green economy for sustainable development and poverty eradication. Apart from Part I which is introductory, this Compendium has five further parts. In Part II, the report examines trends in the key constitutional provisions, framework laws and regulatory tools found in the regional surveys. In Part III, the findings of the surveys are reviewed, featuring green economy provisions in designated key sectors throughout the regions. These sectors include: agriculture, forestry, biodiversity, fisheries and marine/coastal areas, sustainable tourism, energy and climate change, sustainable transportation, green buildings and eco-manufacturing, mining and minerals, waste management/waste-minimizing design, and manufacturing. Part IV analyses regional trends and Part V sets out the global trends found throughout the research conducted for the report as well as the emerging principles regarding the green economy that can be seen throughout the terms of the report and the surveys. Finally, Part VI contains the regional surveys and scorecards.

In this Compendium, the rules of the European Union legal regime are discussed under the rubric of regional trends, in the full recognition that EU law is not a trend, but rather a mandatory requirement upon European Union member states, which implement the European Directives into their national legal order, and noting that in terms of green economy and environmental protection, close to 90% of all member state legislation is influenced by EU law. While examples of EU rules should thus also be discussed as national law, UNEP prefers to categorize them as regional trends, in order to prevent confusion by users of the Compendium.

This Compendium comes at a critical time in the international development agenda: in the wake of renewed political will on green economy in the Rio+ 20 conference, at a time when more countries are embracing the green economy transition and legislating on the same. As UNEP's first step in spearheading the world in using the law to promote green economy, it is anticipated that this Compendium will have far reaching impact in the global, regional and national legislative processes to enhance sustainable development and poverty eradication

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Abbreviations and Acronyms

CISDL	Centre for International Sustainable Development Law
DRC	Democratic Republic of Congo
EAC	East African Community
EARS	East African Rift System
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
ECTs	Environmental courts and tribunals
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EPA	Environmental Protection Act
EPPs	Environmentally Preferable Products
ESD	Environmentally Sustainable Development
ESIS	Environmental and social impact study
EU	European Union
FES	Forest Environmental Services
FIT	Feed in Tariff
IMCSD	Inter-Ministerial Committee on Sustainable Development
NEA	National Environmental Agency
NEMA	National Environment Management Authority
NDP	National Development Plans
NGOs	Non-governmental organizations
NPOs	Non-profit organizations
OAS	Organization of American States
SADC	Southern African Development Community
SEA	Strategic Environment Assessment
SMEs	Small and Medium Term Enterprises
REDD	Reducing Emissions from Deforestation and Forest Degradation
UNCSD	United Nations Conference on Sustainable Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UN-ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
UK	United Kingdom
US	United States
VAT	Value Added Tax
WHO	World Health Organization
3Rs	Reduce Reuse Recycle

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PART I: Introduction

“[We] consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development...” (*The Future We Want*, Rio de Janeiro UNCS D 2012 Declaration).

The definition of green economy as envisioned by UNEP (Box 1) introduces it not as a separate concept of its own, but rather as reinforcement, albeit on a larger scale, to the ongoing implementation of sustainable development and poverty eradication. In pursuing a greener economy, nations, regions and the world at large are beseeched to focus on a 3 dimensional kind of development that entails the three pillars, i.e. social, economic and environmental development.

Box 1

What is a Green Economy?

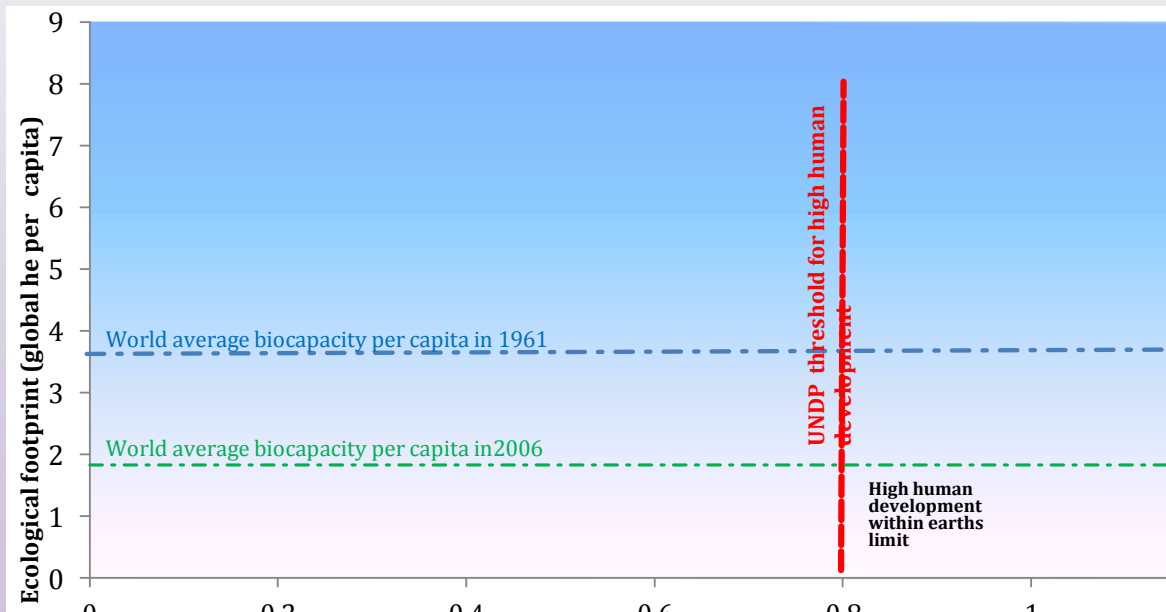
UNEP defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services.

These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes. The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature. To make the transition to a green economy, specific enabling conditions will be required. These enabling conditions consist of the backdrop of national regulations, policies, subsidies and incentives, and international market and legal infrastructure and trade and aid protocols.

Source: UNEP 2011, *Toward a Green Economy: Pathways to Sustainable Development and Poverty Eradication*

The dual challenge of green economy

According to research many countries are now enjoying a higher level of human development, but this has been at the cost of a high ecological footprint. On the other hand, those that have a low ecological footprint face the continuous need for development in order to provide their citizens with basic services such as health, water, education, etc. This brings about a dual challenge, which is the core of the green economy initiative: to enable countries move towards high economic development at a low ecological footprint.



Source: *Global Footprint Network (2010); UNDP 2009*

1.1 Shaping a Global Green Economy

The world is moving towards a global green economy for poverty eradication and sustainable development, and innovative legal practices can play an essential enabling and incentivizing role. As noted in the UNEP Report *Towards a Green Economy* (2011), transitioning to a green economy has sound economic and social justification. A strong case has emerged for redoubling of efforts by governments and the private sector, in order to achieve the necessary economic transformations. For governments, efforts can include leveling the playing field for greener products by phasing out antiquated subsidies, reforming policies and providing new incentives, strengthening market infrastructure and market-based mechanisms, redirecting public investment, and greening public procurement. For the private sector, there is a need to understand and seize the opportunities represented by green economy transitions across a number of key sectors,

responding to policy reforms and price signals through higher levels of financing and investment.¹

This Compendium, analyzes the innovative legal instruments and provisions that countries have adopted to transition to a greener economy. It highlights the ten key sectors that are driving the defining trends of the transition to a green economy. As noted in the UNEP study, these trends include: “increasing human wellbeing and social equity, and reducing environmental risks and ecological scarcities. Across many of these sectors, greening the economy can generate consistent and positive outcomes for increased wealth, growth in economic output, decent employment and reduced poverty.”²

The “*The Future We Want*” Declaration, which was adopted by the Rio+20 United Nations Conference on Sustainable Development, (UNCSD) rather than deciding on a single universal definition of the green economy, affirms that “*there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking but should not be a rigid set of rules.*” (para. 56) With regards to sustainable natural resources management, governments further acknowledged that: “*green economy in the context of sustainable development and poverty eradication will enhance our ability to manage natural resources sustainably and with lower negative environmental impacts, increase resource efficiency and reduce waste*” (para 60). They especially highlighted equity and poverty eradication, agreeing to: “*encourage each country to consider the implementation of green economy policies in the context of sustainable development and poverty eradication, in a manner that endeavors to drive sustained, inclusive and equitable economic growth and job creation, particularly for women, youth and the poor.*” (para 62).

The approach of green economy is not without critics, of course. Some fear a renewed emphasis on an economic bottom-line, to the detriment of environmental or social objectives. However, Rio+20 reaffirmed and underlined that sustainable development is the principal context in which to view the transition to the global green economy. This is also the approach adopted in this study. Particularly in Latin America, there may be a strong tendency not to over-emphasize the role of markets, but rather to focus on important poverty and environmental objectives. When viewed from a sustainable development perspective, the laws that can support the green economy provide for this necessary coherence among economic, environmental and social objectives.

¹ United Nations Environment Programme, *Towards a Green Economy : Pathways to sustainable development and poverty eradication*(Nairobi, UNEP 2011), 14.

²*Ibid.* 24

1.2 Towards More Just and Sustainable Development

Sustainable development is a widely accepted goal of the global community. Its underlying ideas have governed the practices of many cultures for thousands of years.³ As noted in the 1987 Brundtland Report, *Our Common Future*, sustainable development can be defined as “...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Significantly, from inception the concept did not focus on limiting economic activity but rather re-directing development in order to ensure the potential for long-term, sustained yields. It is closely related to, and may indeed become a core objective of, national and international economic law and policy.

The 2012 UNCSA in Rio coupled with the outcomes of the 2002 World Summit on Sustainable Development in Johannesburg, focused global awareness on the need for more environmentally sound and socially equitable economic development. Sustainable development has, in one formulation or another, been enshrined as an explicit objective in more than fifty binding international treaties. It is central to the mandate of many international organizations, and the subject of numerous ‘soft law’ declarations and standards. Sustainable development and its principles guide domestic and international law in many areas of economic, social and environmental policy, particularly where these fields intersect. However, in international economic law, sustainable development remains challenging to implement. The challenge is to ensure that new international and domestic rules which are being developed to encourage trade, investment and financing can also provide sufficient policy flexibility and incentives to encourage sustainability. This can be done by investigating and classifying existing rules and practices, analysing best practice innovations to strengthen and transform (“greening”) the emerging rules of global economic law and policy.

Box 3

Economic globalisation and sustainable development

Globalization offers opportunities and challenges for sustainable development. We recognize that globalization and interdependence are offering new opportunities for trade, investment and capital flows and advances in technology, including information technology, for the growth of the world economy, development and the improvement of living standards around the world. At the same time, there remain serious challenges, including serious financial crises, global warming, natural resource depredation, insecurity, poverty, exclusion and inequality within and among societies.”

Source: UN World Summit for Sustainable Development: Plan of Implementation (“JOPI”), World Summit for Sustainable Development, vol. UN Doc. A/CONF.199/L.1, (Johannesburg, South Africa 2003).

³ See M.-C. Cordonier Segger and A. Khalafan, *Sustainable Development Law: Principles, Practices and Prospects*, (Oxford, Oxford University Press, 2004).

1.4 Objective, Scope and Methodology

1.4.1 Objective

The objective of this Compendium is to compile important national and sub-national laws and regulatory instruments from around the world, documenting and highlighting innovative provisions which promote resource efficiency and sustainable consumption and production towards a transition to green economy on the pathway to sustainable development and poverty eradication. The Compendium demonstrates how a new generation of legislation and regulatory instruments is working to enhance the sustainable management of natural resources, lowering negative environmental impacts, increasing resource efficiency and reducing waste. The other underlying objective is to provide an up-to-date compilation of smart legislation, supporting legal drafters and policy-makers in the development and use of laws and other regulatory approaches to advance the sustainable development agenda.

As a general matter, the report reviews the trends within legal systems as well as global trends in the green economy and underlying legal principles that can be discerned. The report discusses key findings of the surveys at a global scale, while also highlighting specific regional and state practices that are particularly innovative or important for the creation of the green economy. The selection criteria for each example were simple yet challenging – each is an innovative law that significantly deviates from a business as usual scenario. In other words, this Compendium makes no denial that laws are highly context specific, but also recognizes that in all specific contexts, law-makers can adopt conventional laws that echo the same old forms as have been attempted with scant success for the last twenty years, or they can truly innovate, driving regulatory agendas forward with new policy approaches, regulatory methods, and legislative provisions. The selection in this Compendium aims to highlight key examples of the latter, though this remains an obvious simplification of the richness and ingenuity of today’s legal landscape in this field. The authors of this Compendium apologize to all those communities and systems whose innovative laws and compliance mechanisms did not feature prominently in this Compendium, in spite of their evident achievements. What becomes apparent is that there are many areas of overlap in law and policy between the global North and South, although these issues impact on law and society differently and provide examples of both similar and alternate methods of addressing them.

1.4.2 Scope

The scope of this Compendium is very ambitious. As outlined in “*The Future We Want*” the green economy should contribute to poverty eradication, sustain economic growth, enhance social inclusion, improve human welfare, and create opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth’s ecosystems.⁴In this regard, it was affirmed that green economy policies in the context of sustainable development and poverty eradication should be consistent with international law; respect each country’s national sovereignty over their natural resources; be supported by institutions and public participation; promote sustained and inclusive economic growth, foster innovation and provide opportunities, benefits and

⁴UNCSD, Rio+ 20 Outcome document, “The Future We Want” (2012) Chapter III Para. 56

empowerment for all and respect for all human rights; enhance the welfare of indigenous peoples and their communities; improve the livelihoods and empowerment of the poor and vulnerable groups; promote productive activities; promote social inclusion, promote sustainable consumption and production patterns; and continue efforts to strive for inclusive, equitable development, among others.⁵ The laws outlined in this Compendium are those which seek to achieve these ambitious objectives.

As “*The Future We Want*” also acknowledges, the rule of law, governance and institutions, at the national and international levels, as well as an enabling environment, are essential for sustainable development, including sustained and inclusive economic growth, social development, environmental protection and the eradication of poverty.⁶ Laws and regulatory frameworks which focus exclusively on the green economy *per se* are still very few around the world. However, there are many existing and innovative national laws and regulatory frameworks that aim to promote sustainable development, and therefore support the transition to green economy, green growth, resource efficiency and sustainable consumption and production.

This Compendium targets these new and innovative laws including legislation and its judicial application at the national/federal, state/provincial levels. The scope covers constitutional provisions, framework legislation, sectoral and subsidiary regulations and their institutions, particularly those innovations which can be distinguished from the business as usual approach, and which lead to investment in natural capital for long-term development; create jobs; encourage economic growth while reducing environmental risks; promote equity; reduce poverty and create resource efficiency.

1.4.3 Methodology

For the preparation of the Compendium, extensive desk studies, analysis and review were undertaken. No country visits were carried out, though many sections were elaborated by in-country legal experts active in legal review and reform in their respective countries. In particular, there were several key milestones for the preparation of the Compendium at the regional and global levels.

At the regional levels, tasks included the collection of information and data, the preparation of the desk studies and analysis of national legislation, the peer review of regional studies, and the inter-regional review of regional studies. At the global level, tasks included the global desk study and analysis of regional studies in order to identify global trends, the preparation of the global draft compendium, the facilitation of global review meetings, as well as coordination of UNEP internal publication clearances, publication, translation and launch.

⁵ The elements highlighted in para. 58 74 of ‘*The Future We Want*’ will guide the identification of the scope of this publication.

⁶*Supra* note 2

To enable uniform collection of data and information, generic terms of reference were set for the regional consultants and the global processes. As terms of reference for the regional studies, tasks included to:

- i. identify and compile laws and regulatory instruments and institutions that contain new and innovative provisions towards green economy for sustainable development and poverty eradication (at least 10 countries per region, from constitutional to sectoral)
- ii. select relevant legislation (including constitutional/framework and at least 5 key sectoral regulations) that contain new and innovative approaches for promoting resource efficiency and sustainable consumption and production towards a transition to green economy on the pathway to sustainable development and poverty eradication(output: 20-25 case studies of new and innovative legislation in the format contained in the guidelines); and
- iii. analyze emerging principles, trends and approaches from the emerging legal/regulatory instruments, both generic and specific.

For the Global Compendium, the consulting experts were tasked to:

- (i) review and analyze the regional studies with a view of extracting the information for the preparation of the global Compendium;
- (ii) integrate the regional studies into a global Compendium with the new and innovative regulatory instruments, institutions and their judicial application, leading to emerging principles, trends and best practices that can promote resource efficiency, sustainable consumption and production, green economy and sustainable development and poverty eradication with actual selected samples of the legislation;
- (iii) prepare the background context and scope, executive summary and introduction. It will also set out general problems, concepts, structure, functions and challenges of laws as a vehicle for driving resource efficiency, sustainable consumption and production, green economy towards sustainable development and poverty eradication set out in Part I;
- (iv) summarize the key regulatory instruments in constitutional and framework laws and in selected sectoral regulations, focusing on new and innovative approaches, institutions and their judicial application, leading to emerging principles, trends and best practices that can promote resource efficiency, sustainable consumption and production, green economy and sustainable development and poverty eradication with actual selected samples of the legislation;
- (v) make conclusions and recommendations outlining the gaps, challenges and opportunities for advancing innovative legislation; and
- (vi) prepare the draft Compendium ready for publication in consultation with UNEP.

PART II: Key Innovative Provisions in National Constitutions, Legislative and Regulatory Frameworks

2.1 Innovative Provisions in Country Constitutions

Given the legal and societal importance of a constitution within a state, the inclusion of so many provisions recognizing social, economic and environmental concerns might perhaps be considered innovative in itself. While there is nothing to discredit such a belief, the survey of national constitutions illustrates that there are many deeper and more meaningful trends in constitutional innovation for the green economy.

The 21st century has witnessed the continuous enhancement of social, economic and environmental provisions in most countries constitutions. For those countries that adopted or amended their constitutions, each of them has slight different emphasis in strengthening their constitutions with respect to these aspects including: right to a healthy environment; duty to conserve the environment and inclusion of socio-economic rights among others. In addition, many constitutions in the world now make reference to sustainable development as a concept and include it either as a policy objective or by instituting concrete constitutional rights for citizens.⁷

i. SD principles in Constitutions in the Context of the Green Economy

From the outset, the explicit link between environmental protection and economic concerns on the part of the state can be seen time and again in constitutions throughout the world. For example, the constitution of Bhutan provides that “the Royal Government shall secure ecologically balanced sustainable development while promoting justifiable economic and social development.”⁸ Similarly, the constitution of East Timor provides that “The state should promote actions aimed at protecting the environment and safeguarding the sustainable development of the economy.”⁹ The constitution of the Maldives provides that “the State shall undertake and promote desirable economic and social goals through ecologically balanced sustainable development.”¹⁰

A look at most Latin American countries constitutions shows a clear preference for regulating issues related to enterprise and the environment, especially by underpinning clean production. This is especially true in the case of Peru, while in Mexico, the manner in which production activities and the requirements on how they are to be conducted with regard to conservation of the environment are addressed in the legal principles. Cuba also shows unique organization of the State and the economy and in particular the recognition

⁷ As an overview see Andrew Long, *Constitutional Environmental Law and Other Legal Protections for Sustainable Development*, ABA-UNDP Working Paper 2012.

⁸ Constitution of the Kingdom of Bhutan (2008) Art.5.2(c)

⁹ Constitution of East Timor (2002) Sect. 61.3

¹⁰ Constitution of the Maldives (2008) Art. 22

of the tight relationship between social and economic development and environmental protection.¹¹

The Constitution of the Federative Republic of Brazil¹² contains frequent references to the relationship between the economy and environmental protection. Given the country's large rural expanses, rural property receives special constitutional consideration. Rural property is given a social function, which is met when its use is rational and suitable, available natural resources are used properly and the environment is conserved.¹³ Colombia's constitution lays down certain rules on the relationship between the economy and the environment, eschewing liberal criteria, according to which the autonomy of the market should prevail at any cost, in favour of the possibility of State regulation when warranted by environmental factors, even to the detriment of those economic freedoms.¹⁴

The Constitution of Guatemala provides that “[t]he State, the municipalities and the inhabitants of the national territory are required to foster social, economic and technological development so as to prevent environmental pollution and maintain ecological equilibrium. All provisions needed to guarantee that the fauna, flora, land and water are used rationally, avoiding the depredation thereof, shall be enacted.”¹⁵ The Constitution of Panama¹⁶ explicitly refers to the need strive for social and economic development so as to “prevent environmental pollution, maintain ecological equilibrium and avoid the destruction of ecosystems.” Additionally, article 41 of the constitution of Madagascar provides that: “The State guarantees the freedom of enterprise so long as it operates within the limits of the public interest, public order and the environment.”

Some states also make a link between economic, environmental and societal development considerations and goals, thus guiding a significant amount of government policies. In addition, there are instances where the state's economy is dependent on a healthy environment for tourism and other revenues and this need for protection has been enshrined in the constitution. For example, Article 7 of Belgium's Constitution prescribes that: “In the exercise of their respective competences, the Federal State, the Communities and the Regions follow the objectives of lasting development in its social, economic and environmental aspects, taking into account the solidarity between the generations.”

¹¹Articles 67, 69 of the Constitution of the Republic of Peru, Article 4, 25, 27 of the Mexican Constitution, Article 11 of the Constitution of Cuba

¹² AFONSO DA SILVA, José, “Direito Ambiental Constitucional”, Malheiros Editores 8th ed., updated. Brazil 2009.- SARLET Ingo W. and FENSTERSEIFER Tiago, “Direito Constitucional Ambiental: Estudos sobre a Constituição, os Direitos Fundamentais e a Proteção do Ambiente”. Editora Dos Tribunais. São Paulo. 2011.

¹³Article 186, Constitution of the Federative Republic of Brazil, 1988. Benjamin, Antonio Herman, “Medio ambiente e constituição: uma primeira abordagem”, in “10 Anos da ECO- 92: O Direito e o Desenvolvimento Sustentável”, in tribute to ROGER W. FINDELY, International Conference on Environmental Law (6: 2002, São Paulo, SP, 3-6 June 2002, Instituto o Direito por um Planeta Verde, Imprensa Oficial SP, Government of the State of São Paulo. Ayala, Patryck de Araújo. “Devido Processo ambiental e o direito fundamental a meio ambiente”. Editorial Lumen Juris. Rio de Janeiro, 2011.

¹⁴*Ibid.* at art. 334.

¹⁵Constitution of Guatemala art. 97 (1985).

¹⁶ “Aportes para la Administración de Justicia Ambiental en Panamá”, USAID – national government, National Environmental Authority, Panama, 2005.

Further, Article 23 of Belgium’s Constitution adds to this general obligation that the right to human dignity requires the state to guarantee economic, social and cultural rights, including among others “the right to the protection of a healthy environment”.

In the African region many countries have also adopted the sustainable development approach. In Angola for example, The Constitution (*Lei Constitucional da República de Angola*) was replaced in 2010 and provides the basis for sustainable development under Article 39, stating that: “Everyone has the right to live in a healthy and unpolluted environment and the duty to defend and preserve it, and the state shall take the requisite measures to protect the environment, maintain the ecological balance, ensure the correct location of economic activities and the rational development and use of all natural resources, within the context of sustainable development, respect for the rights of future generations and the preservation of species.”

The DRC Constitution similarly in Article 123 of the Constitution makes provision for laws on, among others, the protection of the environment, the sustainable development of the natural resources of the country, and pollution prevention. In Lesotho, sustainable development is encapsulated in section 36 which mandates it to adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of both present and future generations and shall endeavor to assure to all its citizens a sound and safe environment adequate for their health and well-being. The Constitution of Malawi (1994, as amended) also recognizes that responsible environmental management can make an important contribution towards achieving sustainable development, improved standards of living, and conservation of natural resources.

It is clear from the global review that to a greater extent, most countries have incorporated precepts that influence the economy in a trend toward sustainability and the sustainable use of natural resources in their constitutions.

Box 4

The Constitutions of Ecuador and Bolivia are two cases in which “constitutional changes stem from profound political and social processes. Among other considerations, environmental matters are addressed broadly and deeply in both constitutions, reinforcing the tendency to make give the environment a pivotal role, as was seen in Bolivarian Constitution. This points to what appears to be the future of environmental constitutionalism in the region

Source: REY Orlando, “El Desarrollo del Constitucionalismo Ambiental en Latinoamérica”. Updated on 28/12/2008 Material of the UNEP Training Programme in Environmental Law and Policy, available at <http://links.es/13459>

ii. Governance principles

Overall, there is a discernible trend towards embracing sustainable development as one of the governance principles. For example in the constitution of Kenya, sustainable development is included as one of the national values and principles of governance.¹⁷ Similarly, in Uganda one of the national objectives and directive principles of state policy is to mobilize, organize and empower the Ugandan people to build independent and sustainable foundations for the development of country.

In the Asia- Pacific region, the impacts of climate change, urbanization, natural resource scarcity, increasing energy prices, loss of biodiversity and ecosystem degradation have compelled countries in the region to adopt, amend and implement legislation that will promote greater sustainable economic growth. Legislation aiming at shifting the paradigm of economic growth path towards sustainable development introduces a number of innovative regulatory provisions that promote and are based on the principles of green growth. The constitution of Bhutan, for example, provides that “the State shall endeavor to ensure that all the *Dzongkhags* are treated with equity on the basis of different needs so that the allocation of national resources results in comparable socio-economic development.”¹⁸ Additionally, the constitution of East Timor provides that “the [natural resources], which are essential to the economy, shall be owned by the State and shall be used in a fair and equitable manner in accordance with national interests,”¹⁹ and the constitution of Nepal establishes that “provision shall be made for the protection of the forest, vegetation and biodiversity, its sustainable use and for equitable distribution of the benefit derived from it.”²⁰ Further, the Bolivian constitution requires that the exercise of the environmental right “must allow individuals and community groups of present and future generations, as well as other living beings, to develop in a normal and on-going manner”.²¹

In Europe similar commitments to sustainable development as one of the governance principles are also found in various constitutions. For instance, Article 110 of Norway’s Constitution affirms an individual right to healthy and natural environment, and imposes a duty on the state to manage its natural resources in a sustainable manner, with consideration for the interests of future generations. In support of these goals, this Article places an obligation on the state to provide access to information.²² In Belgium, Article 7 of Belgium’s Constitution prescribes that: “In the exercise of their respective competences, the Federal State, the Communities and the Regions follow the objectives of lasting development in its social, economic and environmental aspects, taking into account the solidarity between the generations”. Article 23 of Belgium’s Constitution

¹⁷Constitution of Kenya 2010, Art. 10

¹⁸Constitution of the Kingdom of Bhutan (2008) Art.9(8)

¹⁹Constitution of East Timor (2002) Sect. 139(1)

²⁰Constitution of Nepal, (2007) Art.35(5)

²¹Constitution of Bolivia 2009, Art 33

²²“Every person has a right to an environment that is conducive to health and to a natural environment whose productivity and diversity are maintained. Natural resources should be managed on the basis of comprehensive long-term considerations whereby this right will be safeguarded for future generations as well. In order to safeguard their right in accordance with the foregoing paragraph, citizens are entitled to information on the state of the natural environment and on the effects of any encroachment on nature that is planned or carried out.”

adds to this general obligation that the right to human dignity requires the state to guarantee economic, social and cultural rights, including among others “the right to the protection of a healthy environment”. In France, the preamble of the constitution mentions the Charter for the Environment, which in Article 6 states that “public policies shall promote sustainable development.

iv. Right to a clean and healthy environment and obligation of the state

Many constitutions provide that citizens are to enjoy the right to a healthy environment. This is perhaps one of the most prevalent trends in innovative constitutional terms for the green economy, and it has been used as a bridge to vesting the state with a duty to fulfill this right. It should be noted, however, that the breach of this duty is only rarely justiciable under the terms of the constitutions that create it. Still, the creation of a duty establishes a guide for the state in its policy and decision-making responsibilities, many of which impact the green economy. However, citizens are not simply passive rights recipients under many constitutions; and indeed there are constitutions that place affirmative duties on citizens to protect and conserve the state’s environment and natural resources.

For example, the constitution of Madagascar not only places duties on citizens to prevent environmental damage but also allows the state to confiscate property that is associated with the breach of this duty. Article 110 of Norway’s Constitution affirms an individual right to healthy and natural environment, and imposes a duty on the state to manage its natural resources in a sustainable manner, with consideration for the interests of future generations. In support of these goals, this article places an obligation on the state to provide access to information.²³ The constitution of East Timor establishes the “right to a humane, healthy, and ecologically balanced environment”²⁴ while the constitution of Indonesia creates the “right to enjoy a good and healthy environment,”²⁵ the constitution of the Maldives establishes “rights to a healthy and ecologically balanced environment,”²⁶ the constitution of Nepal provides for the “right to live in a clean environment,”²⁷ and the constitution of Turkmenistan provides for the “right to favorable environment.”²⁸

Thailand does not make the existence of such right apparent but it is supported by the recognition of community rights and right to participate, while its national health legislation explicitly refers to “the right to live in the healthy environment and environmental conditions.”

²³“Every person has a right to an environment that is conducive to health and to a natural environment whose productivity and diversity are maintained. Natural resources should be managed on the basis of comprehensive long-term considerations whereby this right will be safeguarded for future generations as well. In order to safeguard their right in accordance with the foregoing paragraph, citizens are entitled to information on the state of the natural environment and on the effects of any encroachment on nature that is planned or carried out.” Article 110b of Norway’s Constitution (1992)

²⁴Constitution of East Timor (2002) sect. 61.1

²⁵Constitution of Indonesia art.28H.1

²⁶Constitution of the Maldives (2008) art. 23.d

²⁷Constitution of Nepal (2007) art. 16.1

²⁸Constitution of Turkmenistan (2008) art. 36

The Constitution of Argentina, which incorporated the right to a healthy environment, provides that productive activities should satisfy the needs of the present generations without compromising those of future generations, and that the authorities should provide for the rational use of the natural resources.²⁹³⁰

Further, the ‘right to a clean and healthy environment’ is articulated in several African countries constitutions – for example South Africa, Kenya, Uganda, Egypt, and Nigeria – as a fundamental right and freedom that is also important for the achievement of sustainable development.

The emergence of the right to a clean and healthy environment in constitutions can greatly influence the shift towards green economy by building a strong right-based approach to sustainable development, which ensures entitlement of individuals to a certain positive level of environmental quality and enhances public participation and rights, thereby strengthening environmental legislation and increasing accountability and transparency. However, in order to ensure effective contribution to green economy, the right to a healthy environment and its related rights must also be recognized and enforced in subordinate legislation, administrative rules and operations, and judicial systems in order to enable the constitutional provisions to be implemented in practice. Table 1 further summarizes some of the innovative provisions on the right to a clean and healthy environment and obligation of the state in different constitutions.

Table 1: Right to a clean and healthy environment and obligation of the state

Constitution	Innovative Provision
Angola,2010 Art 39	“... state shall take the requisite measures to protect the environment and species of flora and fauna throughout the national territory, maintain the ecological balance, ensure the correct location of economic activities and the rational development and use of all natural resources, within the context of sustainable development.”
Chile,1980 Art 19(8)	“...the right to live in an environment free of pollution. It is the duty of the State to ensure that this right is not affected and to protect the preservation of nature. The law may establish specific restrictions to the exercise of certain rights or liberties in order to protect the environment”
Costa Rica, 1949	“Every person has the right to a healthy and ecologically balanced environment. The State shall guarantee, defend and preserve that right”

²⁹Constitution of Argentina (1994) art. 41

³⁰HOENEISEN PUSCHEL, Lorna. “State Constitutional Duties regarding the Environment”.Abeledo Perrot. 1° Edition 2010. Chile

DRC Congo, 2005
Art 53

“All persons have the right to a healthy environment that is favorable to their development. They have the duty to defend it. The State ensures the protection of the environment and the health of the population”.

Kenya, 2010
Art 42

“Every person has the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations”

Nicaragua, 1987
Art 60

“Nicaraguans have a right to live in a healthy environment and it is the obligation of the state to preserve the environment and conserve, develop, and rationally exploit the natural resources”

Nigeria, 1999
(Amended 2010)
Section 20

“The State shall protect and improve the environment and safeguard the water, air, land, forest and wildlife of Nigeria”. Read together with Article 24 Cap A.9 Laws of the Federation of Nigeria, 2004 as a domesticated African Charter on Human and Peoples’ Rights provides for the Right of a People to a Healthy Environment favorable to their development.

Norway, 1814
Art 110b

“Natural resources should be managed on the basis of comprehensive long-term considerations whereby this right will be safeguarded for future generations” as well...
“Citizens are entitled to information on the state of the natural environment and on the effects of any encroachment on nature that is planned or carried out.”

v. Protection of Natural Resources

Many constitutions require state protection of national natural resources – particularly those associated with minerals and mining – and also establish public information requirements prior to the granting of licenses by the government. For example the Ecuadoran constitution identifies sectors of strategic value, notably energy, communications, natural resources, transportation, biodiversity and water and establishes requirements for state action to ensure environmental protection in these areas. Further, the Ecuadorian constitution establishes specific requirements regarding intellectual property, prohibiting any type of appropriation of collective knowledge in the fields of the sciences, technology and ancestral knowledge along with genetic resources that contain biodiversity and agro-biodiversity.³¹

³¹Constitution of the Republic of Ecuador, 2008

In Panama, constitutional relevance is also granted to the use of agricultural land for which, on the one hand, it is the owner's duty to appropriately use according to its ecological classification to avoid underuse and reduction of the productive potential and, on the other hand, there is the suggestion that the State organize "credit assistance to satisfy the financing needs of the agricultural activity and, especially, of the low-income sector and its organized groups and give special attention to the small and medium scale producer." The Constitution of Honduras provides that "that the technical and rational exploitation of the nation's natural resources is useful and necessary for the public. (...) The country's reforestation and forest conservation are declared a national convenience and of collective interest."

Article 120 of the Constitution of Panama provides that natural resources should be used rationally – avoiding their depredation and ensuring their conservation, replenishment and permanence – while article 121 states that natural resources should be used in a manner that avoids harming society, the economy and the environment. Constitutional relevance is also granted to the use of agricultural land for which, on the one hand, it is the owner's duty to appropriately use according to its ecological classification to avoid underuse and reduction of the productive potential and, on the other hand, the suggestion that the State organize "credit assistance to satisfy the financing needs of the agricultural activity and, especially, of the low-income sector and its organized groups and give special attention to the small and medium scale producer."

The Constitution of the Republic of El Salvador³² features an environmental clause that provides "it is the duty of the State to protect the natural resources, as well as the diversity and integrity of the environment, in order to guarantee sustainable development. The protection, conservation, rational use, restoration or substitution of the natural resources is declared to be of social interest." The Constitution of Honduras provides that "that the technical and rational exploitation of the nation's natural resources is useful and necessary for the public. (...) The country's reforestation and forest conservation are declared a national convenience and of collective interest."

In terms of specific forestry rights, the constitution of Bhutan establishes the government's duty to ensure a minimum percentage of forest in its territory.³³ Some constitutions specifically indicate the minimum percentage of forest cover that should be maintained by a country. A good examples is the Constitution of Kenya 2010 which in Article 69 directs the state to ensure a tree cover of at least ten percent of the land area of the country. Additionally, the Constitution of Guatemala places special importance on protecting forests and declares that reforesting the country and conserving forests is an urgent national matter and in the interest of society and that forests as well as vegetation on the banks of rivers and lakes and within the vicinity of drinking water sources will enjoy special protection. Table 2 lists some of these innovative provisions in constitutions which are particularly prominent in the protection of natural resources.

³³Constitution of the Kingdom of Bhutan (2008) Art 5.3

Table 2: Protection of Natural Resources

Constitution	Innovative Provision
Bhutan, 2008 Art 5,4	“... [the parliament] may enact environmental legislation to ensure sustainable use of natural resources and maintain intergenerational equity and reaffirm the sovereign rights of the State over its own biological resources.”
Bolivia, 2009 Art 9 para 4	“...state’s actions must include the objective of “promoting and guaranteeing the responsible and planned use of natural resources, and promoting industrialization, by developing and strengthening the productive base in its different dimensions and at its different levels, as well as conserving the environment for the well-being of current and future generations.”
El Salvador,1983 Art 117	“...duty of the State to protect the natural resources, as well as the diversity and integrity of the environment, in order to guarantee sustainable development.” The protection, conservation, rational use, restoration or substitution of the natural resources is of social interest
Kenya, 2010 Art 69(1,b)	“State shall work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya”
Panama, 1972 Art 120,121	“...State shall regulate, supervise, and apply, at the proper time, the measures necessary to guarantee rational use of, and benefit from, land, river and sea life, as well as forests, lands and waters, to avoid their misuse, and to ensure their preservation, renewal, and permanence. Benefits gained from non-renewable natural resources shall be regulated by law, to avoid social, economic and environmental abuses that could result.”
Tanzania, 1977 Art27	“...safeguard and protect the natural resources of the United Republic, State property and all property jointly owned by the people... to combat all forms of misappropriation and wastage and to run the economy of the nation assiduously.”

A demonstrable trend in Latin American states is the incorporation of the earth, or “*Pacha Mama*” as it is referred to in some constitutions, as an entity holding constitutional rights and protections. In Latin America, several countries have classified property as having a constitutionally recognized social – as well as economic – function, thus requiring a different standard for evaluation by entities seeking to develop it. Social justice protections have been woven into these constitutional considerations as well.

For example, the Constitution of Brazil has incorporated a strong socio-environmental component into its development policy, giving property a social function to be fulfilled with regard to environmental protection, while at the same time stressing, above all, that one of the guiding principles of the economic order is the defines of the environment. Similarly, Colombia shares Brazil's understanding of the social function of property and of its intrinsic relationship with its ecological function as part of its constitution.

The 1991 Constitution of Colombia establishes that private “property has a social function that entails obligations. As such, an ecological function is inherent to it.”³⁴The Constitution of Uruguay contains Art. 47 which rules that “[t]he protection of the environment is of general interest. People should refrain from any act that causes

Box 5

One of the distinctive and differentiating themes of the Constitution of Ecuador is its declaration in Chapter 7 that “nature will have those rights recognized for it in the Constitution”. This is complemented by the chapter on the “Rights of Nature”, which states that “nature, or Pacha Mama, where it reproduces and makes life, is entitled to have its existence fully respected and to the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes It then states that the primary obligations of the State are: “to plan national development, eradicate poverty, promote sustainable development and the equitable redistribution of resources and wealth, in order to attain good living” and “to protect the natural and cultural heritage of the country.”

Source: *Constitution of Ecuador 2008*

degradation, destruction or serious environmental pollution. The law shall regulate this provision and may provide penalties for offenders. Water is a natural resource essential for life. Access to safe drinking water and access to sanitation are fundamental human rights.”

iii. Socio-economic rights and obligations

Sustainable development has been included as a guide for the enforcement of constitutional rights that seek to balance the interests of economic development and environmental protection and conservation. Similarly, sustainable development has been endorsed as a mechanism through which states are required to evaluate and view development projects such as industrialization projects and plans to exploit minerals or other natural resources located within a particular state.

In France, article 6 of the Charter for the Environment (which is mentioned in the Preamble to the French Constitution and is of constitutional value) states that “public policies shall promote sustainable development. To this end they shall reconcile the protection and enhancement of the environment with economic development and social progress.”³⁵

³⁴*Ibid.* at art. 58.

³⁵Charter for the Environment of 2004 Art. 6.

The Belgian Constitution mandates in Article 7bis: “In the exercise of their respective competences, the federal State, the communities and the regions shall strive for the objectives of a sustainable development in its social, economic and environmental dimensions, taking into account the solidarity between the generations.”³⁶The Constitution of the Bolivarian Republic of Venezuela includes several aspects of environmental concerns in its terms. The applicable constitutional terms evince that it shall be “a right and a duty of every generation to protect and maintain the environment in benefit of itself and the future world,” and that it is a basic obligation of the State – with the active participation of society – to guarantee that the population develops in a contamination-free environment, where the air, water, soil, coasts, climate, ozone layer, and live species are especially protected.³⁷In Lesotho, the state’s mandate on the environment is derived from section 36 of the Constitution of Lesotho, which provides that: “Lesotho shall adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of both present and future generations and shall endeavor to assure to all its citizens a sound and safe environment adequate for their health and well-being.” Additionally, the constitution of Malawi states that the environment of Malawi should be managed in order to prevent the degradation of the environment; provide a healthy living and working environment for the people; accord full recognition of the rights of future generations by means of environmental protection; and conserve and enhance biological diversity.

vi. Indigenous Peoples’ Rights

Indigenous communities are also provided with specific rights, including those relating to their traditional lands and cultures, under a number of constitutions. Often these rights are linked to rights to environmental protection, environmental conservation, sustainable development and economic growth and development. For example, in Bolivia, “native indigenous *campesinos*” play an important constitutional role, and their relationship with the environment, traditional knowledge is emphasized. One can see a clear overlapping of and close relationship between constitutional matters relative to economic development and the inclusion of factors related to environmental protection throughout the Bolivian constitution³⁸ of natural resources and the national productive base will be a priority in the State's economic policies.

vii. Specific Rights to Water and Food

Additionally, some constitutions provide for specific rights to water, food, an adequate standard of living, a dignified life, and/or the promotion of agriculture.

³⁶Constitution of Belgium (1993) Article 7bis

³⁷Constitution of the Bolivarian Republic of Venezuela (1999) Article 127

³⁸*Ibid.* at arts.306, 319 (stating that “industrialization of natural resources will be the priority of economic policies, within a framework of respect for and protection of the environment and of the native indigenous *campesino* nations and peoples and their territories. The interconnection between the exploitation of natural resources and the national productive base will be a priority in the State's economic policies”)

Many constitutions in the African region articulate the right to food and water. Several constitutions protect the broad right of adequate standard of living or dignified life³⁹ while other constitutions make direct mention of the right to food, for instance, the Constitution of Ethiopia in Article 90 states that: to the extent the country's resources permit, policies shall aim to provide all Ethiopians access to public health and education, clean water, housing, food and social security and the protection of right to food as a specific group: South Africa (Art. 28, 35). Others provide for food, safety, consumers, promotion of agriculture, for example the Constitution of Sierra Leone (Art. 7). Table 6 provides a summary of innovation provisions in constitutions that provide for the right to food and water.

The likelihood of socio-economic rights being non-justiciable in some countries however creates a void in the rights-based approach by removing the power of enforcement from a neutral institution and makes them mere declarations. The South African Constitution however articulates social, economic and cultural rights in a manner that leaves no doubt about the justiciability of these rights. In section 7(2) of the Constitution, the state is required to respect, protect and promote and fulfill the rights in the Bill of Rights. The right to food and water is protected in article 2 of the Constitution. The justiciability of social, economic and cultural rights in South Africa has been confirmed in a Supreme Court judgment in the **Grootboom Case**⁴⁰

Table 5: Specific Right to Food and Water

Country constitution	Innovative provision
Malawi, 2006 Art. 30	The State shall take all necessary measures (...) access to basic resources, education, health services, food, shelter, employment and infrastructure.
Nigeria, 1999 Art. 16	State shall direct its policy towards ensuring that suitable and adequate food (...) is provided for all citizens.
South Africa, 1996 Art. 27	Everyone has the right to have access to- (b) sufficient food and water
Uganda, 1995 Art. 14, 22	All Ugandans enjoy rights and opportunities and access to clean and safe water, work, decent shelter, adequate clothing, food security... 22. Provides For food security and nutrition

39 DRC's Constitution (Art. 48), Eritrea's Constitution (Art 10) Ethiopia's Constitution (Art 89), Ghana's Constitution (Art 36), Liberia's Constitution (Art 8), Mozambique's Constitution (Art 41), Nigeria's Constitution (Art 16, 17), Sudan's Constitution (Art 11) United Republic of Tanzania's Constitution (Art 8, 11)

40 See government of South Africa vs. Grootboom 200181) SA 46(CC)

viii. Duties of Citizens

Finally, it should be noted that there is a constitutional trend involving vesting citizens with duties regarding the protection of the environment in ways that relate to the green economy. This duty therefore ceases to be confined to the State and it is instead devolved to the individuals themselves. Table 4 summarizes such provisions in different constitutions. For example, in Bhutan, the constitution provides that “it is the fundamental duty of every citizen to contribute to the protection of the natural environment”, and that “a Bhutanese citizen shall have the duty to preserve, protect and respect the environment.”⁴¹ Similarly, the constitution of East Timor provides that “everyone has [...] the duty to protect [the environment] and improve it for the benefit of the future generations.”⁴²

The Constitution of the Dominican Republic, in addition to crafting the right to the environment *per se*, incorporates among its articulated fundamental duties the legal and moral responsibility that mandates the behavior of society’s men and women to “develop and disseminate the Dominican culture and protect the country’s natural resources, guaranteeing the conservation of a clean and healthy environment.” The Constitution of the Republic of Madagascar requires the public, through designated local government structures, to take appropriate measures to prevent destruction of and harm to their environment, including loss of land, seizure of cattle or loss of ceremonial heritage, unless these measures jeopardize the common interest or public order.

Table 6: Duties of Citizens in Conserving the Environment

Constitution	Innovative Provision
Bhutan, 2008 Art 5,1,8,2	“...fundamental duty of every citizen to contribute to the protection of the natural environment”
East Timor, 2002 Art 61	“everyone has [...] the duty to protect [the environment] and improve it for the benefit of the future generations
Maldives, 2008 Art 67, 1	“it is the responsibility of every citizen (h) to preserve and protect the natural environment,
Myanmar,2004 Art 390, b	“every citizen has the duty to assist the Union in carrying out environmental conservation,”
Tanzania, 1977 Art 27	“Every person is obliged to safeguard and protect the natural resources of[...], State property and all property jointly owned by the people...2) All persons shall by law be required to safeguard State and communal property, to combat all forms of

misappropriation and wastage and to run the economy of the nation assiduously.”

**Thailand, 2007
Sec 73**

“...every person shall have a duty to [...] conserve natural resources and the environment.”

ix. Provincial/Local Government Constitutions

As will be discussed further below, states, provinces and local governments are of significant importance to innovation and the green economy. This is particularly true in North America, where both American and Canadian federal laws do not create constitutional provisions relevant to the green economy.

Perhaps the most innovative of these laws comes from the American state of Hawaii, which establishes an extensive right to a clean and healthy environment for all citizens and also establishes an equally generous entitlement for all citizens to judicially enforce that right for claimed violations. The Hawaiian constitution specifically provides that “Each person has the right to a clean and healthful environment, as defined by laws relating to environmental quality, including control of pollution and conservation, protection and enhancement of natural resources. Any person may enforce this right against any party, public or private, through appropriate legal proceedings, subject to reasonable limitations and regulation as provided by law.”⁴³ Overall, the Hawaiian constitution entrenches the importance of environmental protection and indigenous culture as part of the legal and regulatory system that underpins the state. Control over public lands in Hawaii is subject to constitutional terms that create oversight bodies and boards that handle the potential use – or conservation – of natural resources throughout the state. Additionally, the Hawaiian constitution is particularly concerned with the use and regulation of agricultural land throughout the state, as well as the use of marine resources and inland water resources.

Additionally, the American state of Montana also creates a citizen right for environmental protection and conservation. In the US State of Montana, the constitution requires that the state’s legislative body create “adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources.”⁴⁴

Protections for the environment *per se*, many US state constitutions provide for dedicated protections of natural resources within the state, thus placing some inhibitions or restrictions on their exploration and exploitation. For example, the development of natural resources, public lands and public resources in a careful and responsible way is provided for in the constitution of the US Commonwealth of Virginia.⁴⁵ The Virginia

⁴³Hawaii Const. (1978) Art. XI

⁴⁴Montana Const. Art. IX

⁴⁵ Virginia Const. Art. XI

constitution also requires the state to make general protections against pollution and environmental degradation. The US State of Michigan goes a step further by establishing that citizens have wide-ranging constitutional rights to the preservation and conservation of the environment and natural resources.⁴⁶ This is important to note for the development of the green economy because it ensures that development will be tempered by the ability of citizens to enforce these rights.

Tourism, the protection of marine and coastal resources, the protection of agriculture and the protection of indigenous communities and their rights are also provided for in several constitutions of American states, such as Hawaii, Florida and Virginia. For example, the constitution of Florida requires that the Florida Everglades – an economically and ecologically vital area within the state – be provided with special environmental protections.⁴⁷ This is very important for sustaining the green economy in the state because it balances the needs of tourism development and the need to protect the Everglades area.

Table 7: Provincial/ Local Government Constitutions

Constitution	Innovative Provision
Hawaii, 1978 Art. XI.	“Each person has the right to a clean and healthful environment [...] including control of pollution and conservation, protection and enhancement of natural resources. Any person may enforce this right against any party, public or private, through appropriate legal proceedings, subject to reasonable limitations and regulation as provided by law.”
Massachusetts, 1780 (as amended) XCVII	The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.
Michigan, 1963 Art. IV (52)	“...conservation and development of the natural resources of the state are hereby declared to be of paramount public concern in the interest of the health, safety and general welfare of the people. The legislature shall provide for the protection of the air, water and other natural resources of the state from pollution, impairment and destruction.
Montana Art. IX.	state’s legislative body to create “adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources”

⁴⁶Michigan Const. Art. IV (52)

⁴⁷Florida Const. Art. .II (7)

Virginia	...it is the general policy of the Commonwealth to preserve, protect and conserve the state's natural and historic resources
Art. XI.	

2.2 Legislative and Regulatory Frameworks Relevant to Sustainable Development and Green Economy

Throughout the entire global survey presented in this report, it is apparent that framework laws relevant to the green economy are those laws which have established explicit links between environmental protection, social inclusion and economic growth and use these links as the cornerstone of their legal requirements. This is as true in North America as it is in the Asia-Pacific region. The trend demonstrates that these connections are being made by states at all stages of development and highlights the place that is being carved out for the green economy within such essential framework laws.

i. Framework Laws on Green Economy

Many of these framework laws focus on the need to create and promote green and/or renewable energy in order to protect the environment and the future of economic development within the particular juridical entity. Particularly in Latin America and the Caribbean, the relevant framework laws are required to further responsible development within the particular state and also to further the concept and inclusion of equity in the exploitation of natural resources.

Table 6: Selected Framework Laws on Green Economy

Country	Province/State	Framework Law on Green Economy
Canada	Ontario	<ul style="list-style-type: none"> ▪ Energy and Green Economy Act 2009 ▪ Goals and Sustainable Prosperity Act 2007
	Nova Scotia	
China		<ul style="list-style-type: none"> ▪ Circular Economy Promotion Law 2008
France		<ul style="list-style-type: none"> ▪ Loi n°2009-967 du 3 août 2009 de programmation relative à la mise en œuvre du Grenelle de l'environnement (LoiGrenelle 1) ▪ Loi n° 2010-788 du 12 juillet 2010 portant engagement national pour l'environnement (LoiGrenelle 2)
Japan		<ul style="list-style-type: none"> ▪ Basic Act on Establishing a Sound Material-Cycle Society 2000

South Korea		<ul style="list-style-type: none"> ▪ Framework Act on Low Carbon Green Growth 2010
U.S	<ul style="list-style-type: none"> Massachusetts Florida Illinois 	<ul style="list-style-type: none"> ▪ Climate Protection and Green Economy Act 2008 ▪ Florida Green Governments Grants Act 2008 ▪ Green Governments Illinois Act 2007

In France, Loi n°2009-967 du 3 août 2009 de programmation relative à la mise en œuvre du Grenelle de l’environnement (Loi Grenelle 1), and Loi n° 2010-788 du 12 juillet 2010 portant engagement national pour l’environnement (Loi Grenelle 2) were adopted in order to provide a general framework for policymaking, including more specific guidelines for sensitive sectors. These laws set guiding principles and commitments for 13 designated sectors (specifically: building, planning, transport, energy, biodiversity, water, agriculture, research, risk/health and environment, waste, and governance) to ensure sustainable growth without compromising the needs of future generations.

In the Republic of Korea, the *Framework Act on Low Carbon Green Growth* was adopted by the National Assembly (Box 6). This legislation established and enforced the National Strategy for Low Carbon, Green Growth,⁴⁸ which stipulated the country’s targets and policy prescriptions needed to achieve a paradigm shift towards greater environmentally sustainable economic growth. In addition to the targets and main tasks for promotion, the *Framework Act* mandates that the National Strategy proposed should include matters concerning the realization of the green economic system, green technology and green industries and green lifestyle, policies for coping with climate change, policies on energy, and sustainable development and other matters necessary for green growth such as procurement of financial resources, taxation, financing, training of human resources, education, and public relations activities.⁴⁹ The *Framework Act* also requires the central sectoral administrative agencies and local governments to establish and implement central and local action plans under their jurisdiction for green growth in conformity with the national strategy.⁵⁰ These action plans are required to be revised every five years. The *Framework Act* further stipulates the development of basic plans every five years for coping with climate change,⁵¹ for energy use evaluation⁵² and for green life and sustainable development⁵³ for a planning period of 20 years.

⁴⁸ South Korea: Framework Act on Low Carbon Green Growth, 2010. Art. 9 National Strategy; Presidential Decree on the Establishment and Operation of the Presidential Committee on Green Growth.

⁴⁹ *Ibid.*

⁵⁰ *Ibid.* Art 10 Central Action Plans and Article 11 Local Action Plans.

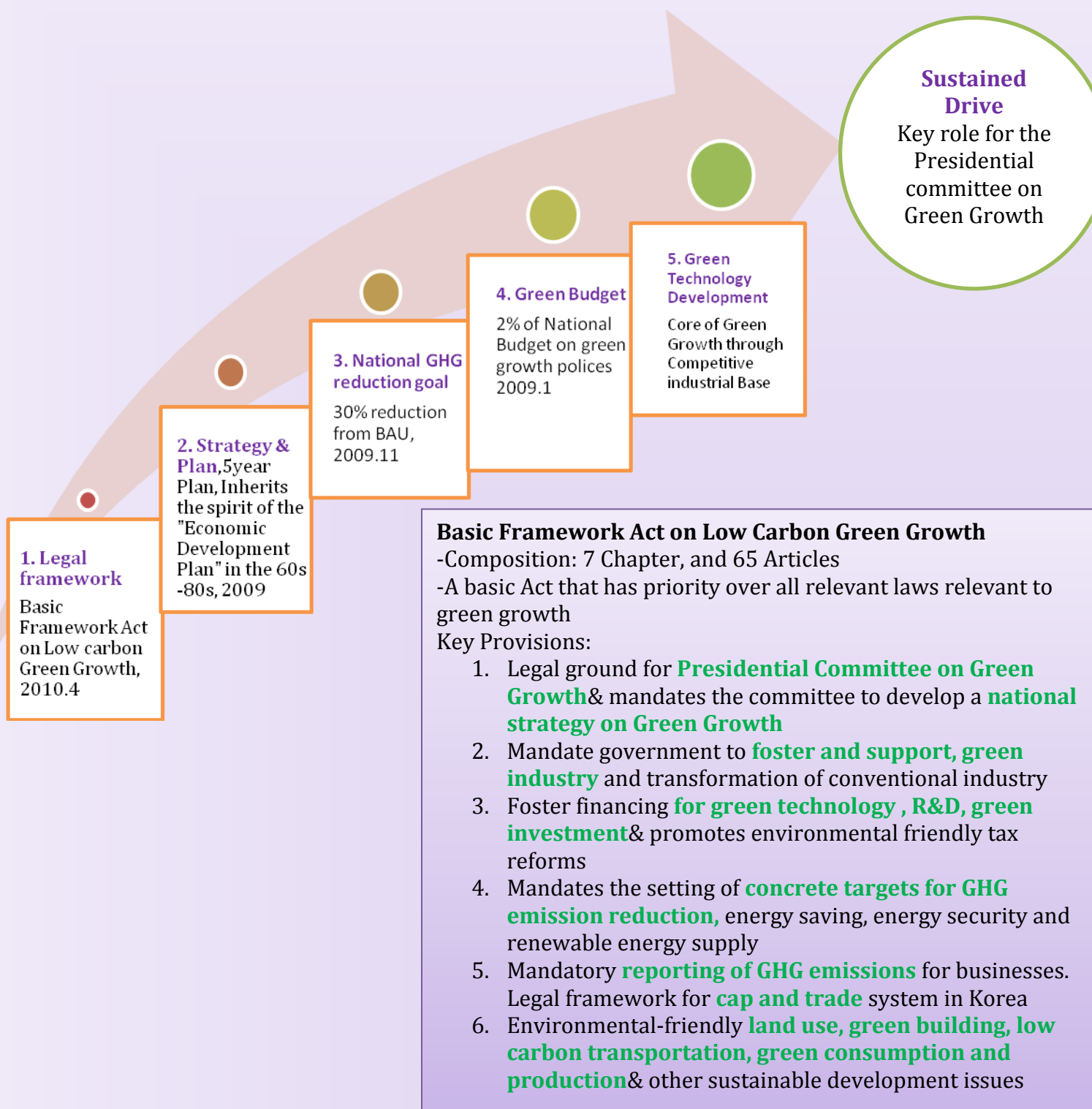
⁵¹ *Ibid.* Arts. 38, 40

⁵² *Ibid.* at Arts.39, 41

⁵³ *Ibid.* at Art. 49

Box 6

Best Practice: South Korea *Framework Act on Low Carbon Green Growth (2010)* Case Study



Recognizing that greater economic development and population growth would exert pressures on the limited land, natural resources and environmental quality of Japan, the government initiated the establishment of a Sound Material-Cycle Society. The Japanese government adopted the *Basic Act on Establishing a Sound Material-Cycle Society* as a basic framework law to facilitate the move toward a sound material-cycle society.⁵⁴ A Sound Material-Cycle Society refers to a society in which natural resources will be conserved and the environmental load will be reduced to the greatest extent possible, by preventing or reducing the generation of wastes from products, and by promoting proper cyclical use of products.⁵⁵ Article 15 of the *Basic Act* requires the government to formulate a fundamental plan to implement measures for establishing a sound material-cycle society in a comprehensive and systematic manner. Key points include:

- 1) creating a sustainable society in line with approaches toward a low-carbon society and eco-friendly society;
- 2) setting out enhanced numerical targets for material flow indicators of material productivity, usage rate of recycled goods, and amount of final disposal that are designed to keep track of progress toward a sound material-cycle society;
- 3) setting targets such as a 20% reduction in per capita/day waste from households and other numerical targets as well as monitoring indicators;
- 4) detailing the expectations for stakeholders including citizens, nonprofit organizations (NPOs), non-governmental organizations (NGOs), universities, businesses and local governments to mutually cooperate and play their respective roles for achieving given targets; and
- 5) the national government shall implement measures to promote 3Rs-related national campaigns, 3Rs-level's technology, 3R sound business and system and, furthermore, to form a recycling zone in East Asia for creating an international sound material-cycle society to make international contributions.

Virtually all framework laws discussed in the report require the creation of significant regulatory and administrative procedures for their enforcement; concomitantly, many of these laws establish significant administrative apparatuses for regulatory enforcement at the national and local levels. These administrative apparatuses are typically tasked with enforcing laws and rules relating to energy efficiency, labeling requirements, oversight of testing facilities, licensing and permitting for designated entities and activities, waste management, greenhouse gas emissions, providing financial and technical assistance for green energy related research, enforcing natural resource protections and responsible exploitation of natural resources, auditing of public and private entities for compliance assurance, and incorporation of indigenous communities and their concerns throughout multiple aspects of the green economy. Often these administrative apparatuses must

⁵⁴ Japans Basic Act on Establishing a Sound Material-Cycle Society, 2000. Art. 1.

⁵⁵ *Ibid.* at Art. 2.

enforce benchmarks that are pre-set as a matter of law – such as emissions requirements – or which they themselves are required to promulgate as part of their statutory duties.

The People's Republic of China promulgated Circular Economy Promotion Law, which requires the general administration for developing circular economy under the State Council to formulate the national circular economy development plan and implement the plan upon approval of the State Council and the administrative departments of circular economy development under the people's governments at or above the level of county city shall do the same. The circular economy development plan shall include objectives, applicable scopes, main contents, major tasks and safeguard measures, as well as indicators for resource output rates, waste reuse and recycling.⁵⁶ China's Law on Promotion of Clean Production of 2002 (last amended in 2012) has similar provisions.⁵⁷

In the *Energy and Green Economy Act*⁵⁸, the Canadian province of Ontario legislature made it clear that it “is committed to fostering the growth of renewable energy projects, which use cleaner sources of energy, and to removing barriers to and promoting opportunities for renewable energy projects and to promoting a green economy,” and that it is dedicated to ensuring energy efficiency in both the public and private sectors. The Act allows the Lieutenant Governor in Council to create and implement energy conservation plans for administrative entities within the province, including specific energy targets and requirements for targeted public agencies. In addition, it is possible for the Lieutenant Governor to require particular public entities or administrative entities as a whole to consider energy conservation in making public decisions such as procurement, investments, and the maintenance and construction of public facilities. The Lieutenant Governor has the ability to further require that public entities provide reports on set criteria relating to energy conservation attempts. Outside the public authorities' realm, the Act contains provisions requiring the sale of energy and water efficient appliances and other household items. This includes a stringent labeling requiring for such products as they are offered for sale throughout the province. The Lieutenant Governor is given the authority to oversee and regulate renewable energy testing facilities throughout the province, including designating those entities that are allowed to conduct such tests and how they are conducted. Additionally, the Act contains extensive licensing and other requirements for those entities seeking to become involved with energy and water use, regardless whether they are public or private actors. The Act creates the office of Renewable Energy Facilitator, which is “authorized to collect, directly or indirectly, and share information about the proponent of a renewable energy project, the proponent's project and the process or processes associated with the approval by any ministry of the project.”

The US State of Massachusetts created the *Climate Protection and Green Economy Act* to provide guidance for state and industry authorities on these issues.⁵⁹ Under the terms of the Act, Massachusetts enacted regulations for reporting and verifying that the

⁵⁶ China: Circular Economy Promotion Law, 2008 Art. 12.

⁵⁷ China: Clean Production Promotion Law, 2002 art. 8.

⁵⁸ Green Energy and Green Economy Act, ch. 12 (2009)

⁵⁹ Climate Protection and Green Economy Act, ch. 298 (2008)

standards used for greenhouse gas emissions are being met and also set targets for emissions reductions within the state by 2020. In order to achieve this, the Act authorizes designated authorities to use market-place compliance mechanisms such as increased regulations, cross-border consultation with Canadian provinces, and monitoring of laws and regulation to ensure their effectiveness and viability. The US State of Florida enacted the *Florida Green Governments Grants Act* in order to assist local governments within the state with entering into green energy and other green economy-based projects.⁶⁰ These projects must meet “green standards,” which are defined in the statute as providing economic advantages to the localities, as well as lowering greenhouse gas emissions, improving the overall quality of life of those within the appropriate jurisdiction, and improving the State of Florida’s overall economy.

The Canadian province of Nova Scotia enacted the *Environmental Goals and Sustainable Prosperity Act*.⁶¹ This Act is a novel piece of legislation that creates the framework for business and environmental practices within the province. It begins with the essential statement that there is a connection between the environment and the economy, and that it is the responsibility of the public and private sectors to foster this relationship in order to encourage present day and future development. The Act then provides goals and benchmarks for meeting these aspirations, including meeting the US State of California emissions standards by 2020, ensuring that over 18% of the province’s energy will be generated by renewable energy by 2013, requiring that wastewater treatment facilities will meet high benchmark targets by 2017, requiring that the province’s procurement policies will be made sustainable, and providing that new residential construction meet high benchmarks for energy efficiency standards. Further, the Act grants the Governor in Council for the province wide latitude for creating political agreements and alliances with other local and provincial authorizes in order to implement its terms, meaning that pursuing the green economy can create novel political alliances.

The US State of Illinois enacted the *Green Governments Illinois Act*. This Act takes note of the importance of protecting future generations from the depletion of natural resources as well as the overall environmental and societal impacts of greenhouse gas emissions within the state.⁶² In order to protect current and future generations, the Act seeks to strengthen the ability of local governments in particular – such as cities and towns – to enact laws that are environmentally sustainable for the future. The Act also focuses on the integration of sustainable mechanisms for greenhouse gas reduction at the state government level by establishing the Green Governments Coordinating Council. As part of this undertaking, the Act requires that each state agency submit a sustainability plan to the Green Governments Coordinating Council for review and suggestions. It should be noted that the Green Governments Illinois Act was supplemented by an Executive Order that required that 11 state agencies reduce the environmental impacts of their operations.

⁶⁰Florida Green Governments Grants Act, Fl. Stat.tit.XXVII, ch. 377 (2008)

⁶¹Environmental Goals and Sustainable Prosperity Act, ch. 7 (2007)

⁶²Green Governments Illinois Act, 20 ILCS 3954 (2007)

ii. Sustainable Development Laws

While only a few laws, such as Canada’s Sustainable Development Act,⁶³ and others listed on table 7, are explicit in their embracing of sustainable development, the majority of framework laws surveyed did indeed include significant links to sustainable development as a principle that informs the terms of these laws. As noted in the above section discussing relevant national constitutional provisions, the laws found in many Latin American states are of particular note because they not only embrace sustainable development as a legal requirement but also include links between environmental rights and the constitutionally protected Mother Earth entity.

Table 8: Selected Framework Laws on Sustainable Development

Country	Province/State	Sustainable Development Laws
Canada	Quebec	<ul style="list-style-type: none"> ▪ Sustainable Development Act 2008 ▪ Sustainable Development Act 2006 ▪ Environmental Protection and Enhancement Act 2000
	Alberta	
Malta		<ul style="list-style-type: none"> ▪ Sustainable Development Act (2012)

In Malta, the Sustainable Development Act of 2012, referred to in Table 7 above, was adopted in order to create a framework through which sustainable development is to be mainstreamed across the government’s activity. In order to achieve this goal, every Ministry is obliged to have a Sustainable Development Coordinator. The law further prescribes that a Sustainable Development Network be established, with the aim of promoting sustainable development in Malta. This Network will be composed of the Coordinators, NGOs and experts, and be chaired by a Chairperson appointed by the Prime Minister. The Act also establishes the position of Guardian of Future Generations, a commission whose role is to safeguard inter-generational sustainable development in Malta.

The Canadian province of Quebec enacted the *Sustainable Development Act*, the goal of which is “to establish a new management framework within the Administration to ensure that powers and responsibilities are exercised in the pursuit of sustainable development.”⁶⁴ For all actions, the provincial authorities are now required to take the following sustainable development principles into account: health and quality of life; social equity and solidarity; environmental protection; economic efficiency; participation and commitment; access to knowledge; subsidiary; inter-governmental partnership and cooperation; prevention; precaution; protection of cultural heritage; biodiversity preservation; respect for ecosystem support capacity; responsible production and consumption; polluter pays; and internalization of costs. The Act requires that the provincial government’s “sustainable development strategy must state the selected

⁶³Canadian Federal Sustainable Development Act (S.C. 2008, c. 33)

⁶⁴Sustainable Development Act, ch. D-8.1.1 (2006)

approach, the main issues, the directions or areas of intervention, and the objectives to be pursued by the Administration in the area of sustainable development.” Along with this requirement, the Act sets out a reporting provision in order to ensure that the government is acting in accordance with the established requirements for sustainable development.

The Canadian province of Alberta enacted the *Environmental Protection and Enhancement Act* with the goal of protecting and enhancing the environment in conjunction with the promotion of public health and public policy generally, and the encouragement of provincial economic growth and prosperity, sustainable development principles and the polluter pays principle.⁶⁵ In order to accomplish these goals, the *Environmental Protection and Enhancement Act* establishes the Sustainable Development Coordinating Council and an Environmental Protection and Enhancement Fund, which is to be used to support the purposes and goal of the Act, particularly in instances of environmental emergencies. The Act also contains extensive provisions regarding remediation requirements for those involved in contaminating lands within the province and establishes intensive requirements for those wishing to sell or distribute hazardous substances or pesticides.

iii. Innovative Green Economy Provisions in Framework Environmental Laws

The principle purpose of environmental law is to facilitate environmental management by providing rules and regulations towards environmental protection and conservation. On the other hand green economy seeks to foster economic and social growth while at the same time reducing environmental risks and ecological scarcities. It therefore follows that framework environmental laws contain a host of innovative green economy provisions that support the third tenet of this concept. In Africa, as in most regions, the framework laws for green economy are primarily environmental laws. Some of these Framework laws are indicated in Table 8.

Table 8: Innovative Green Economy Provisions in Framework Environmental Laws

Country	Province /state	Framework environmental Law
Angola		<ul style="list-style-type: none"> ▪ Environment Framework Law (Lei de Bases do Ambiente), No. 5/98 of 19 June 1998
Bolivia		<ul style="list-style-type: none"> ▪ Framework Law on Mother Earth and Comprehensive Development for Living Well, 2012
Brazil's		<ul style="list-style-type: none"> ▪ Law No. 6938 on Domestic Environmental Policy 31 August 1981
Canada	British Columbia	<ul style="list-style-type: none"> ▪ Environmental Management Act 2003& Greenhouse Gas Reduction Act
	Newfoundland and Labrador	<ul style="list-style-type: none"> ▪ Environmental Protection Act 2002

⁶⁵Environmental Protection and Enhancement Act, RSY 2000 E-12.

Costa Rica		<ul style="list-style-type: none"> ▪ Environmental Organic Law No. 7554 of November 13, 1995
DRC Congo		<ul style="list-style-type: none"> ▪ Environmental Protection Act (EPA), No. 11/009 of 9 July 2011
East Timor's		<ul style="list-style-type: none"> ▪ Basic Law of Environment
El Salvador		<ul style="list-style-type: none"> ▪ Environmental Law No. 223 of May 4, 1998
Finland		<ul style="list-style-type: none"> ▪ Finnish Act on Water Resources Management , 2004
Laos		<ul style="list-style-type: none"> ▪ Environment Protection Law
Lesotho		<ul style="list-style-type: none"> ▪ Environment Act, No. 10 of 2008
Mexican		<ul style="list-style-type: none"> ▪ General Law on Ecological Equilibrium and Environmental Protection of 28 January 1988
Mozambique		<ul style="list-style-type: none"> ▪ Environment Law (Lei do Ambiente), No. 20/97of 1 October 1997
Nicaragua		<ul style="list-style-type: none"> ▪ General Environmental and Natural Resources Law No. 217 of June 6, 1996
Philippine		<ul style="list-style-type: none"> ▪ Environment Code
Singapore		<ul style="list-style-type: none"> ▪ Environmental Protection and Management Act of 1999 (last amended 1 April 2009) ▪ National Environmental Agency Act of 2002
Trinidad & Tobago		<ul style="list-style-type: none"> ▪ Act Number 3, of 2000, the “Environmental Management Act,”
U.S	California	<ul style="list-style-type: none"> ▪ Global Warming Solutions Act of 2006
Uruguay		<ul style="list-style-type: none"> ▪ The General Environmental Protection Law No. 17.283 of November 28, 2000
Venezuela		<ul style="list-style-type: none"> ▪ Environmental Organic Law

In Singapore, the *Environmental Protection and Management Act of 1999* (last amended 1 April 2009) and the *National Environmental Agency Act of 2002* created the legislative framework for regulations governing environmental stewardship as well as the establishment of the National Environmental Agency (NEA). The NEA initiated the development of the Singapore Green Plan 2012. The Inter-Ministerial Committee on Sustainable Development (IMCSD) was established in January 2008 to develop a national sustainable development framework. Building on the NEA's Green Plan, IMCSD promulgated the Sustainable Singapore Blueprint 9, which sets out the overall strategy and targets for Singapore's sustainable development over the next two decades until 2030.

In Bolivia, the inter-linkage of the concepts of development, the recognition of Mother Earth, and environmental protection includes the Framework Law on Mother Earth and Comprehensive Development for Living Well No. 300 of 15 October 2012, the most recent and novel law in the Latin American region. This law has a specific purpose: “to establish the vision and the foundations of integral development in harmony and equilibrium with mother Earth for Good Living, guaranteeing mother Earth’s continued capacity to regenerate the components and systems of life and recovering and strengthening local know-how and ancestral knowledge, within the framework of the complementarity of rights, obligations and duties; as well as the integral development goals as a means to achieve Good Living, the foundations for planning, public management and investments and the strategic institutional framework for its implementation.” In a law of this type, the provisions regarding raising awareness on one of its basic precepts are of primary importance. Consequently, the law requires that the “Plurinational State of Bolivia will promote a gradual change towards the establishment of sustainable consumption habits among the Bolivian people.” Moreover, the law states that “it will create the conditions to allow the distribution of the wealth generated by the strategic sectors of the economy, based on the use and transformation of renewable and non-renewable natural resources, to have a direct impact on the construction of a fairer, more equitable and more solidarity-based society without material, social or spiritual poverty.”

Brazil's Law No. 6938 on Domestic Environmental Policy⁶⁶ delimits the basic framework of the state’s sectoral environmental policies. From the outset, the law makes clear that one of its objectives is to “ensure . . . the conditions for the socioeconomic development.” In addition, the law establishes that domestic environmental policy is to seek to reconcile socioeconomic development with conserving the quality of the environment and ecological equilibrium. Brazil's Law No. 6938 on Domestic Environmental Policy⁶⁷ delimits the basic framework of the state’s sectoral environmental policies. From the outset, the law makes clear that one of its objectives is to “ensure . . . the conditions for the socioeconomic development”. In addition, the law establishes that domestic environmental policy is to seek to reconcile socioeconomic development with conserving the quality of the environment and ecological equilibrium.⁶⁸

Mexico’s General Law on Ecological Equilibrium and Environmental Protection of 28 January 1988 has numerous provisions establishing an environmental protection framework for the conduct of economic activities. It establishes its main objectives as the sustainable use of natural resources so as to ensure that economic benefits are obtained and activities are carried out by society in a manner consistent with the conservation of the ecosystems, and to guarantee persons' participation, based on shared responsibility, in the preservation and restoration of ecological equilibrium and environmental protection. The law indicates that “national development planning must incorporate environmental

⁶⁶ It should be noted that Law No. 6938 on Domestic Environmental Policy has been in force since 31 August 1981.

⁶⁷ *Ibid*

policy and management.”⁶⁹ Mexico decisively favours ecological land-use planning, resulting in a strong impact on efforts to ensure that production and economic activity are sustainable. In addition, through economic tools, the country is attempting to “promote a change in the behaviour of persons who carry out industrial, commercial and services activities, in order for their interests to be consistent with collective interests related to environmental protection and sustainable development.” Another set of mechanisms through which the State plays a decisive role in the economy are the “Official Mexican Environmental Standards,” intended to guarantee the sustainability of economic activities. The standards aim to: “establish the requirements, specifications, conditions, procedures, targets, parameters and permissible limits to be abided by in the regions, zones, basins or ecosystems in the use of natural resources, the conducting of economic activities, the use and allocation of goods, as well as with regard to inputs and processes; consider the necessary conditions for the well-being of the population and the conservation or restoration of natural resources and the protection of the environment; encourage or persuade economic agents to modify their processes and technologies in accordance with environmental protection and sustainable development; provide long-term certainty on investment and induce economic agents to assume the costs of the adverse environmental impacts that they cause; and encourage production activities to be carried out according to the criteria of efficiency and sustainability.”

The Environmental Law No. 223 of May 4, 1998 of El Salvador develops the constitutional precepts discussed above and incorporates among its principles that “economic and social development must be compatible and balanced with the environment.” Taking into account the social interest mentioned in article 117 of the Constitution, the law stipulates that “the sustainable use, availability, and quality of the natural resources must be ensured, as the basis for sustainable development and in this way improve the quality of life of the population” and that “it is the responsibility of society in general, of the State and every natural and legal person, to replace or compensate the natural resources they use to ensure their existence, satisfy their basic needs of growth and development, as well as frame their actions to lessen or mitigate the impact on the environment; consequently, the patterns of non-sustainable production and consumption will try to be eliminated.” Article 12 favors taking into consideration the environmental dimension in all its national, regional, and local development policies, plans and programs and land management, and there are also provisions made for the use of Strategic Environmental Assessments. Finally, it states that environmental incentive and disincentive programs shall be formulated to facilitate the restructuring of processes and activities that cause contamination, or that make excessive or inefficient use of the natural resources and shall encourage entrepreneurs to incorporate environmentally adequate processes and technologies in their productive activities, using the incentive and disincentive programs, and promoting national and international technical and financial cooperation.

Nicaragua’s General Environmental and Natural Resources Law No. 217 of June 6, 1996 requires the “rational exploitation of the natural resources with a national plan based on sustainable development, equality and social justice and taking into account the country’s

⁶⁹Mexican General Law on Ecological Equilibrium and Environmental Protection of 28 January 1988 art.15 (1988)

cultural diversity”, as well as biodiversity protection, for which it introduces as a principle that “the exploitation of natural renewable resources needs to be undertaken in a way that ensures the maintenance of its biodiversity and renewability.” In that context, it states that “the right to property has a social environmental function which conditions and limits its absolute, abusive, and arbitrary exercise.” Further, the Nicaraguan General Environmental and Natural Resources Law No. 64-00 provides for, in its objectives provisions, “the sustainable use of the natural resources, recognizing their real value, which includes the environmental services they provide, with equity and social justice.” In accordance with Nicaraguan constitution, the General Environment and Natural Resources Law states that the responsibility of the state, society, and every inhabitant of the country is to protect, conserve, improve, restore, and sustainably use natural resources and the environment, and eliminate unsustainable production and consumption practices.

Venezuela’s Environmental Organic Law ⁷⁰ establishes the regulations that develop the constitutional rights and guarantees to a safe, healthy, and ecologically balanced environment. It states that environmental management shall be “the process composed by a set of actions or measures to diagnose, inventory, reestablish, restore, improve, preserve, protect, control, supervise, and use the ecosystems, biological diversity, and other natural resources and elements of the environment, to guarantee sustainable development.” There is, however, to be a balance between the environmental protections provided for in environmental management practices and the understanding that “the environmental rights prevail over the social and economic rights, limiting them in the terms provided by the Constitution of the Bolivarian Republic of Venezuela and the special laws.” Accordingly, under the law it is the state’s responsibility to guarantee the incorporation of the environmental dimension in its policies, plans, programs, and projects to achieve sustainable development.

The Environmental Organic Law No. 7554 of November 13, 1995 of Costa Rica provides that “the State will ensure the rational use of the environmental elements, in order to protect and improve the quality of life of the people in the national territory. Likewise, it is obligated to promote environmentally sustainable economic development, understood as development that satisfies the basic human needs without compromising the options of future generations.” In addition to giving special attention to the conservation of each of natural resources, the treatment granted to the ecological impacts of agriculture is addressed in the law because agriculture is an essential industry in the region. Further, the law establishes the direction intended for forms of agriculture by stating that the State will be responsible for agricultural promotion and that it will “promote scientific research and the transfer of technology so that this sector can develop privately.”

In Trinidad and Tobago, Act Number 3, of 2000, the “Environmental Management Act,” establishes strong bases for environmental protection. Among its objectives is the promotion of the integration of environmental concerns in public and private decisions, as well as laying the groundwork for development and the effective implementation of laws, policies, and other programs related to the conservation and rational use of the

⁷⁰ DE LOS RIOS, ISABEL: “Principles of Environmental Law”, Caracas, 2005, author’s edition, Chapter VI, “The environmental dimension of the Bolivarian Constitution”.

environment and a governmental “commitment to achieve economic growth in accordance with good environmental practices.”

The General Environmental Protection Law No. 17.283 of November 28, 2000 of Uruguay states that “it is the fundamental duty of the State and the public entities in general, to foster an environmentally sustainable development model, to protect the environment and, if it were to deteriorate, to recuperate it or demand that it be recuperated.”

The Angola Environment Framework Law (*Lei de Bases do Ambiente*), No. 5/98 of 19 June 1998 provides the framework for all environmental legislation and regulations in Angola. It gives the definitions of important concepts, such as the protection, preservation and conservation of the environment, the promotion of quality of life, and the use of natural resources. The law incorporates the main international sustainable development declarations and commitments (e.g. Agenda 21), and establishes citizens’ rights and responsibilities. Article 18 of the Environment Framework Law states that any activities that take place without the necessary environmental and social mitigation, and from which environmental damage is observed, are subject to environmental auditing.

The Lesotho Environment Act, No. 10 of 2008 provides a framework environmental law and is founded on 16 principles of environmental management, as set out in Part II, section 3(2) of the Act. These principles include: a) assure every person living in Lesotho the fundamental right to a clean and healthy environment; b) ensure that sustainable development is achieved through the sound management of the environment; c) encourage participation by the people of Lesotho in the development of policies, plans and processes for the management of the environment; d) require prior environmental impact assessment (EIA) of proposed projects or activities that are likely to have adverse effects on the environment or natural resources; e) ensure that environmental awareness is treated as an integral part of education at all levels; f) ensure that the costs of environmental abuse or impairment are borne by the polluter; and g) promote cooperation with other governments and relevant national, international and regional organizations and other bodies concerned with the protection of the environment.

The Mozambique Environment Law (*Lei do Ambiente*) No. 20/97, is the umbrella law for environmental matters. Article 1 defines the environment as the medium in which humans and other beings live and interact among themselves and with the medium itself, including: a) air, light, land and water; b) ecosystems, biodiversity and ecological relationships; c) all organic and inorganic matter; and d) all socio-cultural and economic conditions that affect the lives of communities. Article 4 of the law establishes the following basic principles: a) rational utilization and management of the environment to promote improved quality of life of citizens and the maintenance of biodiversity and ecosystems; b) recognition of traditions and local knowledge that may contribute to the conservation and preservation of natural resources and the environment; c) precaution, in the sense that activities that might harm the environment must be prevented, especially if there is insufficient scientific certainty about the likelihood of the occurrence of such impacts; d) a global, integrated vision of the environment as a grouping of interdependent ecosystems that must be managed in such a way as to maintain their functional

equilibrium without exceeding their intrinsic limits; e) public participation; f) equitable access to natural resources by all; and g) commitment to minimizing trans-boundary impacts.

Case study: The Environmental Protection Act of the Democratic Republic of Congo(DRC)

The DRC Environmental Protection Act (EPA), No. 11/009 of 9 July 2011 sets out the fundamental and universal principles for sustainable development and sound environmental management. The principles are as follows:

- the principle of sustainable development – all national policies that affect the economic and social development of the country must be based on the principle of sustainable development;
- the principle of access to information and the participation of the public in decision-making on environmental matters;
- the principle of preventative and corrective actions;
- the precautionary principle;
- the polluter pays principle;
- the principle of international cooperation on environmental matters; and
- the principle of mainstreaming sustainable development across all relevant sectors.

The EPA defines the term ‘environment’ as ‘the assemblage of all natural and man-made elements and the biological and geochemical systems in which they operate, as well as economic, social and cultural factors that promote the existence, transformation and development of the milieu, living organisms and human activities’. The term ‘environment’ is defined in the broadest sense and includes the socio-economic and cultural dimensions of the environment.

The EPA contains several new requirements, notably the obligation to undertake an environmental and social impact study (ESIS); environmental audits; environmental evaluation of policies, plans and programmes; the creation of new institutional structures; and an Environmental Fund for research, conservation, clean-up operations, rehabilitation and pollution prevention (Article 25). An ESIS is defined as ‘a systematic process to identify, predict, evaluate and mitigate the physical, ecological, aesthetic and social impacts prior to the implementation of projects relating to the construction, manufacture, commissioning, installation or establishment of industrial units, agriculture, etc., in order to obtain an appreciation of the direct and indirect consequences on the environment’.

Article 21 of the EPA requires the development, construction or exploitation of all activities relating to industrial, commercial, agricultural, forestry, mining and telecommunications projects, and any other activities that may have an impact on the environment, to be subject to an ESIS and environmental management plan, before obtaining approval from the competent authority. Furthermore, the EPA makes provision for the Minister of Environment to undertake an environmental audit of all works, projects or activities that present a potential risk to the environment or population (Article 23). Environmental audit is defined as a ‘management tool consisting of a systematic, documented, periodic and objective evaluation of systems and organizational and management processes, which is carried out to ensure that the environment is being protected’.

Article 19 of the EPA states that all policies, plans and programmes drafted by the state, province, other decentralized government structure or a public enterprise, which may have a significant impact on the environment, must be subject to an environmental evaluation. While it does not use the term ‘strategic environmental assessment’, the intent of the Article is the same. Furthermore, the strategic approach to mainstreaming environmental management into development planning is articulated in Article 6 of the EPA, which requires the state, province or other decentralized government structure to consider, before the formulation of land use management and zoning plans, the imperatives of environmental protection and the wellbeing of the local population.

The Canadian State of Ontario's *Environmental Protection Act* includes provisions on waste management control that provide special protections for lakes within the province.⁷¹ In 2001, the Act was updated to include extensive provisions on the handling of spills within the province, including notification requirements for those involved in the spill and the duty for those involved in the spill to act affirmatively in preventing or mitigating the damage from the spill. Finally, in 2009, the Act was updated to provide for renewable energy within the province and in 2010 the Act was updated to bar the sale or transportation of ozone depleting substances.

One of the most ambitious framework legal regime undertakings is the American State of California *Global Warming Solutions Act of 2006*.⁷² The Act places administrative and regulatory requirements on the State Air Resources Board in terms of reporting and verification of statewide greenhouse gas emissions and also monitoring the enforcement of the overall Act. Further, the Act requires that state administrative agencies act to adopt a statewide greenhouse gas emissions standard and to monitor its implementation. The reporting requirement is mandatory and strictly enforced, although the Act also authorizes incentives for compliance such as voluntary credit allocations to entities that have voluntarily undertaken carbon reduction measures. In order to fully implement the requirements established under the Act, state regulatory authorities are required to develop discrete early action plans to realize prompt emissions reductions. To do this, the Act sets out nine areas of focus: low carbon fuel standard, landfill methane capture, reductions from mobile AC, semi-conductor reduction, Sulfur Hexafluoride reductions, high global warming potential consumer products, heavy-duty measure, tire pressure program and shore power. One additional measure of note is the Act's establishment of a scoping program to investigate the potential of creating a California-centered cap and trade system for greenhouse gas emissions.

The Canadian province of British Columbia enacted the *Environmental Management Act*. Among the many standard administrative and regulatory elements of the Act, it includes stringent restrictions on the transportation of hazardous waste in the province, the requirement that codes of conduct be enacted for mining operations, and that special procedures be undertaken for air contamination in the Greater Vancouver area.⁷³ Additionally, the Act was amended to include the Greenhouse Gas Reduction Act, which places a specific requirement on owners/operators of waste management facilities. The Canadian provinces of Newfoundland and Labrador enacted the *Environmental Protection Act*.⁷⁴ Among the innovative provisions in the Act are significant educational and research provisions for developing environmental protection and sustainable development in the province. This includes funding of these measures as well as holding of conferences and encouraging the publication of relevant publications on these topics. Further, the Act contains limitations on the emissions or discharge of pollutants into the environment, including reporting and remediation requirements and specific requirements for the release of waste at the commercial, industrial and residential levels. In addition,

⁷¹Environmental Protection Act, RSO 1990, c. E-19

⁷²California Global Warming Solutions Act, AB 32 (2006)

⁷³Environmental Management Act, SBC 2004ch. 53

⁷⁴Environmental Protection Act, SNL 2002 E-14.2

the Act contains provisions regarding air quality management that focus on creating pollution restrictions in order to further environmental protections, including testing requirements, standards for wood burning stoves and associated household uses, regional air quality management programs, and agreements between the province and municipalities regarding air quality management issues.

The Canadian province of Prince Edward Island enacted the *Environmental Protection Act* and has subsequently amended it several times in order to effect its original purpose of protecting and enhancing the provincial environment.⁷⁵ In order to do this, the Act creates several administrative bodies such as the Environmental Advisory Council. This Act contains extensive licensing requirements for designated activities within the province such as waste treatment facilities and water supply system entities, particularly for private corporations seeking to operate in these areas. Additionally, the Act contains significant requirements regarding limitations in allowed activities on beaches and in sand dunes within the province due to their environmental and tourism value.

Among the administrative functions of note to innovation and the green economy is the use of environmental impact assessments/studies as a mandatory part of project development and implementation under the terms of many framework laws. Such assessments/studies are now required for a broad spectrum of activities which may affect the green economy – from mining to waste management – and require the proposing entity to undergo detailed evaluations of the environmental impact of the proposed project as well as its potential economic value. Not only are these assessments/studies important from a technical point of view, they are also to be made available to the public, which has been granted increased public comment abilities across the geographic board.

In Finland, the Act on Water Resources Management delegates to the Regional Environmental Centre the responsibility to coordinate the participation of the different authorities and parties in the preparation of the water resources management plan and to ensure the participation of the communities and dissemination of information related to the programme of measures to the general public.

Another example of an institutional arrangement can be found in Italy. Act No. 10 on the Development of Urban Green Spaces instructs the Committee for the Development of Public Parks to, *inter alia*, monitor the activities of the municipalities and all applicable laws aiming at increasing public and private parks, to propose criteria and guidelines for the construction of green areas around the major conurbations and rows of trees along the roads, to ensure the rehabilitation of buildings through the greening of walls and flat roofs, and the creation of gardens.

In Indonesia, the new *Law No 32/2009 on Environmental Protection and Management*, which replaced the *Act No. 23/1997*, introduced a variety of innovative development and environment control instruments, among which Environmental Protection and Management Plans (RPPLH) including national, provincial and regional/municipally RPPLHs, are required to be formulated to address the issues of utilization and/or

⁷⁵Environmental Protection Act, ch. E-09 (2008)

reservation of natural resources, preservation and protection of the environmental quality and/or function, control, monitoring as well as exploitation and preservation of natural resources, and adaptation and mitigation of climate change. The RPPLH shall become a basis for the formulation of Indonesia's long-term and medium term development plans.⁷⁶ This arrangement could be a powerful tool to ensure Indonesia's development is consistent with requirements of environmental protection and achieve the goal of sustainable development.

In Vietnam, the law on Environmental Protection was revised in 2005. It mandates the use of a SEA for: national socio-economic development strategies, planning and plans, strategies and plans for development of sectors on a national scale, socio-economic development strategies and plans of provinces or regions, plans for land use, forest protection and development, exploitation and utilization plans of other natural resources in inter-provincial or inter-regional areas, plans for development of key economic regions, and planning documents for inter-provincial river watersheds. It also requires SEA to be undertaken concurrently with the formulation of the applicable strategy and long-term or short-term plan and that SEA reports must constitute an integral part of the proposed plans.⁷⁷

China's Environmental Impact Assessment Law requires applied environmental assessment to spatial and sector-specific plans at the national and local levels. Spatial plans cover land use plans, plans for the development and utilization of river basins and sea waters. Sector plans cover plans for industry, agriculture, animal husbandry, forestry, energy, water conservancy, transportation, urban construction, tourism and natural resources development. However, China's EIA law does not require SEA for policies.⁷⁸

Chile has one of the most recent general laws - Law No. 19300, General Foundations on the Environment – which went into force since November 13, 2010. The law pursues sustainability through a strong planning system and the use of environmental impact assessments. Additionally, it places limits on the exploitation of renewable resources by providing that this exploitation shall take place in a manner ensuring its regeneration capacity and protecting related biological diversity. The Honduras General Environmental Law No. 104/93 states that “the Central Government and the municipalities shall favor the rational use and sustainable management of those resources, in order to allow their preservation and economic use.” It also provides that “non-renewable natural resources need to be exploited in a way that prevents their depletion and generation of negative effects on the environment” and that “renewable natural resources should be exploited in accordance to their ecological, economic, and social functions in a sustainable way.” It also incorporates the objective of “foster[ing] an adequate framework to guide agricultural, forestry, and industrial activities toward compatible forms of exploitation with conservation and rational and sustainable use of natural resources and the protection of the environment in general.”

⁷⁶Indonesia Environmental Protection and Management: Article 1 Section 4, Art. 5(c), Arts. 9&10.

⁷⁷ Vietnam: Law on Environmental Protection Article 3, Arts. 14 to 17

⁷⁸ China: Environmental Impact Assessment Law, Arts 7 to 15.

Among the objectives of Cuba's Environmental Law No. 81 of 1997 is to "create a legal environment conducive for planning and developing social economic activities in ways compatible with the protection of the environment." Accordingly, the law states that the joint duty of the State, citizens, and society in general, is to protect the environment through "the reduction and elimination of environmentally unsustainable modalities of production and consumption." Guatemala designates different instruments related to planning and the environment in Law No. 223. The law expressly requires the incorporation of the environmental dimension into the development plans and territorial management. Thus, the criteria and the laws regarding the environment should be taken into account, highlighting, among others, the "economic valuation of natural resources, which includes the environmental services that these provide, in accordance with the nature and characteristic of the ecosystems" (...) Finally, the law creates an "environmental assessment system" which includes Strategic Environmental Assessments and Environmental Impact Assessments.

In Swaziland, the Environment Management Act (EMA), No. 5 of 2002, replaces the Swaziland Environment Authority Act of 1992. The Act is intended to provide and promote the enhancement, protection and conservation of the environment, the sustainable management of natural resources, and matters incidental thereto. Part II, section 5 of the EMA sets out the underlying principles of the Act, as follows: a) the environment is the common heritage of present and future generations; b) adverse effects should be prevented and minimized through long-term integrated planning and the coordination and integration of efforts that consider the entire environment as a whole entity; c) the precautionary principle, which requires that where there is a risk of serious or irreversible adverse effects, a lack of scientific certainty should not prevent or impair the taking of precautionary measures to protect the environment; d) the polluter pays principle, which requires that those causing adverse effects be required to pay the full social and environmental costs of avoiding, mitigating and/or remedying those adverse effects; e) the generation of waste should be minimized wherever practicable; f) waste should, in order of priority, be reused, recycled, recovered and disposed of safely in a manner that avoids creating adverse effects or, if this is not practicable, is least likely to cause adverse effects; g) non-renewable natural resources should be used prudently, taking into account the consequences for the present and future generations; and h) renewable resources and ecosystems should only be used in a manner that is sustainable and does not prejudice their viability and integrity."

Further, of particular note in the Swaziland EMA is that provision has been made in section 31 for strategic environmental assessments to be undertaken for any parliamentary bills, regulations, policies, plans and programmes that may have an adverse impact on the protection, conservation or enhancement of the environment or on the sustainable management of natural resources. Section 31(3) stipulates the contents of a strategic environmental assessment report: a) a full description of the Bill, regulation, public policy, programme or plan and the objectives it intends to achieve;) an identification, description and assessment of the positive and adverse effects that implementation of the proposed policy, programme, plan or legislation is likely to have on the environment and on the sustainable management of natural resources; c) an

identification, description and assessment of the likely effects of alternative means to achieve the objectives of the Bill, Regulation, policy, programme or plan; d) an identification, description and assessment of a range of practicable measures that could be taken to avoid, mitigate or remedy any adverse effect that may occur as a result of the implementation of the Bill, regulation, policy, programme or plan; and e) any other information prescribed by the Minister by regulation. If proponents of a bill, regulation, policy, programme or plan are in any doubt as to whether a strategic environmental assessment is required, they are directed to consult SEA to determine the need for such a study. Once the strategic environmental assessment has been completed, the proponent has to submit all relevant documentation, showing where changes have been made in response to the assessment and other relevant comments.

In Tanzania, strategic environmental assessments are required in terms of Part VII of the EMA in the following instances: when preparing a bill that is likely to have an effect on the management, conservation and enhancement of the environment or the sustainable management of natural resources; when promulgating regulations, policies, programmes and development plans; and when any major mineral or petroleum resource is identified or when a major hydroelectric power station or water project is being planned.

In Zambia, Section 23 of the Act states that a strategic environmental assessment must be conducted for any draft policy, programme or plan that could have an adverse effect on environmental management or the sustainable management and utilization of natural resources. Section 23(3) specifies the contents of such an assessment. Where a strategic environmental assessment recommends amendments to a policy, plan or programme, ZEMA is required to ensure that the amendments have been brought about before approving such a document.

South Africa's National Environment Management Act (NEMA) No. 107 of 1998 is the framework environmental law in South Africa. Amendments to the Act include the National Environmental Management Amendment Act of 2003, the National Environmental Management Second Amendment Act, No. 8 of 2004 (which came into operation on 7 January 2005 and amends section 24 of NEMA), and the National Environmental Management Amendment Act, No. 62 of 2008 (which came into effect on 1 May 2009). The principles set out in section 2 of Chapter 1 underpin all other related Acts and policies and form the basis of sustainable development in the country and apply to all organs of state.

Box 8

Summary of the principles in South Africa's NEMA, 2003

2(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

2(3) Development must be socially, environmentally and economically sustainable.

2(4) a) Sustainable development requires the consideration of the following:

a. Disturbance to biological diversity must be avoided or minimized and remedied.

- b. Pollution of the environment must be avoided or minimized and remedied.
- c. Disturbance of landscapes and sites that constitute the nation's cultural heritage must be avoided or minimized and remedied.
- d. Waste must be avoided or, where it cannot be avoided, consideration must be given to minimization, reuse or recycling.
- e. The use and exploitation of non-renewable resources must be responsible and equitable.
- f. The development, use and exploitation of renewable resources must be within sustainable limits.
- g. A risk-averse and cautious approach must be applied.
- h. Negative impacts on the environment and on people's environmental rights should be anticipated and prevented or minimized and remedied.
- b) Environmental management must be integrated and the best practicable environmental option should be pursued.
- c) Environmental justice should be pursued so that adverse environmental effects are not distributed in such a way as to discriminate unfairly against any person, particularly the most vulnerable.
- d) Equitable access to environmental resources, benefits and services to meet basic human needs and human wellbeing should be given due consideration.
- e) Responsibility for the environmental health and safety consequences of all policies, programmes, projects, products, processes, services and activities exists throughout the life cycle.
- f) Public participation is promoted, as well as building capacity among the most vulnerable and disadvantaged so that they can have meaningful participation.
- g) Decisions must consider the interests, needs and values of all interested and affected parties, including the recognition of traditional and ordinary knowledge.
- h) Community wellbeing and empowerment must be promoted through a variety of programmes.
- i) Social, economic and environmental impacts must be considered, assessed and evaluated, and decisions must be appropriate to the impact assessment findings.
- j) Workers have a right to refuse to do work that may be harmful to human or environmental health.
- k) Decisions must be made in a transparent and open manner, and access to information must be provided in accordance with the relevant laws, such as the Promotion of Access to Information Act, No. 2 of 2000.
- l) There must be intergovernmental coordination and harmonization of policies, legislation and actions relating to the environment.
- m) Conflicts of interest between departments should be resolved through conflict resolution procedures.
- n) Global or international responsibilities relating to the environment must be discharged in the national interest.
- o) The environment is held in trust for the people; the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage.
- p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimizing further pollution,

environmental damage or adverse health effects must be borne by those responsible for harming the environment.

r) Sensitive, vulnerable, highly dynamic or stressed ecosystems require specific attention in management and planning procedures, especially where they are subject to significant human resources usage and development pressure.

The Zambia Environmental Management Act No. 12 of 2011 establishes the principles upon which it is founded as follows: The environment is the common heritage of both present and future generations: Adverse effects shall be prevented and minimized through long-term integrated planning and the coordination, integration and cooperation of efforts that consider the entire environment as a whole entity; the precautionary principle; the polluter pays principle; equitable access to environmental resources shall be promoted and the functional integrity of ecosystems shall be taken into account to ensure the sustainability of the ecosystems and prevent adverse effects; people shall be involved in the development of policies, plans and programmes for environmental management. Moreover the citizen shall have access to environmental information to enable him/her to make informed personal choices that encourage improved performance by industry and the government; the generation of waste should be minimized, wherever practical, and waste should, in order of priority, be reused, recycled, recovered and disposed of safely in a manner that avoids adverse effects. The environment is vital to people's livelihoods and should be used sustainably in order to achieve poverty reduction and socio-economic development; and non-renewable natural resources shall be used prudently, taking into account the needs of the present and future generations. Renewable natural resources shall be used in a manner that is sustainable and does not prejudice their viability and integrity. Community participation and involvement in natural resource management and the sharing of benefits arising from the use of the resources shall be promoted and facilitated.

The Canadian province of Yukon enacted the *Environment Act* in 2002.⁷⁹ The intent of the Act is to incorporate the economic and environmental needs of the province's people and resources while also devoting attention to the needs of future generations. In this regard, it vests everyone within the province with responsibility for the impact that their actions have on the environment and also notes the role of the province in ensuring the interplay of economic and environmental concerns. It further recognizes the importance of biological diversity and sustainable development to the health of the environment and economic concerns. The Act creates an extensive right of action for individuals and corporate citizens of the province who believe that there has been an environmental impairment and that the provincial government has failed to take the appropriate action to prevent it. Further, the Act allows for two or more residents to request that the appropriate minister open an investigation into potential violations of the Act. In order to ensure that many aspects of the environment and the economy work in tandem so as to promote the health of the environment, the Act requires the creation of a number of plans, such as resource management plans, land use planning plans, water management plans, forest management and planning plans, wilderness plans, and cooperative resource

⁷⁹Environment Act, RSY 2002 ch. 76

management plans. Any form of development – particularly those involving exploration and mineral exploitation – must be previously approved through an established permitting process prior to its undertaking in Yukon.

Article 68 of East Timor’s Basic Law of Environment provides that all programs, plans and projects developed publicly or privately without the application of environmental protection measures, resulting in damage, harm or imminent threat of a very significant danger to the environment irreparably, are subject to environmental audits. The audit process is triggered by an indication from the government agency responsible for the environment on its own motion or upon request. The audit should be conducted by an independent entity and identify measures to rehabilitate the damage and develop a plan for long-term management.⁸⁰

The Indonesian government encourages business to undertake environmental audits to enhance environmental performance. Ministers may require certain types of business associated with high environmental risk or showing disobedience to environmental regulations to conduct environmental audits. The environmental auditors are obligated to have certification of competency.⁸¹ Chapter 9 of the Environmental Code of the Republic of Kazakhstan is dedicated to environmental audits, and has 14 articles which set out the types of and basis for environmental audits, decisions on and specifics of mandatory environmental audit, environmental audit reports, and the management system of environmental auditor and audit firm and audit of environmental management system of the entities.⁸² According to Article 83 and Article 81.2 of the Environmental Code, the environment protection authority should decide to conduct the mandatory environmental audit to an individual or legal entity one month after 1) documentary-proven significant environmental damage caused by business or other activities carried out by an individual or legal entity; 2) reorganization of a legal entity, which is a natural resource user, that carries out environmentally hazardous business or other activities, by way of a merger, split-up or spin-off; and 3) bankruptcy of a legal entity, which is a natural resource user, that carries out environmentally hazardous business or other activities. The environmental audit shall be conducted in accordance with the environmental audit plan, which shall be based on established requirements. The environmental auditor shall submit the environmental audit report to the authority on completion of the mandatory environmental audit. The audit report must contain the following information: 1) information proving the competence of the environmental auditor and environmental audit firm; 2) general information about the audited entity; 3) reasons for an environmental audit; 4) environmental audit plan; 5) list and overview of the information gathered; 6) results of visual inspection of the audited entity and interview of its employees; 7) results of special studies; 8) assessment of environmental risks (in quantitative and qualitative terms); 9) list of recommendations to enhance environmental safety; and 10) conclusions as to the level of safety of the audited entity for the environment, violations revealed, reliability of the documentation maintained, and environment protection reports.⁸³

⁸⁰ East-Timor: Basic Law of Environment, Article 68, Sec 2,3,4.

⁸¹ Indonesia: Environmental Protection and Management: Art. 48-52.

⁸² Kazakhstan: Environmental Code of the Republic of Kazakhstan, Ch. 9: Art. 80-94.

⁸³ Kazakhstan: Environmental Code of the Republic of Kazakhstan, Chapter 9: Art. 85.

The Philippine *Environment Code* provides detailed incentives such as the exemption from the up to fifty percent of tariff duties and compensatory tax to operate the installation and the utilization of pollution control facilities⁸⁴ and delegates to the Council the ability to grant financial assistance for the study, design and construction of environmental protection facilities on a case-to-case basis.⁸⁵

In Kazakhstan, the Concept of Transition of Kazakhstan to sustainable development, endorsed by the Decree of the President, sets following economic instruments for green growth: 1) implementation of the polluter pays principle; 2) increase of incentive payments for air emissions and administrative forfeitures for the violation of environmental regulations; 3) inclusion of the overall cost of natural resources with due regard to their nature and contributing function as well as the cost of nature-conservative works into economic indicators; 4) introduction of the trading quotas system; 5) introduction of market mechanisms of nature conservancy, including those that stimulate repeated use and secondary processing of industrial wastes.⁸⁶ These instruments introduced in the Concept will be implemented through Action Plans and future concrete programs.

Laos' *Environment Protection Fund by Environment Protection Law* requires the Government of Laos to support the establishment of an Environment Protection Fund that supports activities in the field of research and study, preservation, mitigation and restoration of the environment, including the protection and preservation of natural resources.⁸⁷ The Fund shall be funded from: (1) the governmental budget; (2) development projects and related activities; (3) contributions from international and local agencies; (4) contributions from the private sector and private individuals; and (5) interest and profit accruing from the fund.⁸⁸ Proceeds of the Fund are to be used for the following activities: 1) mitigation of urgent and pressing environmental issues; 2) projects related to scientific and technologic research on environmental protection, plans concerning the management, monitoring and control of the environment and the implementation of other environmental protection legislation; 3) the promotion of education, training, and environmental awareness-raising; 4) supporting campaigns for environmental preservation such as the World Environmental Day, the National Arbor Day, and the National Fish Release Day; and (5) management of the Fund.⁸⁹ Vietnam's Law on Environmental Protection Tax came into effect in January 2012. The law provides for environmental protection taxation, which is an indirect tax levied on products and goods which use cause negative environmental impacts, for instance, gasoline products, taxable plastic bags, and herbicides and pesticides, by imposing financial penalties on entities producing or importing such goods.

⁸⁴ The Philippine Environment Code, Sec. 56.

⁸⁵ *Ibid.* Sec 57

⁸⁶ National report on integration of the "Green Growth" tools in the Republic of Kazakhstan/under the ed. of Prof. Bakhyt Yessekina, Almaty, 2010-128 p, Page 35.

⁸⁷ Lao People's Democratic Republic, Environmental Protection Law, Article 30.

⁸⁸ *Ibid* Art. 31.

⁸⁹ *Ibid* Art.32.

Venezuela's law states that "the State shall establish the economic and fiscal incentives to be granted to natural and legal persons who undertake investments for the conservation of the environment in the terms set out in this Act, in the laws to be developed and in the technical environmental standards, with the aim of ensuring sustainable development (Article 102)." The economic and fiscal incentives referred to in this Title are: 1. Credit system financed by the State. 2. Exemption from taxes, duties, and contributions. 3. Any other economic and fiscal incentive legally established (Art. 104).

Peru includes among its regulations the requirement that "the national, sectorial, regional, and local authorities promote, through normative action, tax incentives, outreach, counseling and training, clean production in the development of investment projects and business activities in general, understanding that clean production constitutes the continuous application of an integrated preventive environmental strategy for processes, products, and services, with the objective of increasing efficiency, the rational management of resources and reduction of risks on human population and the environment, to achieve sustainable development."

The Dominican Republic's laws state that "investments to protect or improve the environment and use sustainably the natural resources, will be subject to incentives which will consist of partial or total exemption of taxes and importation duties, exoneration of value added tax, and shorter periods of depreciation in accordance to the regulations." Also, in Nicaragua's environmental law it is required that the state establish and implement a policy of economic benefits and incentives aimed at those who contribute through their investment in the protection, improvement, and restoration of the environment. The law states that the State will guarantee facilities to companies in areas determined to necessitate relocation due to environmental risk. This requirement is triggered once feasible and viable options and alternatives to solve pollution and its effect on health and raise concern for public security have been exhausted. Further, the law provides for tax and other incentives for research and development and environmental conservation activities.

Honduras incorporates fiscal benefits for industrial reconversion, providing that the industrial installations or any other activities already established that in some way contaminate the environment will have a period of time to correct the situation or relocate to another zone. In both cases, equipment and machinery will be exempt from paying import taxes, including taxes, surcharges and sales tax, and the amount of investment will be tax deductible from the rent in (5) years' time.

Likewise, El Salvador aims to encourage entrepreneurs to incorporate environmentally adequate processes and technologies into their productive activities, using incentive and disincentive programs and promoting national and international technical financial cooperation. In the same vein, Ecuador will establish economic incentives for the productive activities that are framed in the protection of the environment and sustainable management of natural resources.

Cuba's laws seek to use the following economic incentives for the promotion of environmental conservation and protection: a) the reduction or exemption of import taxes on technology and equipment for controlling and treating effluent pollutants; b) the reduction or exemption of taxes on the importation of raw materials or on parts necessary for the local fabrication of equipment or instruments used to avoid, reduce or control contamination and environmental degradation; c) the authorization, in exceptional cases, of the rapid depreciation of investments made in development, buying and installation of equipment, technologies, and processes that promote the protection of the environment; and d) the granting of exceptional financial benefits or tax benefits to certain activities that support the environment.

Costa Rica incorporates the banking system by creating an environmental credit portfolio to finance the costs of reducing contamination in the productive processes through credits at a preferential interest rate determined by the Central Bank of Costa Rica. For its part, Chile states that prevention or decontamination plans can be used based on the following regulatory or economic instruments: a) Emission norms; b) Tradable emission permits; c) Taxes on emissions or user fees, which will take into account the implicit cost of production on the environment or the use of certain goods or services; and d) other instruments stimulating the actions of repair and improvement of the environment.

In Brazil, the Executive Branch will promote activities dedicated to the environment, guaranteeing: 1) the undertaking of research and technological processes aimed at reducing the degradation of the quality of the environment in the country; 2) the manufacture of anti-contamination machinery; and 3) other initiatives that promote the rational use of the environmental resources. Finally, Uruguay, Colombia and Argentina list the economic and fiscal instruments as environmental management tools that they can include in their political programs.

Electricity Feed-in Tariffs (FITs) have been developed in Algeria, South Africa, Ghana, Senegal, Kenya, Tanzania and Uganda. Cape Verde approved a law in 2011 with a target of 50% renewable energies by 2020. Ghana passed a Renewable Energy Bill and a feed-in-tariff mechanism is under development and established 10% renewable by 2015. Senegal approved a Renewable Energy law and different decrees are under development with a target of 15 % by 2020. Nigeria has also approved Renewable Energy Feed-in-Tariff measures.

Further, many laws have established requirements for the private sector as well as the public sector in terms of the use, promotion, and regulation of the green economy. An example of such a law is the German Renewable Energy Sources Act ("German RE Act"). The objectives of the German RE Act are to ensure the sustainable development of energy supply, with emphasis on environmental protection and climate change, to reduce the costs of energy, and to promote the development of renewable energy technologies. In order to achieve these objectives this Act sets ambitious goals for the share of renewable energy sources in electricity supply (35% by 2020, 50% by 2030, 65% by 2040 and 80% by 2050). In order to reach these goals, a feed-in tariff programme was adopted for a period of 20 years. The tariffs guaranteed by this plan are offered for

energy generated from hydropower, landfill gas, sewage treatment plant gas and mine gas, biomass, geothermal energy, wind power and solar radiation.

In Luxembourg, *Loi relative à la gestion des déchets* imposes certain responsibilities on the waste producer and the waste holder. These actors are obliged to carry out the treatment of waste (either on their own or through a contractor that carries out waste treatment operations). Furthermore, this law also imposes obligations on municipalities, which are responsible for ensuring the management of household waste within their territory, including the management of bio-waste and taking suitable measures for waste prevention. A different type of financial instrument being used in EU legislation can be found in the EU Renewable Energy Directive. While the EU Emission Trading Scheme encourages the private sector to invest in projects related to the green economy by setting a price on carbon emissions, the Renewable Energy Directive encourages such investment by creating (or significantly enlarging) the markets for environmentally-related goods and technologies. The targets set by this Directive⁹⁰ provide certainty for investors in renewable energies and encourage the continuous development of technologies which generate energy from all types of renewable sources. The setting of such targets is also important for supporting elements such as energy security, and for providing opportunities for employment and regional development, especially in rural and isolated area economic growth.

iv. Innovative Green Economy Provisions in Other Laws

The US State of Washington took an essential step for investments in environmental projects by creating laws that emphasize the importance of forestry, natural resources, waterways and associated industries to the state's environmental and economic health.⁹¹ These laws note that there is a lack of investment in clean technologies and industries within the state and then highlight the need for this trend to change. In order to achieve this, Washington has created an Environmental Enhancement and Job Creation Task Force and has begun to award funding and incentive measures to support clean technology industries in the state.

Further, states have become active in developing national development plans, which seek to guide the growth and development of their economies generally and have increasingly incorporated the green economy, green growth, sustainable development and its essential principles, and environmental protection within their terms. A corollary to this process is the implementation of national land use plans, which also condition the ways in which the environment can be exploited within the state. Ecosystem services are also gaining in importance, particularly in Latin America and the Caribbean, and are playing an increasing role in governmental decision-making.

⁹⁰A 20 % share of energy shall be generated from renewable sources in overall Community energy consumption by 2020, and that a minimum of 10 % share of biofuels shall be used out of the total transport petrol and diesel consumption by 2020.

⁹¹RCW 43.21J.005 et seq.

In Colombia, the Ministry of the Environment is responsible for “preparing, in consultation with the National Planning Department, the plans, programs, and projects which regarding environmental matters or renewable natural resources and environmental territorial management should be incorporated into the projects of the National Development Plan and the National Investment Plan (...)” Likewise, “environmental territorial planning is understood to be (...) the function attributed to the State of regulating and guiding the design and planning process of land use and the nation’s renewable natural resources, in order to guarantee their adequate exploitation and sustainable development.” An environmental licensing system for specific projects and activities is also provided for in several other environmental laws in Colombia. Costa Rica’s Environmental Organic Law provides that the state shall be in charge of defining and implementing national land use policies to regulate and promote human settlements and the economic and social activities of the population, as well as the physical spatial development, with the aim of achieving greater harmony in most of the population’s well-being, promoting the appropriate exploitation of natural resources, and promoting the conservation of the environment. Additionally, the law provides applicable environmental goals and criteria. Environmental Impact Assessments are also instruments included in the Costa Rican laws.

Honduras, for its part, includes management of the national territory - taking into account environmental aspects and economic, demographic, and social factors - in its Environmental Law. It also has provisions establishing Environmental Impact Assessments and planning of the uses of urban and industrial land. The Republic of Panama’s Environmental Law mandates incorporating the environmental dimension in the state’s economic, social, and cultural decisions, actions, and strategies, as well as integrating the national environmental policy into the state’s set of public policies. Further, it states that the National Environmental Authority shall promote the establishment of national environmental planning and land use and ensure the adequate use of space based on the ecological, social, and cultural skills, its retention capacity, inventory of renewable and non-renewable natural resources, and the needs for development. Argentina follows many of the same policies, and states in its General Environmental Law that the different levels of government shall integrate environmental provisions into all their decisions and activities, and it incorporates environmental territorial management and environmental assessment.

In addition, the use of voluntary good governance policies, certification schemes and codes of conduct has become an increasingly popular way for states to attract business participation in environmental protection and the green economy. By providing these certifications and codes which businesses can ascribe to, the business benefits in that its products become more attractive to ever more savvy consumers and the state benefits in that it is able to spur business growth that is also environmentally friendly and promotes the incorporation of green growth in the state’s business community.

Peru places great importance on this topic, explaining that “the State promotes, disseminates, and facilitates the voluntary adoption of policies, practices, and mechanisms for corporate social responsibility, understanding that this constitutes a set of

actions aimed at establishing an appropriate work environment, as well as cooperative relations and goodwill driven by the head of operations.” Also, applicable laws provide that “the State, in coordination with unions and business organizations, promotes the elaboration and adoption of voluntary norms, as well as self-regulation for the heads of operations, to improve their environmental performance, without prejudice to the proper compliance of the existing regulations.”

Trinidad and Tobago has stated that appropriate incentive programs which promote the voluntary use of the environmental management system and achievements in the improvements of the quality of the environment should be developed and promoted, specifically: “a) the establishment of voluntary environmental audit programs (...); b) the establishment of environmental certificates or labeling programs that allow the authority to designate specific people, activities or products, in accordance to the certificates that they possess or represent important qualities for environmental management; and c) the use of operations returns on materials to increase levels of reuse, recycling, and other final disposal (...). Along the same lines, Law 25675 of Argentina provides for “measures aimed at: (...) The implementation of voluntary and self-regulated commitments implemented through environmental management policies and programs. (...) Additionally, should take into account the certification mechanisms carried out by independent organizations that are duly accredited and authorized.”

Costa Rica’s law states that in order for a product to qualify as organic, it should have a certificate granted by a national or international agency accredited in Costa Rica. And El Salvador also States that regulations and procedures shall be established to regulate the accreditation and registration of certifying bodies for environmentally sound processes and products, or from the sustainable use of the natural resources, and that the registered organs and organizations will issue the green stamps or the eco-labels on the environmentally sound processes or products, following certification from the Ministry.

Panama’s laws provide that the “environmental laws will be implemented by the competent authority in a gradual and scaled manner, preferably on the basis of self-regulatory processes and voluntary compliance by the companies, and in accordance with the respective regulations.” Finally, the laws of the Dominican Republic also state that companies that implement the environmental management system within the principles of designated regulations or any other extra system of environmental protection and guarantee will benefit in accordance with the regulations made for that purpose.

The Tunisia’s Eco-label ISO 140001 created by the 4.06.2007 (decree n° 1355), which describes the procedures for the establishment of the eco-label for the certification of Tunisian companies as an incentive for economic stakeholders to invest in environmental protection.

It should also be noted that framework laws tend to focus on governments of all levels not only as enforcers of laws and rules but also as consumers that are required to use and promote green energy and environmentally friendly products. This is especially true in

the field of governmental contracting and procurement, where there has been a global push toward ensuring that green procurement practices occur.

In France's *Circulaire* on Timber public procurement (covering both paper and wood products), several innovations can be highlighted. According to this regulation, service providers responding to invitations to public tenders must prove that their timber products comply with certain environmental requirements. Most notably, they have to demonstrate that their timber products comply with specifications related to the sustainable management of forests. They can do so by submitting a certificate issued by an independent third party that ensures that the timber logging was legal.

Japan has adopted the *Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities*. This law stipulates responsibilities of the national government, independent administrative agencies, local governments, businesses and citizens and designated procurement items to be procured by the national government in accordance to the national plan. China's Circular Economic Promotion Law mandates that the state implement procurement policies conducive to developing a circular economy and that preferences should be given to products that may save energy, water and materials any procurement where procurement uses fiscal capital.⁹² China's Clean Production Promotion Law has similar provisions.⁹³ A number of more countries' laws also include green procurement, including South Korea and Vietnam.

2.2.1 Regulatory Tools for Green Economy

As noted in the framework laws section, voluntary good governance actions, strategic plans, institutions, codes of conduct and similar undertakings are an important trend for the green economy. For instance, although the issue will be discussed in greater detail below, the use of labeling as a voluntary means by which a state can certify that a producer's product – often timber – is responsibly produced has grown in importance as consumers become savvier and some laws on the matter become more exacting. The regulatory measures taken to implement labeling processes are a key innovation to the green economy because they allow for a system that endorses products which are compliant with aspects of the green economy. While these are voluntary measures, they are still of importance as a matter of law and have significance within the particular industries using them.

Additionally, some relevant regulatory systems, particularly those in the EU, include efforts to reduce the role of risk, especially risk to the environment, in the planning process. This is achieved through the use of environmental impact assessments/studies, eco-design requirements for buildings, and procurement policies that require clean hands and products, such as those required by France for the timber industry.

⁹² Supra note 56 Art. 47.

⁹³ China: Clean Production Promotion Law, Article 16.

When considering these regulatory tools that are relevant to the green economy, it is essential to note that – whether through a voluntary regulation, or a national planning requirement – sustainable development and its key principles serve an essential purpose as guiding forces for green growth. These principles can be seen in laws, rules, regulations, court decisions and voluntary practices and incorporate both public and private concerns into the green economy.

i. Strategic Action Plans

Strategies or action plans are required to set out specific goals and quantitative targets for the promotion of green economy and to specify basic principles, policies, measures and concrete guidelines for materializing resources efficiency, green growth and sustainable consumption and production.

Most Strategic Action Plans so far seem to be focused on the broader policy such as the Green Growth Strategy 2012 of Ethiopia and Rwanda. There is also thematic focus such as Climate Change Response Strategies of Nigeria and Kenya and the REDD plus Strategy of Tanzania 2012. Even though these concepts are afforded through policy instruments and visions, this does not rectify the legal position, as a national strategy, vision or policy is not a legal document.

Botswana's commitment to the sustainable management of natural resources is supported by various policies and legislation as well as by Vision 2016, which states that:

By the year 2016, economic growth and development in Botswana will be sustainable. Renewable resources will be used at a rate that is in balance with their regeneration capacity (...) The wildlife of Botswana will be managed for the sustainable benefit of the local communities, and in the interests of the environment as a whole (...) By the year 2016, Botswana will have taken strong measures to limit pollution that would otherwise have resulted from rapid industrialization.

In China the Circular Economy Promotion Law of 2008 as discussed in part 2.2 above requires the State Council to formulate the national circular economy development plan and implement the plan upon approval of the State Council and the administrative departments of circular economy development under the people's governments at or above the level of county city shall do the same. The circular economy includes objectives, applicable scopes, main contents, major tasks and safeguard measures, as well as indicators for resource output rates, waste reuse and recycling.⁹⁴China's Law on Promotion of Clean Production of 2002 (last amended in 2012) has similar provisions.⁹⁵

In 1992, Namibia's Green Plan⁹⁶ was drafted by the Ministry of Environment and Tourism (MET) and presented at the United Nations Conference on Environment and Development in Rio de Janeiro. This document analyzed the main environmental

⁹⁴ Supra note 56. Art 12

⁹⁵ Supra note 57. Art 8

⁹⁶http://www.saiea.com/dbsa_book/namibia.pdf

challenges facing Namibia and specified actions required to address them. Following on from the Green Plan, the MET formulated Namibia's 12-point plan for integrated and sustainable environmental management, a strategic document that set out the most important areas that needed to be developed to place Namibia on a sustainable development path. Based on the foundation laid by the Green Plan, an effort was made to incorporate environmental and sustainable development issues and options into Namibia's National Development Plans (NDPs), which run for a period of five years each. In addition, Vision 2030, which was formulated in 2001/02, aims to guide the country's development plans from NDP II through to NDP VII while providing direction to government ministries, the private sector, non-governmental organizations and local authorities. Vision 2030 fully embraces the idea of sustainable development. For the natural resource sector, it states:

The nation shall develop its natural capital for the benefit of its social, economic and ecological well-being by adopting strategies that: promote the sustainable, equitable and efficient use of natural resources; maximize Namibia's comparative advantages; and reduce all inappropriate resource use practices. However, natural resources alone cannot sustain Namibia's long-term development, and the nation must diversify its economy and livelihood strategies.

Box 9

Trends in Formulating Sustainable development Policies and Strategies

Countries, which are currently adopting sustainable development in their governance frameworks, have established a trend in formulating policies and strategies which embrace the concept of sustainable development. For instance the Government of Swaziland has formulated several policies, strategies and action plans aimed at achieving sustainable development in the country. Among these are the National Development Strategy, the Economic and Social Reform Agenda, and the Poverty Reduction Strategy and Action Plan. The National Development Strategy outlines the country's development goals for 25 years, starting in 1997. Its main vision is that: "By the year 2022, the Kingdom of Swaziland will be in the top 10% of the medium human development group of countries founded on sustainable economic development, social justice and political stability. One of the main priorities identified in the National Development Strategy is environmental management, which is viewed as an important and necessary condition for the attainment of sustainable development.

Since the launch of the NDS in 1997, three such programs have been implemented: (i) The Millennium Action Program of 2002 focused on poverty alleviation, with emphasis on rural development, employment creation, HIV/AIDS, efficiency and cost-effectiveness in the public service; (ii) The Smart Program on Economic Empowerment and Development, which began in 2004 aimed at achieving a sustainable economy, regional development, public service reforms, human capital development and poverty reduction; and (iii) The 2007 Poverty Reduction Strategy and Action Plan that was designed to focus on measures to reduce poverty. The government in 2011 developed the Economic Recovery Strategy, which is a medium-term response to the macroeconomic challenges facing the country. This initiative demonstrates the government's commitment to improving the country's economic and social development."

Source: Swaziland National Development Strategy, the Economic and Social Reform Agenda, and the Poverty Reduction Strategy and Action Plan. For further innovative sustainable development strategy refer to the Mauritius strategy termed as Maurice Ile Durable

Costa Rica includes in its Environmental Organic Law⁹⁷ that the State shall be in charge of defining and implementing the national land use policies to regulate and promote human settlements and the economic and social activities of the population, as well as the physical spatial development, with the aim of achieving greater harmony in most of the population's well-being, exploitation of natural resources, and the conservation of the environment (Art. 28), and states its environmental goals and criteria. (Art. 29, 30). In this same sense, Cuba states in Law No. 81, as instruments of the National Environmental Strategy, the National Environment and Development Program and the other social and economic development programs, plans, and projects; including environmental management (Art. 21), environmental license (24), and the Environmental Impact Assessment (27).

In Japan the Basic Act on Establishing a Sound Material-Cycle Society of 2000 requires the government to formulate a fundamental plan to implement measures for establishing a sound material-cycle society in a comprehensive and systematic manner. The fundamental plan should be reviewed five years after formulation. Japan's first fundamental plan was laid down in March, 2003⁹⁸ and the second plan was approved by the national government in March, 2008⁹⁹Figure 1 summarizes Japan's national legislative system for promoting a Sound Material-Cycle Society.⁹⁹

Additionally, Japan has embarked on continuous development of a legislative structure geared towards 3Rs (discussed in box 10) that is, reduce, reuse and recycle, since the enactment of the *Basic Act on Establishing a Sound Material-Cycle Society*, with the emphasis on moving to "front of pipe," or preventative, rather than "end of pipe" solutions to its waste problem. Article 17-21 of the *Basic Act* lays out the basic requirement for the government to take legislative and regulatory actions. The 3Rs program is to be completed in three phases: phase 1 to eliminate hazardous chemical substances; phase 2 to focus on recycling; and phase 3 to develop green new products (eco-design). Building on the *Basic Act*, Japan has developed a comprehensive legislative system to promote the 3Rs as illustrated in figure 1, which includes laws for proper waste management and recycling (i.e. the *Law for the Promotion and Effective Utilization of Resources*); laws for promoting specific waste recycling (i.e. the *Home Appliances Recycling Law*); and the *Green Purchasing Law*.

⁹⁷Environmental Organic Law No. 7554 of November 13, 1995

⁹⁸The First Basic Plan for Establishing a Sound Material-Cycle Society, available at http://www.env.go.jp/en/recycle/smcs/f_plan.pdf

⁹⁹The Second Basic Plan for Establishing a Sound Material-Cycle Society, available at http://www.env.go.jp/en/recycle/smcs/2nd-f_plan.pdf

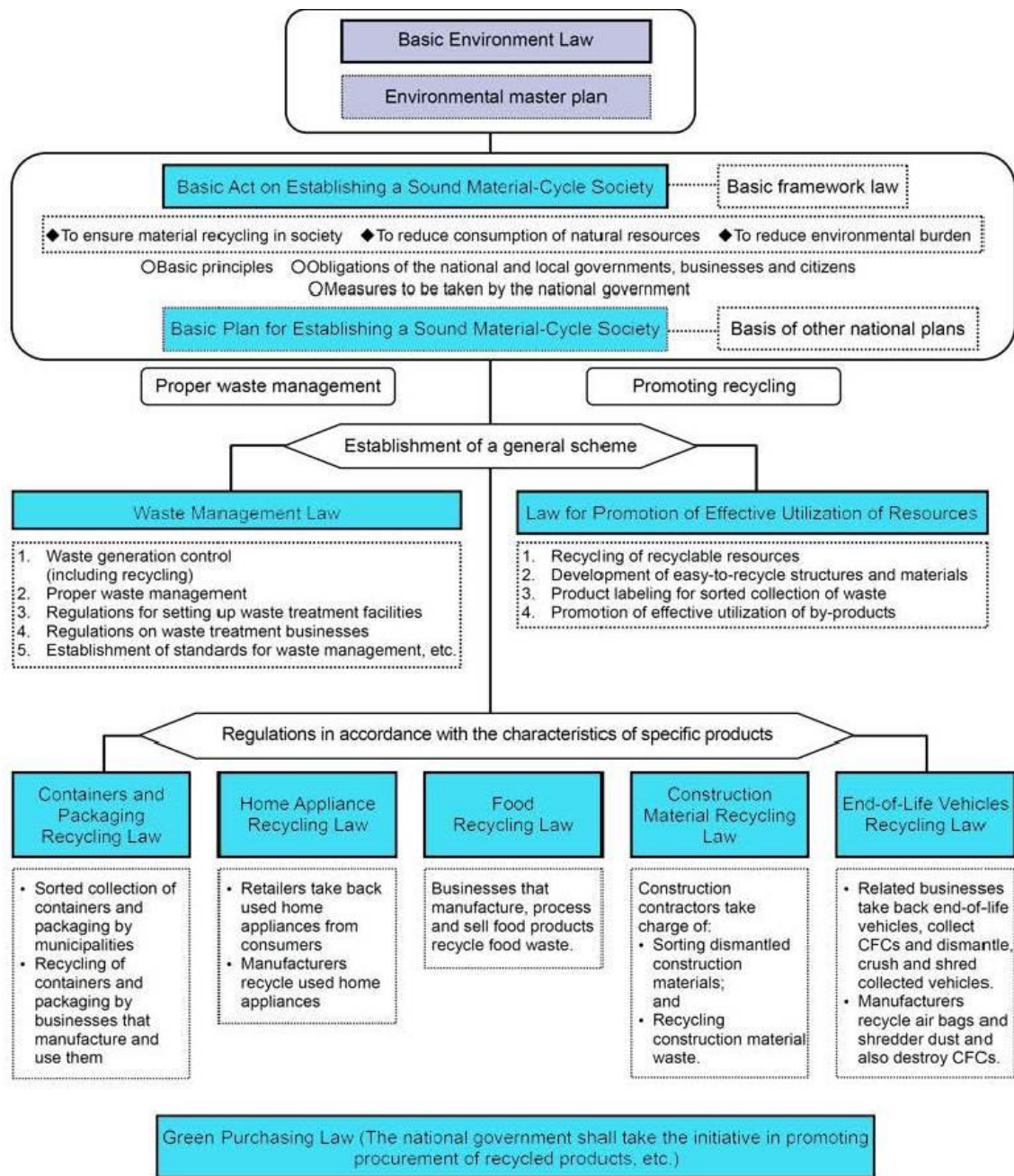


Figure1.: National Legislative System for Promoting a Sound Material-Cycle Society in Japan¹⁰⁰

100Global Environment Centre Foundation: National Legislative System for Promoting a Sound Material-Cycle Society in Japan, November, 2011, http://nett21.gec.jp/Ecotowns/data/et_c-01.html



As is evident, some states have established national action plans for low carbon and green growth promotion. These plans emphasize the importance of the “3Rs” – reduce, reuse and recycle – within the development of green growth policies and also tend to focus on creating targets for each sector of the economy to meet, promoting responsible citizen-consumer use of goods, protecting natural resources, including adaptation and mitigation strategies where necessary, promoting responsible land use, and establishing benchmarks for energy efficiency.



ii. Institutional Arrangements

There is a good deal of crossover from the framework laws discussed above to regulatory tools that are relevant to the green economy. Perhaps the most prominent of these crossover areas is the use of administrative agencies and entities to implement the terms of framework legislation. These administrative entities may be pre-existing entities that are given a new charge or may be newly created entities geared toward the particular purpose of the framework law. Regardless of their origins, it is noteworthy that there is an increasing focus on adding members of the private sector – often those associated with the industries or activities that are to be regulated – to the administrative entity to serve also with public actors. These administrative entities have also increasingly been given the charge of including and assisting small businesses that are or may be impacted by the decisions of the administrative entity

In both the US and Canada, there is an increasing trend toward using councils, boards, and even individual government offices, such as the Lieutenant Governor in Council in Ontario, to implement and oversee framework legislation. These entities have been used not only for basic administrative and regulatory oversight functions but also for the purposes of incorporating and addressing the needs of individuals, businesses and particular industries in terms of new forms of regulation and oversight. Additionally, these bodies have been used to guide financial and technical assistance to private entities, particularly small businesses, as they attempt to remain economically viable at the same time that they attempt to comply with stringent environmental requirements. This is of particular importance for the technical aspects of the green economy currently and will doubtless play an important part in future North American development of the green economy.

In most African countries, the responsibility for environmental management lies with central government, with some exceptions such as South Africa and Botswana. In both countries, however, certain national or strategic projects are dealt with at a national level. The Democratic Republic of Congo (DRC) is working on decentralizing government to the provinces. The Directorate of Sustainable Development in DRC was created by Ministerial Order No. CAB/MIN/AFF-ET/049/01 of 3 December 2001. Its aim is to ensure the implementation of the activities, recommendations and resolutions of the World Commission on Sustainable Development and of the Conference of the Parties to the Conventions on Biodiversity, Climate Change and Desertification. The Directorate comprises a Director and four divisions, each with two personnel: Biodiversity, Climate Change, Desertification and Sustainable Development.

In Mozambique, a National Commission for Sustainable Development, linked to the Council of Ministers, was created in October 2000 by a provision in the Framework Environmental Act. This Commission seeks to ensure the effective coordination and integration of sectoral policies and plans related to environmental management at the highest level. The Sustainable Development Advisory Council of Namibia is established to promote cooperation and coordination between organs of state, non-governmental organizations, community-based organizations, the private sector and funding agencies on environmental issues relating to sustainable development. It also advises the Minister on the following: a) The development of a policy and strategy for the management, protection and use of the environment; b) The conservation of biological diversity, access to genetic resources in Namibia, and the use of components of the environment in a way and at a rate that does not lead to the long-term decline of the environment, thereby maintaining its potential to meet the needs and aspirations of present and future generations; c) Appropriate methods of monitoring compliance; d) The need for, and initiation or amendment of, legislation on matters relating to the environment.

In Swaziland, inter-sectoral cooperation takes place through several government committees, one of the most important of which is the Planning and Budgeting Committee. The Committee comprises Principal Secretaries of the Ministry of Finance, the Ministry of Tourism and Environmental Affairs (MTEA) and the Ministry of Public

Works and Transport. Ideally, only projects that satisfy the government's objectives of sustainable development and environmental management are allocated funding. The MTEA may only appraise government projects if they incorporate a description of likely environmental impacts and the estimated cost of EIA studies. Otherwise, the projects should not be considered for inclusion in the national budget. The form for requesting government funding was revised (in 2001) to be in line with the latest Environmental Audit, Assessment and Review Regulations. This means that the applicant must include in his/her request a section on likely environmental impacts, as well as a cost estimate for any EIA that may be required.

In Asia-Pacific, several new and innovative institutions for key sectors have also been established. For example, Australia's Land Sector Carbon and Biodiversity Board whose function is inter alia to: advise any or all of the relevant Minister about prescribed measure that: (i) increase the land sector's resilience to climate change; (ii) improve long-term farm productivity; (iii) assist landholders and regional communities to benefit from the reduction of greenhouse gas emission from the land sector; (iv) assist landholders and regional communities to benefit from the sequestration of carbon in soil, in living biomass, or in dead organic matter.

Malaysia's National Biosafety Board and Genetic Modification Advisory Committee established by its Biosafety Act 2007 decides on all applications and matters related to approval for release and import activities involving living modified organisms, and the exportation and contained use activities involving living modified organisms and importation of living modified organisms for purpose of undertaking a contained use.

Philippines' Climate Change Commission was established by the Climate Change Act 2009. The Commission is an independent and autonomous body and has the same status as that of a national government agency. It is attached to the Office of the President. The Commission is the sole policy-making body of the government, which is responsible for coordinating, monitoring, and evaluating the programs and action plans of the government relating to climate change pursuant to the provision of the Climate Change Act 2009

The Thailand Greenhouse Gas Management Organization (TGO) established by the Royal Decree on the Establishment of Thailand Greenhouse Gas Management Organization (Public Organization) B.E. 2550 (2007) is mainly tasked with: analyzing, scrutinizing and collecting views and opinions in relation to the approval of projects, as well as pursuing and appraising the authorized projects; becoming an information center for circumstances on greenhouse gas operations; making an information base about the authorized projects and the approved trading of greenhouse gas quantity.

The Republic of Korea's National Environmental Dispute Resolution Commission was established under the Ministry of Environment. Regional environmental dispute resolution commissions were also formed in major cities, special areas, and provinces. These commissions have proven highly efficient in resolving environmental disputes,

with many mutually accepted settlements.¹⁰¹ Since the legislative introduction of the environmental dispute resolution system in 1991, the National Environmental Dispute Resolution Commission has handled 2,400 cases of environmental disputes.¹⁰² The importance of the Commission's decisions is reflected by the fact that even when cases have been brought before civil courts, the courts gave considerable weight to the factual determinants by the Commission.¹⁰³

iii. Strategic Environment Assessment

Strategic environmental assessment (SEA) is “a systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision making on par with economic and social considerations.”¹⁰⁴ SEA is different from the traditional instrument Environmental Impact Assessment (EIA), which is to evaluate the environmental impact at a project level.

In this context, following Fischer (2007) SEA may be seen as:

- a structured, rigorous, participative, open and transparent environmental impact assessment (EIA) based process, applied particularly to plans and programmes, prepared by public planning authorities and at times private bodies,
- a participative, open and transparent, possibly non-EIA-based process, applied in a more flexible manner to policies, prepared by public planning authorities and at times private bodies, or
- a flexible non-EIA based process, applied to legislative proposals and other policies, plans and programmes in political executive decision-making.

In many regions of the world, SEA is a relatively new concept. For example in the Asia-Pacific region, as of 2005, only Hong Kong, Japan, Korea, mainland China, Vietnam, New Zealand and Australia have legal requirements for SEA.¹⁰⁵ Later on, more countries in the region began to introduce this new tool in their environmental governance system. Indonesia, Article 15-19 of Law No. 32/2009 on Environmental Protection and Management stipulates that the government and regional governments shall be obliged to make SEA to ascertain that the principles of sustainable development have become a basis of and been integrated into the development of a region and/or policy, plan and/or program. These provisions also lay out the mechanisms, elements included in the assessment and general guidelines on procedures and delegate power to government to develop implementation regulations on SEA.

¹⁰¹ Tom Ginsburg, *Legal Reform in Korea* (Routledge Curzon: New York, 2004) 202.

¹⁰² Republic of Korea: Environmental Dispute Settlement Act 1991.

¹⁰³ *Supra* note 101

¹⁰⁴ De Boer, J.J. and B. Sadler (1996) Strategic Environmental Assessment: Environmental Assessment of Policies: Briefing papers on experiences in selected countries, Report No. 54, Ministry of Housing, Spatial Planning and the Environment, The Hague, The Netherlands

¹⁰⁵ World Bank Webpage on SEA, available at

<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:20438708~menuPK:502915~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

In Vietnam, the Law on Environmental Protection was revised in 2005 and came into force in July 2006. It mandates SEA for: national socio-economic development strategies, planning and plans; strategies and plans for development of sectors on a national scale; socio-economic development strategies and plans of provinces or regions; plans for land use, forest protection and development; exploitation and utilization plans of other natural resources in inter-provincial or inter-regional areas; plans for development of key economic regions; and planning documents for inter-provincial river watersheds. It also requires SEA to be undertaken concurrently with the formulation of the strategy, long-term plan or short-term plan and that SEA reports must constitute an integral part of the proposed plans.¹⁰⁶

China's Environmental Impact Assessment Law of 2002 requires applied environmental assessment to spatial and sector-specific plans at the national and local levels. Spatial plans cover land use plans, plans for the development and utilization of river basins and sea waters. Sector plans cover plans for industry, agriculture, animal husbandry, forestry, energy, water conservancy, transportation, urban construction, tourism and natural resources development. However, China's EIA law doesn't require SEA for policies.¹⁰⁷

Many more countries' framework environmental laws now contain the SEA provisions, including, East Timor, Laos, and Maldives, which is under development.

In Africa, many countries have adopted measures to ensure that environmental impact assessment is carried out as part of their laws and administrative regulations. Strategic environmental assessment is gaining momentum and much of the newer legislation requires strategic environmental assessments for policies, plans and programmes (for example in DRC, Botswana, Lesotho, Mauritius, Namibia, South Africa, Swaziland and Tanzania). Notably, many large development projects in sub-Saharan Africa are funded by an international donor or a bank that subscribes to the 'Equator Principles', in which case the funding agency specifically requires an Environmental and Social Impact Assessment (ESIA) or an Environmental, Social and Health Impact Assessment (ESHIA). Some multinational companies also require EIAs conducted for their development projects to conform to their own corporate environmental policies, which may be more comprehensive than the legal requirements of the host country.

In Latin America, strategic planning and territorial environmental management, and to a lesser extent, the environmental impact assessment, constitute one axis, which is fundamental in the pursuit of sustainable development. For instance, Law No. 223 of Guatemala expressly obliges to incorporate the environmental dimension into the development plans and territorial management. Thus, the criteria (Art 14) and the laws (Art. 15) regarding the environment should be taken into account, highlighting, among others, the "economic valuation of natural resources, which includes the environmental services that these provide, in accordance with the nature and characteristic of the ecosystems" (...).

¹⁰⁶ Vietnam: Law on Environmental Protection Article 3, Article 14 to 17

¹⁰⁷ China: Environmental Impact Assessment Law, Article 7 to 15

Honduras, for its part, includes in its Environmental Law, the integral management of the national territory, which will take into account environmental aspects and economic, demographic, and social factors. It also has among its provisions those relating to environmental impact assessment (Art. 6 and 7) and planning of the uses of urban and industrial land. (Art 51 to 54).

Nicaragua has environmental planning based on sustainable development among its General Environmental Law objectives. Article 12 includes the “country’s national, regional, and municipal development planning”, that “should integrate environmental elements into its social and economic plans, programs, and projects, respecting the principles of advertising and citizen participation. Later, it continues with the environmental territorial management (Art. 14), and finally, includes environmental impact assessment.

The National Environmental Management Act of South Africa makes no specific mention of the need for strategic environmental assessments in NEMA; the concept is implied through the term ‘environmental management framework’ (EMF) as referred to in section 24(3) of the Act, as amended. The purpose of an EMF is to compile information and maps specifying the attributes of the environment in particular geographical areas. The onus is on the Minister or provincial MEC to develop a draft EMF and subject it to a public participation process (Regulation 73).

Box 11

An EMF must:

- a) Delineate the geographical area to which the EMF applies;
- b) Note the attributes of the environment in the area, including the sensitivity, extent and interrelationships, and the significance of those attributes;
- c) Identify any parts in the area to which those attributes relate;
- d) State the conservation status of the area and in those parts;
- e) State the environmental management priorities of the area;
- f) Indicate the kind of developments or land uses that would have a significant impact on those attributes and those that would not;
- g) Indicate the kind of developments or land uses that would be undesirable in the area or in specific parts of the area;
- h) Indicate the parts of the area with specific socio-cultural values and the nature of those values;
- i) Identify information gaps;
- j) Indicate a revision schedule for the EMF;
- k) Include any other matters that may be specified.

Once the EMF has been formally adopted, it must be taken into account by the competent authorities when they consider any applications for an Environmental Authorization that may occur in or may affect the area covered by the EMF.

Source: *Article 24(3), South Africa's National Environmental Management Act*

In Swaziland, of particular note in the EMA is that provision has been made in section 31 for strategic environmental assessment to be undertaken for any parliamentary Bills, Regulations, policies, plans and programmes that may have an adverse impact on the protection, conservation or enhancement of the environment or on the sustainable management of natural resources. Section 31(3) stipulates the contents of a strategic environmental assessment report as follows: Contents of a strategic environmental assessment report: a) A full description of the Bill, Regulation, public policy, programme or plan and the objectives it intends to achieve; b) An identification, description and assessment of the positive and adverse effects that implementation of the proposed policy, programme, plan or legislation is likely to have on the environment and on the sustainable management of natural resources; c) An identification, description and assessment of the likely effects of alternative means to achieve the objectives of the Bill, Regulation, policy, programme or plan; d) An identification, description and assessment of a range of practicable measures that could be taken to avoid, mitigate or remedy any adverse effect that may occur as a result of the implementation of the Bill, Regulation, policy, programme or plan; and e) Any other information prescribed by the Minister by regulation. If proponents of a Bill, Regulation, policy, programme or plan are in any doubt as to whether a strategic environmental assessment is required, they are directed to consult SEA to determine the need for such a study. Once the strategic environmental assessment has been completed, the proponent has to submit all relevant documentation, showing where changes have been made in response to the assessment and other comments.

In Tanzania, strategic environmental assessments are required in terms of Part VII of the EMA in the following instances:

- When preparing a Bill that is likely to have an effect on the management, conservation and enhancement of the environment or the sustainable management of natural resources;
- When promulgating regulations, policies, programmes and development plans; and
- When any major mineral or petroleum resource is identified or when a major hydroelectric power station or water project is being planned.

In Zambia, Section 23 of the Act states that a strategic environmental assessment must be conducted for any draft policy, programme or plan that could have an adverse effect on environmental management or the sustainable management and utilization of natural resources. Section 23(3) specifies the contents of such an assessment. Where a strategic environmental assessment recommends amendments to a policy, plan or programme, ZEMA will ensure that the amendments have been brought about before approving such a document.

In summary it is clear that most countries place importance on planning and environmental territorial management, regarding the concern about the economic development plans and other state policies by including among their provisions that the environmental variable be taken into account. It is favorable to green economy that in most cases, novel instruments such as the strategic environmental assessment, are incorporated and that there is a marked tendency to recognize that planning must have a strong democratic anchor with wide citizen participation - qualified, environmentally educated, and sufficiently informed.

iv . Environmental-labeling

Environmental labeling is a set of voluntary tools aimed at stimulating the demand for products and services with lower environmental burdens by providing relevant information on their life cycle to address purchasers' demands on environmental information. The development and marketing of environmentally preferable products (EPPs) is a key tool to support the shift towards sustainable consumption and production patterns.

The African eco-labeling mechanism and its Eco-mark Africa eco-label is an effective market-based instrument and consumer information tool to enhance access for African products to regional and international markets. Eco-labels are currently in use for African products and services in the following sectors: fisheries, forestry, tourism, textiles & leather, organic agriculture and natural products. The majority are international eco-labels which African products/services have been awarded and are used for gaining increased market access on the international market specifically Europe and USA for example Marine Stewardship Council for fisheries, forestry Stewardship Council for Forestry etc. There is limited interest in these labels by the regional consumer market. The schemes are all voluntary and the primary reason for the use of these eco-labels is to increase access of the African product/service to the international market. There is however not widespread use of these labels.

There is currently only one national eco-labeling scheme in operation in Africa, the Tunisian Eco-label ISO 140001 created by the 4.06.2007(Decree n° 1355) which describes the procedures for the establishment of the eco-label for the certification of Tunisian companies as an incentive for economic stakeholders to invest in environmental protection.

iv. Environmental Audit

The environmental audit was first introduced in Canada and has become a regular part of corporate environmental management in in the country. In general terms, an environmental audit is a systematic, periodic review of management systems, policies, and practices of corporations, institutions and governments with respect to how they affect the environment and consumption of resources, followed by adjustments and

corrections where appropriate.¹⁰⁸ At least three countries in the Asia-Pacific Region, East-Timor, Indonesia, and Kazakhstan have included environmental auditing in their framework laws, though the environmental auditing programs may not be the same as those in Canada.

Article 68 of East-Timor's Basic Law of Environment provides that all programs, plans and projects developed by public or private without the application of environmental protection measures, resulting in damage, harm or imminent threat of a very significant danger to the environment irreparably, are subject to environmental audits. The audit process is triggered by an indication of the government agency responsible for the environment on its own motion or upon request. The audit should be conducted by an independent entity and identify measures to rehabilitate the damage and develop a plan for long-term management.¹⁰⁹

In Indonesia the government encourages businesses to undertake environmental audit to enhance environmental performance. The Minister may require certain businesses of high environmental risk or those in apparent breach of environmental regulations to conduct environmental audits. The environmental auditors are obligated to have certification of competency.¹¹⁰

Chapter 9 of the Environmental Code of the Republic of Kazakhstan is dedicated to environmental audit, which has 14 articles that set out the types of and basis for environmental audit, decision on and specifics of mandatory environmental audit, environmental audit report, and the management system of environmental auditor and audit firm and audit of environmental management system of the entities.¹¹¹

Further in Latin America, countries such as Peru, Trinidad and Tobago, Costa Rica, Argentina, Panama, and the Dominican Republic, have regulations on voluntary environmental auditing. For instance in Ecuador, the Environmental Plan will be the technical management instrument that will promote conservation, protection, and environmental management; and will include the specific objectives, programs, actions to be developed, minimum content, and financing mechanisms as well as revision and audit procedures. (Art 18).

In Angola, Article 18 of the Environment Framework Law states that any activities that take place without the necessary environmental and social mitigation, and from which environmental damage is observed, are subject to environmental auditing. Environmental audits are also required in Swaziland, Liberia and DRC Congo.

¹⁰⁸D. Thompson and M. Wilson, *Environmental Auditing: Theory and Application*, Environmental Management Vol. 18. No. 4 pp. 605-615

¹⁰⁹East-Timor: Basic Law of Environment, Article 68, section 2,3,4

¹¹⁰Indonesia: Environmental Protection and Management: Article 48-52

¹¹¹Kazakhstan: Environmental Code of the Republic of Kazakhstan, Chapter 9: Article 80-94

v. *Feed-in-Tariffs*

Feed in-tariffs (FITs) are rapidly emerging as the primary economic renewable energy policies enacted in Africa. Once FIT policies are developed and formulated, various jurisdictions adopt either legal or non-legal pathways to support policy implementation. This decision will depend on a number of factors, such as political system, legal tradition, governmental structure, legislative process, market structure, etc. Depending on such factors, policy makers may choose different routes to developing FIT laws: legal pathways such as a detailed FIT law, or a combination of high level mandate law with a regulatory body in charge of policy details, or non-legal pathways such as under a general energy law. There are pros and cons to each of these approaches. Establishing a FIT through detailed legislation, for example, may provide greater investor certainty because the law may be viewed as more difficult to change than a policy enacted as a result of an executive branch or regulatory agency initiative. On the other hand, developing and passing FIT legislation may be a lengthier and more challenging process than if a government agency develops and promulgates FIT regulations.

FITs consist of at least three design options: a purchase obligation, a predefined (fixed) tariff level and a long duration of tariff payment (usually 15-20 years). The great majority of African countries use FITs for renewable electricity support. Purchase obligations are obligations for electricity grid operators, energy supply companies or electricity consumers to purchase the power generated from RES. Tariff levels may be differentiated according to the variable costs of generating electricity from different renewable energy (RE) technologies. By assessing costs, expected generation performance and estimated lifetime of the plant, an appropriate level can be determined. Most African countries with FITs apply the technology specific option.

FITs have been developed in Algeria, South Africa, Ghana, Senegal, Kenya, Tanzania and Uganda. Cape Verde approved a law in 2011 with a target of 50% renewable energies by 2020. In 2012, Ghana passed a RE Bill and a feed-in-tariff mechanism is under development and established 10% renewable by 2015, Senegal approved an RE law in 2010 and different decrees are under development and has a target of 15 % by 2020. Nigeria approved RE Feed-in-Tariff in July 2012.

A notable example of a FIT programme in Europe was established by the Germany Renewable Energy Sources Act. The German FIT programme requires grid operators to pay specified, above market price, tariffs for energy generated from renewable sources. The FIT programme makes renewable electricity sources competitive with fossil fuel-based sources of electricity. FIT policies were recognized for their “Transparency, Longevity and Certainty” (“TLC”) offering beneficial conditions for investors in renewable energy projects around the world.¹¹² The German FIT system was acknowledged as one of the most effective policy framework accelerating the deployment of renewable energy technologies. An additional example of the use of a financial

¹¹²Deutsche Bank Climate Change Advisors, “Global Climate Change Policy Tracker: An Investor’s Assessment” (2009) online: Deutsche Bank
<http://www.dbcca.com/dbcca/EN/_media/Global_Climate_Change_Policy_Tracker_Exec_Summary.pdf>

instrument is the German ecological tax reform. The objective of the German ecological tax reform is on the one hand to address environmental protection –particularly the need to reduce greenhouse gas emissions – and on the other hand, to increase employment by reducing labour costs. The ecological tax reform’s strategy is to increase taxes on energy consumption and use the revenues generated by this taxation to compensate for a reduction in employers/employees’ contribution to the statutory pension scheme. Lower contributions to the pension scheme leads to a reduction in the cost of labour, and therefore encourages employment

In Asia-Pacific, Malaysia runs an FIT scheme under the Renewable Energy Act of 2011 which included competitive feed-in tariff rates and fixed tenure for those rates in order to provide certainty to investors.¹¹³

Further in the Canadian province of British Columbia the Clean Energy Act¹¹⁴ allows for standing offer and feed-in tariff programs in order to promote green energy projects and creates measures that promote energy efficiency generally as well as greenhouse gas emissions in particular. Ontario’s Electricity Act also includes allowances for feed-in tariffs to encourage renewable energy sources, require non-discrimination in access to renewable energy, encourage the creation and use of electricity conservation, and encourage the use of alternate and renewable energy sources.

vi. Fiscal Incentives

Economic instruments are very important for introduction of models of sustainable production and consumption and development of green business. A number of market-based tools have been introduced, including pricing, creating special funds to support green technology, introducing eco-tax, establishing cap, rebates, tax incentives and soft loans, trade system for greenhouse gas emission, providing subsidies to renewable energy and green products, and requiring payment for ecosystem services.

Rebates are used to ‘buy down’ the initial investment costs for renewable power equipment. In this case, the legislator pays a certain share of the total cost of each installed unit of electricity generation capacity. Tax incentives can be offered in the form of tax reductions or tax credits. In addition, legislators can offer soft loans (loans offering reduced interest rates). An approach to create incentives for resource efficiency through taxes is through a differentiated rate of Value-Added-Tax (VAT) according to resource efficiency of the products. Another important approach is the reduction of environmentally harmful subsidies by abolishing subsidies which favour pollution for example fossil fuel subsidies

The Philippine Environment Code provides detailed incentives such as the exemption to the extent of fifty percent of tariff duties and compensating tax to operate the installation and the utilization of pollution control facilities¹¹⁵ and delegate the Council to grant

¹¹³International Labor Organization: Introduction to Policies and Programs for Green Jobs, 2012 .page 23.

¹¹⁴Clean Energy Act, S.B.C. 2010, c. 22; Greenhouse Gas Reduction (Cap and Trade) Act, S.B.C. 2008, c. 32

¹¹⁵The Philippine Environment Code, Section 56.

financial assistance for the study, design and construction of environmental protection facilities on a case-to-case basis¹¹⁶.

In Kazakhstan, the Concept of Transition of Kazakhstan to sustainable development for 2007-2024 endorsed by the Decree of the President of the Republic of Kazakhstan of November 14, 2006 sets the following economic instruments for green growth: 1) implementation of the principle of polluter pays; 2) increase of incentive payment for emission into the air and administrative forfeitures for the violation of environmental regulations; 3) inclusion of the overall cost of natural objects with due regard to their nature contributing function as well as the cost of nature-conservative works into economic indicators; 4) introduction of the trading quotas system; 5) introduction of market mechanisms of nature-conservancy, including those that stimulate repeated use and secondary processing of industrial wastes.¹¹⁷ These instruments introduced in the Concept will be implemented through action plans and future concrete programs.

Ghana's Renewable Energy Bill 2011 establishes the Renewable Energy Fund for the promotion of grid interactive renewable electricity by means of financial incentives, feed-in-tariffs and capital subsidies.

Under the Uganda Investment Act, the investment authority can issue certificate of incentives, which the holder is entitled to a drawback of duties and sales tax payable on imported inputs used in producing goods for export as provided in any law imposing such duties or taxes. In Canada, in 2009, the province of Manitoba established a green energy equipment tax credit, which provides tax incentives for both manufacturers and purchasers of green energy equipment within the province.¹¹⁸ In the U.S, the State of North Carolina created a Green Business Fund that provides funding and economic incentives for entities seeking to engage in green energy use and development while the State of Washington created a Green Energy Incentive Account for similar endeavors. Every region studied has evinced that countries are cognizant of the potential economic – and often societal – impact of transitioning to the green economy and promoting green growth. As a result, there is across the board usage of financial assistance to businesses that are directly impacted by new laws and rules, typically in the forms of direct assistance from the state, subsidies, tax offsets, and VAT exemptions. Further, Europe has acknowledged the potential societal implications of the green economy and green growth and now provides educational and vocational assistance for workers impacted by new laws and rules. Similar tax and financial tools have become important measures taken by states to encourage the growth of green technology research and development, as well as the transition to the green economy by businesses in many sectors of the economy.

¹¹⁶*Ibid.* Sec. 57.

¹¹⁷National report on integration of the "Green Growth" tools in the Republic of Kazakhstan/under the ed. of Prof. Bakhyt Yessekina, Almaty, 2010-128 p, Page 35.

¹¹⁸ Man. Reg. 186/2008 — Green Energy Equipment Tax Credit Regulation; The Emissions Tax on Coal Act, S.M. 2011, c. 41, Sched. A; The Energy Savings Act, S.M. 2012, c. 26.

2.3 Judicial Interpretations and Institutional Innovations

One of the key drivers for a green economy is the judiciary, which carries the responsibility of ensuring that state action is compliant with the requirements of the law.

An important example of the manner in which judicial decisions have influenced the application of constitutional provisions can be found in the decisions of the German Constitutional Court. The German Constitutional Court has provided guiding interpretations for Art 20a of the *Grundgesetz* which defines the “protection of the natural foundations of life and animals” as an objective of the state.¹¹⁹ The provision further states: “Mindful also of its responsibility toward future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.”



GREENING JUSTICE

The world has come to recognize that good environmental governance is fundamental to achieving sustainable development. At the Earth Summit in Rio de Janeiro in 1992, 178 governments signed the Rio Declaration affirming, among others, the principle that environmental decisions are best handed with, *inter alia*, “effective access to judicial and administrative proceeding, including redress and remedy” for “all concerned citizens”.

The 21st century is experiencing an amazing growth in environmental courts and tribunals (ECTs). Over 350 of these specialized forums – focused on resolving environmental, natural resource, land use development, and related issues – can now be found in dozens of countries in every region of the world. These institutions have responded to environmental challenges in innovative ways. Perhaps the best example is the Green Bench of the Supreme Court of India that hears public interest environmental cases filed by citizens. In other countries, Governments have set up specialized environmental courts and tribunals. The Land and Environment Court of New South Wales, Australia, is a leading example of a specialized court. Over 350 specialized environmental courts and tribunals have been established in 41 countries.

Source: *Greening Justice: Creating and Improving Environmental Courts and Tribunals*, (The Access Initiative 2009)

Recent key decisions of the German Constitutional Court have provided further content and clarification of this objective. In **BVerfG, 1 BvR 1031/07 of 25.7.2007**, the Court decided with respect to taxation of biofuels that the state has large margin of discretion as to how to protect the environment; and that economic disadvantages for the German

¹¹⁹ Basic Law for the Federal Republic of Germany in the revised version published in the Federal Law Gazette Part III, classification number 100-1, as last amended by the Act of 21 July 2010 (Federal Law Gazette I p. 944). See Translation by Professor Christian Tomuschat und Professor David P. Currie, available online: http://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html#p0112

biofuels industry are irrelevant for this provision. In **BVerfG, 2 BvF 1/07 of 12.10.2010**, the Court stated with respect to provisions on keeping laying hens unconstitutional: “Art. 20a requires the state to protect animals. Animal welfare is a concern of constitutional status which is to be taken into account in the decision on the weighing of interests. The legislative bodies must take account of animal welfare as an aim of state policy in appropriate provisions; in this connection, they have a broad drafting discretion.” In **BVerfG, 1 BvF 2/05 of 24.11.2010**, the Court stated with respect to the Genetic Technology Act: “In its possibility of deliberately creating changes in genetic makeup, genetic engineering intervenes in the elementary structures of life. It is extremely difficult or impossible to reverse the consequences of such intervention. Once genetically modified material has been released into the environment, it is difficult or impossible to restrict its spread. The legislature has a particular duty of care in view of the fact that the state of scientific knowledge has not yet been finally established when assessing the long-term consequences of the use of genetic engineering. In making law, it must not only balance the constitutionally protected interests affected by the use of genetic engineering on the one hand and their regulation on the other hand, but must similarly comply with the duty contained in Article 20a GG to also protect natural resources with responsibility for future generations.”¹²⁰ In summary, the emerging conclusion from the German Constitutional Court’s decisions is that according to Article 20a of the German Constitution, the legislature has a duty to carefully balance economic interests and sustainable development.

An innovative judicial decision was rendered in Nigeria by Justice C. V. Nwokorie of the Federal High Court of Benin City of Nigeria in **Jonah Gbemre v. Shell PDC Ltd and Ors (2005)**.¹²¹ The judge granted leave to the applicant to institute these proceedings in a representative capacity for himself and for each and every member of the Iweherekan Community in Delta State of Nigeria, and to apply for an order enforcing or securing the enforcement of their fundamental human rights to life and human dignity as provided by sections 33 (1) and 34(1) of the 1999 Constitution of Nigeria, and reinforced by Articles 4, 16 and 24 of the African Charter on Human and Peoples’ Right Cap. A9 Vol. 1, LFN 2004. The Court held that these constitutionally guaranteed rights inevitably include the rights to clean, poison and pollution-free healthy environment. The Judge further declared that the actions of the respondents (Shell PDC and NNPC) in continuing to flare gas in the course of their oil exploration and production activities in the Applicant’s community were a violation of their fundamental rights. Furthermore, the judge ruled that the failure of the companies to carry out an environmental impact assessment in the said community concerning the effects of their gas flaring activities was a clear violation of the Environmental Impact Assessment Act and contributed to a further violation of the said environmental rights. The judge’s order restrained the respondents from further gas flaring and compelled to take immediate steps to stop the further flaring of gas in the community. The judge also ordered that the Attorney General should ensure the speedy amendment, after due consultation with the Federal Executive Council, the Associated

¹²⁰ For a complete overview over relevant jurisprudence see *DeJure*, available at online:<http://dejure.org/gesetze/GG/20a.html>

¹²¹ **Gbemre v Shell Petroleum Development Company Nigeria Limited and Others (2005)** AHRLR 151 (NgHC 2005)

Gas Re-Injection Act to be line with Chapter 4 of the Constitution on Fundamental Human Rights. But the Judge made no award of damages, costs or compensation whatsoever. ¹²²

The Asia-Pacific regional study demonstrates an even greater dedication of the judiciary to environmental causes and, ultimately, the promotion of sustainable development, green growth and the green economy. In states such as India, the Philippines and Australia, courts are often incorporating some or all aspects of sustainable development into their decisions as a matter of law. Often the focus of these courts has been establishing the principle of intergenerational equity as a matter of law, sometimes going so far has to generate the concept of intergenerational responsibility and justice. The right to a healthy environment has also been established by some courts in the region, and there is a trend toward flexibility in terms of standing allowances and an increase in permitted public interest litigation related to environmental issues. Additionally, some states in the region have begun to create specialized judicial entities for environmental issues. These courts have taken the form of designated environmental courts, specialized environmental bodies within the general court system, the creation and use of “environmental judges,” designated environmental tribunals, and quasi-environmental judicial bodies. Further, some systems allow for more specialized environmental-based remedies.

In **Oposa v Factoran**,¹²³ the Philippines Supreme Court asserted two concepts: “intergenerational responsibility” and “intergenerational justice” in conjunction with the right to a balanced and healthful ecology, stating that every generation had a responsibility to the next to preserve the rhythm and harmony for the full enjoyment of a balanced and healthful ecology and that the petitioners could, for themselves, for others of their generation and for the succeeding generations, file class suit.¹²⁴

The Supreme Court of India also recognized the concept of intergenerational equity in its judgments, taking into consideration the interests of future generations.¹²⁵ Significantly, the Court interpreted Article 21 of its constitution, which enshrines the right to life, to comprise elements of sustainable development, including intergenerational equity.¹²⁶ In **M.C. Mehta v Union of India &Ors.**,¹²⁷ the Court ruled that “[environment] and ecology are national assets. They are subject to intergenerational equity. Time has now come to suspend all mining in the [dispute] area on sustainable development principle

¹²²Quoted in Ladan, M. T. (2012). Trends in Environmental Law and Access to Justice in Nigeria. Lambert Academic Publishing, Germany at p. 57

¹²³Juan Antonio Oposa and others v The Honourable Fulgencio S. Factoran and another, G.R. No. 101083, 30 July 1993. See also Compendium of Summaries of Judicial Decisions in Environment-Related Cases (Nairobi: UNEP 2005), pp.143-144.

¹²⁴*Ibid.* at <http://elibrary.judiciary.gov.ph/thebookshelf/showdocs/1/31284>.

¹²⁵Early cases are, for instance, State of Himachal Pradesh v Ganesh Wood Products AIR 1996 SC 149 and A.P. Pollution Control Board v M.V. Nayudu AIR 1999 SC 812.

¹²⁶Most recently, in Samaj Parivartana Samudaya & Ors.v State of Karanataka & Ors. (2013), the court reaffirmed this concept by stating that “intergenerational equity and sustainable development have come to be firmly embedded in our constitutional jurisprudence as an integral part of the fundamental rights conferred by Article 21 of the Constitution.” Applying to the case at hand, the court concluded that “[in] enforcing such rights of a large number of citizens who are bound to be adversely affected by environmental degradation, this Court cannot be constrained by the restraints of procedure.”

¹²⁷(2009) 6 SCC 142.

which is part of Articles 21, 48-A and 51-A(g) of the Constitution of India.”¹²⁸In **Glanrock Estate Pvt. Ltd. v State of Tamil Nadu**,¹²⁹ the Court reaffirmed the interpretation in its various judgments of **T.N. Godavarman v Union of India**¹³⁰ that inter-generational equity was part of Article 21 of the constitution and stated that “forests in India are an important part of the environment. The court also found that forests constitute a national asset and intergenerational equity is also part of the Article 21 of the Constitution and cautioned that if deforestation took place rampantly, then intergenerational equity would stand violated.”¹³¹

i. Intergenerational Equity

The Land and Environment Court of New South Wales, Australia has extensively applied intergenerational equity, based on the ecologically sustainable development (ESD) requirements¹³². In one of its early and landmark cases on climate change litigation, **Gray v The Minister for Planning and Ors.**,¹³³ the Court referred to three fundamental principles underpinning the principle of intergenerational equity, identified by Justice Brian J. Preston¹³⁴:“(i) the conservation of options principle which requires each generation to conserve the natural and cultural diversity in order to ensure that development options are available to future generations;(ii) the conservation of quality principle that each generation must maintain the quality of the earth so that it is passed on in no worse condition than it was received;(iii) the conservation of access principle which is that each generation should have a reasonable and equitable right of access to the natural and cultural resources of the earth.”¹³⁵The Court held that it was apparent that there was a failure of a legal requirement to take the principle of intergenerational equity into account by not requiring proper assessment of the major component of GHG that resulted from the use of the coal.¹³⁶ The decision broadened the scope of environmental assessment and enhanced the legal recognition of impacts of climate change, including on future generations.¹³⁷

¹²⁸*Ibid.* at para. 45.

¹²⁹(2010) 10 SCC 96.

¹³⁰Writ Petition No. 202 of 1995. The first judgment was made on 12/12/1996 and the most recent judgment on 13/02/2012.

¹³¹(2010) 10 SCC 96., para. 8 at p. 21, <http://judis.nic.in/supremecourt/imgs1.aspx?filename=36827>.

¹³² Protection of the Environment Administration Act 1991 Section 6(2) provides that “ecologically sustainable development requires the effective integration of economic and environmental considerations in decision-making processes” and can be achieved through the implementation of, e.g., precautionary principle, polluter pays principle and intergeneration equity.

¹³³[2006] NSWLEC 720.

¹³⁴ Brian J. Preston, ‘The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific’ (Asia Pacific Journal of Environmental Law, Vol 9, Issues 2 & 3 2005), p. 109.

¹³⁵[2006] NSWLEC 720, para. 119.

¹³⁶*Ibid.* at para. 126.

¹³⁷See Brian J Preston, ‘Climate Change Litigation in the Land and Environment Court of New South Wales and Other Courts’ (A paper presented to ACPECT 2009 Conference), http://www.lec.lawlink.nsw.gov.au/agdbasev7wr/assets/lec/m4203011721754/preston_climate%20change%20litigation%20in%20the%20lec%20and%20other%20courts.pdf; Erin Feros, ‘Climate Change Litigation – Environmental Impact Assessment Must Properly Address Greenhouse Gas Emissions’ (Allens December 2006), <http://www.allens.com.au/pubs/ibo/foibo4dec06.htm>.

ii. Precautionary Principle

Leatch v National Parks and Wildlife Services,¹³⁸ one of the earliest cases in the world applying the precautionary principle,¹³⁹ was raised as an appeal in Land and Environment Court of New South Wales. Justice Stein gave his opinion that “the precautionary principle is a statement of common sense and has already been applied by decision-makers in appropriate circumstances prior to the principle being spelt out. It is directed towards the prevention of serious or irreversible harm to the environment in situations of scientific uncertainty. Its premise is that where uncertainty or ignorance exists concerning the nature or scope of environmental harm (whether this follows from policies, decisions or activities), decision makers should be cautious.”¹⁴⁰ He further concluded that while there was no expressed provision in the National Parks and Wildlife Act requiring consideration of the precautionary principle, “consideration of the state of knowledge or uncertainty regarding a species, the potential for serious or irreversible harm to an endangered fauna and the adoption of a cautious approach in protection of endangered fauna is clearly consistent with the subject matter, scope and purpose of the Act.”¹⁴¹ The interpretative approach of Justice Stein demonstrated not only good appreciation of the precautionary principle but also how the judicial system could turn soft law into hard law and influenced decision-makers to apply the principle.¹⁴² The case has subsequently influenced and been cited in numerous subsequent rulings.¹⁴³

The Land and Environment Court of New South Wales’s progressive and comprehensive analysis of the precautionary principle also provides guidance to both judges and decision-makers in their further application of the principle. This can be seen in **Telstra Corporation Limited v Hornsby Shire Council**,¹⁴⁴ in which the Court provided one of the most detailed and comprehensive analyses of the principle. In summary, the precautionary principle is applied when there is a threat of serious or irreversible environmental damage and a lack of scientific certainty as to that damage. Once both of these conditions are satisfied, precautionary measures should be taken to avert the anticipated threat of environmental damage, but they should be proportionate, taking into consideration the degree of seriousness and irreversibility of the threat and the degree of uncertainty. In addition, there is a shifting of the evidentiary burden of proof and a decision maker must assume that the threat of serious or irreversible environmental

¹³⁸(1993) 81 LGERA 270.

¹³⁹See Judicial Training Modules on Environmental Law (Nairobi: UNEP 2007), p. 61; Brain J Preston, ‘Jurisprudence on Ecologically Sustainable Development: Paul Stein’s Contribution’ (2009), http://www.lec.lawlink.nsw.gov.au/agdbasev7wr/assets/lec/m4203011721754/preston_jurisprudence%20on%20ecologically%20sustainable%20development.pdf, p. 7.

¹⁴⁰(1993) 81 LGERA 270, para. 282.

¹⁴¹*Ibid.* at para. 283.

¹⁴²Brain J Preston, ‘Jurisprudence on Ecologically Sustainable Development: Paul Stein’s Contribution’ (2009), pp. 7-9.

¹⁴³The most recent case is *Barrington - Gloucester - Stroud Preservation Alliance Inc v Minister for Planning and Infrastructure* [2012] NSWLEC 197. Other cases are, for example, *Greenpeace Australia Ltd v Redbank Power Company Pty Ltd and Singleton Council* (1994) 86 LGERA 143 and *Nicholls v Director-General v National Parks and Wildlife* (1994) 84 LGERA 397. See *Compendium of Summaries of Judicial Decisions in Environment-Related Cases* (Nairobi: UNEP 2005), pp. 180-182; Brian J. Preston, ‘The Role of the Judiciary in Promoting Sustainable Development: The Experience of Asia and the Pacific’ (*Asia Pacific Journal of Environmental Law*, Vol 9, Issues 2 & 3 2005), pp. 144-168.

¹⁴⁴[2006] NSWLEC 133.

damage is no longer uncertain but is a reality. The burden of showing that this threat does not in fact exist or is negligible lies with the proponent of the development.¹⁴⁵ The precautionary measures can take a form of, for instance, a requirement for an adaptive management approach, as seen in **Port Stephens Pearls Pty Ltd v Minister for Infrastructure and Planning**.¹⁴⁶ The Court held that consent should only be granted if there was a monitoring regime that would detect emerging adverse impacts and enable the appropriate regulatory authority to require them to be addressed.¹⁴⁷

iii. Polluter Pays Principle

The Land and Environment Court of New South Wales and Federal Court of Australia have contributed to a large number of cases in Australia applying the polluter pays principle. Justice Brian J Preston described four situations where the principle becomes relevant¹⁴⁸:(1) in sentencing for environmental crime¹⁴⁹, relating to purposes of sentencing (retribution, deterrence, and restoration and reparation), sentencing considerations (the objective harmfulness of the offender's criminal conduct), severity of sentence proportionate to seriousness of offense, and types of sentencing orders, which can be, for instance, orders for restoration or prevention of environmental damage or orders for compensation;(2) in imposing civil penalties for statutory breach¹⁵⁰, by orders for payment of pecuniary penalties or injunctive orders;(3) in reviewing administrative orders imposed by regulatory agencies¹⁵¹; and (4) in granting approval for development on merits review appeals¹⁵², in which the court may impose conditions requiring offsets in a form of compensation or undertaking of specific actions, for instance, compensatory planting, rehabilitating disturbed land after quarrying, and protecting and enhancing conservation values of existing vegetation and habitats on the land.¹⁵³

In India, the Supreme Court applied the principle in conjunction with strict liability. In one of India's landmark cases, **Indian Council for Enviro-Legal Action v. Union of**

¹⁴⁵*Ibid.* at paras.125-183. See *Barrington - Gloucester - Stroud Preservation Alliance Inc v Minister for Planning and Infrastructure* [2012] NSWLEC 197 para.151. The case provided a summary of the Telstra case's analysis on precautionary principle.

¹⁴⁶[2005] NSWLEC 426.

¹⁴⁷See *Telstra Corporation Limited v Hornsby Shire Council* [2006] NSWLEC 133, para. 165.

¹⁴⁸Brian J Preston, 'Sustainable development Law in the Courts: The Polluter Pays Principle' (The 16th Commonwealth Law Conference, HK, 7 April 2009),

http://www.lec.lawlink.nsw.gov.au/agdbasev7wr/assets/lec/m4203011721754/preston_the%20polluter%20pays%20principle.pdf.

¹⁴⁹See, for e.g., *Axer Pty Ltd v Environment Protection Authority* (1993) 113 LGERA 357; *Bentley v BGP Properties Pty Ltd* [2006] NSWLEC 34; *Environment Protection Authority v Waste Recycling and Processing Corporation* [2006] NSWLEC 419; *Environment Protection Authority v Lithgow City Council* [2007] NSWLEC 695. See also Brian J Preston 2009 (note 48) pp. 3-9.

¹⁵⁰See, for e.g., *Minister for the Environment and Heritage v Greentree (No 3)* [2004] FCA 1317; *Great Lakes Council v Lani* [2007] NSWLEC 681. See also Brian J Preston, 'Sustainable development Law in the Courts: The Polluter Pays Principle' (The 16th Commonwealth Law Conference, HK, 7 April 2009), http://www.lec.lawlink.nsw.gov.au/agdbasev7wr/assets/lec/m4203011721754/preston_the%20polluter%20pays%20principle.pdf, pp. 9-11.

¹⁵¹See, for e.g., *Landers v Director-General of the Department of Infrastructure Planning and Natural Resources* [2005] NSWLEC 284; *Buttsworth v Director-General of the Department of Land and Water Conservation* [2003] NSWLEC 169. See also Brian J Preston 2009 (*Ibid.*) pp. 11-13.

¹⁵²See, for e.g., *Gerroa Environment Protection Society Inc v Minister for Planning* [2008] NSWLEC 173; *Taralga Landscape Guardians Inc v Ministry for Planning* [2007] NSWLEC 59. See also Brian J Preston 2009 (*Ibid.*) p. 13.

¹⁵³*Gerroa Environment Protection Society Inc v Minister for Planning* [2008] NSWLEC 173, para. 100.

India (1996)¹⁵⁴, the Court stated that the financial cost of preventing and remedying damage lay with those who caused the pollution and that the person carrying on a hazardous or inherently dangerous activity was strictly and absolutely liable to compensate for loss caused to any other person.¹⁵⁵ The liability is not limited to compensation for victims of the pollution but also extended to the incurred cost for restoring environmental degradation. The Court therefore ruled that the respondents were liable to pay for the cost of improving and restoring the environment in the area. The Court also encouraged the central government to take the necessary measures to protect the environment.¹⁵⁶ **Vellore Citizens Welfare Forum v. Union of India**¹⁵⁷ reaffirmed the application of such principle and ordered the central government to establish an authority in order to implement the principle, identify and determine the compensation to reverse the environmental damage and compensate those who have suffered from the pollution. Refusal to pay compensation would result in closure of the industry.¹⁵⁸ **Research Foundation for Science Technology and Natural Resources Policy v Union of India**¹⁵⁹ illustrated the cost derived from the principle. The Court determined that it “includes environmental cost as well as direct cost to the people or property, it also covers cost incurred in avoiding pollution and not just those related to remedying any damage. It will include full environmental cost and not just those which are immediately tangible.”¹⁶⁰

iv. Right to a Healthy Environment

In India and the Philippines, among others, the right to a decent or healthy environment was applied even before the adoption of the Rio Declaration. The right does not always explicitly appear in the constitutions. Therefore, the judiciaries play an important role in the recognition of such right. India is the prime example of this. The Supreme Court of India interpreted the right to life, protected under Article 21, to incorporate the right to a wholesome environment, and enjoyment of pollution-free water and air. Pioneering Indian Court decisions recognizing this right are, for example, **Rural Litigation and Entitlement Kendra Dehradun v. State of U.P (1985)**¹⁶¹, **M.C. Mehta v. Union of India (1988)**¹⁶², and **Subhash Kumar v. State of Bihar (1991)**.¹⁶³

Virendra Gaur v. State of Haryana (1995)¹⁶⁴ provided a clear illustration of such a pattern of interpretation. The Court held that “Article 21 protects right to life as a fundamental right. Enjoyment of life and its attainment including their right to life with

¹⁵⁴1996 (3) SCC 212.

¹⁵⁵*Ibid.* See Compendium of Summaries of Judicial Decisions in Environment-Related Cases (Nairobi: UNEP 2005), pp. 98-99; Geetanjoy Sahu, ‘Implications of Indian Supreme Court’s Innovations for Environmental Jurisprudence’ (4/1 Law, Environment and Development Journal 2008), p. 10.

¹⁵⁶*Ibid.*

¹⁵⁷AIR 1996 SC 2715. See also Compendium of Summaries of Judicial Decisions in Environment-Related Cases (Nairobi: UNEP 2005), p. 101.

¹⁵⁸Compendium of Summaries of Judicial Decisions in Environment-Related Cases (Nairobi: UNEP 2005), p. 101.

¹⁵⁹Writ Petition (civil) 657 of 1995, Date of Judgment: 05/01/2005.

¹⁶⁰*Ibid.* at para. 27.

¹⁶¹AIR 1985 SC 652.

¹⁶²AIR 1988 SC 1037.

¹⁶³AIR 1991 SC 420.

¹⁶⁴1995 (2) SCC 577.

human dignity encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life cannot be enjoyed.” Therefore “[any] contracts or actions which would cause environmental pollution [...] should be regarded as amounting to violation of Article 21.” In addition, the Court stated that “there is a constitutional imperative on [the court], state government and the municipalities, not only to ensure and safeguard proper environment but also an imperative duty to take adequate measures to promote, protect and improve both the man-made and the natural environment.”¹⁶⁵ This ruling reaffirmed the state’s the duty with regard to environmental protection and conservation, despite the fact that originally the constitutional provision which refers to this duty, Article 48A, fell under the cluster of “Directive Principle of State policy”, which is not enforceable by the court of law.¹⁶⁶

The recently adopted constitutions in the region enshrined the right to a healthy environment (as discussed in Part II Section 2.1.) have also shown an impact on litigation.¹⁶⁷ For example, in Indonesia, the Supreme Court in **Judicial Review of the Law No.7 of 2004 on Water Resources (2005)**¹⁶⁸ reviewed the constitutionality of the Law on Water Resources and held that the right to water is part of the right to enjoy a good and healthy environment as enshrined in its constitution.¹⁶⁹ In Nepal, the Supreme Court has held that the right to a healthy environment is a prerequisite for the enjoyment of other constitutional rights long before its interim constitution – adopted in 2006 – explicitly endorsed such right for the first time.¹⁷⁰ In **Suray Prasad Sharma Dhungel v Godavari Marble Industries and Others (1995)**¹⁷¹, the Nepalese Court ruled that “[since] clean and healthy environment is an indispensable part of a human life, right to clean and healthy environment is undoubtedly, embedded within the right to life.”¹⁷²

In India, the doctrine has become very influential in and fundamental to the overall legal system.¹⁷³ It was first applied in **M.C. Mehta v. Kamal Nath and Others, (1997)**¹⁷⁴ in which the Supreme Court decided that the public trust doctrine was part of the law of the land since the legal system of India was based on English common law and stated that “the State is the trustee of all natural resources which are by nature meant for public use and enjoyment. The public at large is the beneficiary of the sea-shore, running waters, airs, forests and ecologically fragile lands. The state as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted

¹⁶⁵ *Ibid.*

¹⁶⁶ David R. Boyd, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment* (Vancouver: UBC Press 2012), p. 176.

¹⁶⁷ *Ibid.* at p. 191.

¹⁶⁸ Constitutional Court of the Republic of Indonesia, Judgment of 13th July 2005, No. 058-059-060-063/PUU/2004.

¹⁶⁹ See David R. Boyd, *The Environmental Rights Revolution: A Global Study of Constitutions, Human Rights, and the Environment* (Vancouver: UBC Press 2012), pp. 174-175. See also Mohamad MovaAl’ Afghani, ‘Constitutional Court’s Review and the Future of Water Law in Indonesia’, (2/1 Law, Environment and Development Journal 2006), p. 3, <http://www.lead-journal.org/content/06001.pdf>.

¹⁷⁰ *Ibid.* at pp. 170-171.

¹⁷¹ WP 35/1992.

¹⁷² *Ibid.* at <http://www.elaw.org/node/1849>.

¹⁷³ Michael C. Blumm and Rachel D. Guthrie, ‘Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxon Vision’ (2012), http://lawreview.law.ucdavis.edu/issues/45/3/Topic/45-3_Blumm.pdf.

¹⁷⁴ 1997 (1) SCC 388.

into private ownership.”¹⁷⁵ The Court further ruled that “the environment and the ecosystems of our country cannot be permitted to be eroded for private, commercial or any other use unless the courts find it necessary, in good faith, for the public good and in public interest to encroach upon the said resources.”¹⁷⁶ In the case at hand, the dispute area was part of protected forest and a lease purely for commercial purposes was therefore a breach of the trust.¹⁷⁷ As a result, the Court ordered, *inter alia*, that the lease shall be cancelled and that the government shall take over the area and restore it to its original natural conditions. The company was also to pay compensation for the restitution of the environment and ecology of the area.¹⁷⁸ The doctrine was further reaffirmed in other cases including, ***Th. Majra Singh v Indian Oil Corporation (1999)***¹⁷⁹, ***M.I. Builders v RadheyShyamSahu (1999)***¹⁸⁰, where the Court ruled that the doctrine had grown from Article 21 of the constitution, which enshrines the right to life, and more recently in ***T.N. GodavarmanThirumulpad v Union of India (2005)***¹⁸¹, ***Fomento Resorts & Hotels v Minguel Martins (2009)***¹⁸² and ***Reliance Natural Resources Ltd. v Reliance Industries Ltd. (2010)***.¹⁸³ In all cases, the public trust doctrine was applied in conjunction with other sustainable development principles: precautionary principle, polluter pays principle and, in particular, intergenerational equity.¹⁸⁴

In Nigeria the right to a healthy environment was upheld Justice C.V. Nwokorie of the Federal High Court Benin City of Nigeria in ***Jonah Gbemre v. Shell PDC Ltd and Ors (2005)*** as discussed above.

v. Environmental Courts

Environmental Courts and Tribunals specifically directed to fighting environmental crimes have been established in all regions of the world ; in civil law, common law, and other legal systems; in jurisdictions from the largest (China, India, Canada, Brazil) to the smallest (Trinidad and Tobago, the City of Memphis, Tennessee); and in developed and developing nations. Historically, Australia and New Zealand have been the leaders in ECT creation, but today ECTs are spreading in Asia (examples include China, India, Japan, the Philippines, South Korea, Thailand), Africa (South Africa, Kenya, Sudan), Europe (Belgium, England, Finland, Hungary, Sweden), South America (Brazil, Bolivia, Guyana), Central America (Costa Rica), and North America (Vermont USA, Ontario, British Columbia). In the United States although there is no specialized environmental court at the federal level, there is one impressive state Environmental Court (Vermont), a

¹⁷⁵*Ibid.* at para. 34.

¹⁷⁶*Ibid.* at para. 35.

¹⁷⁷*Ibid.* at para. 36.

¹⁷⁸*Ibid.* at para. 39.

¹⁷⁹1997 (1) SCC 388.

¹⁸⁰AIR 1999 SC 2468.

¹⁸¹CDJ 2005 SC 713.

¹⁸²Civil Appeal No. 4154 of 2000.

¹⁸³Civil Appeal No. 4273 of 2010.

¹⁸⁴See Brian J Preston, ‘Judicial Implementation of the Principles of Ecologically Sustainable Development in Australia and Asia’ (A paper presented to the Law Society of New South Wales Regional Presidents Meeting, Sydney, NSW, 21 July 2006),

http://www.leg.lawlink.nsw.gov.au/agdbasev7wr/assets/lec/m4203011721754/preston_judicial%20implementation%20of%20the%20principles%20of%20ecologically%20sustainable%20development.pdf, pp. 37-38; ‘Case Law

Analysis:Application of Public Trust Doctrine in Indian Environmental Cases’ (note 54).

number of local (city, county) Environmental Courts, and several in-house Environmental Tribunals at the national level, such as the US Environmental Protection Agency's Environmental Review Board and the US Department of the Interior's Interior Board of Land Appeals.¹⁸⁵

In the Asian region, Bangladesh promulgated the *Environmental Court Act*¹⁸⁶ and has since established environmental courts in Dhaka, Chittagong, and Sylhet.¹⁸⁷ The Courts follow an unusual procedure for filing environmental complaints, that is, the Department of Environment determines whether a suit for compensation will be heard.¹⁸⁸ The person must first file a written complaint with the Department. The Department then asks an inspector or other authorized person to investigate the allegations.¹⁸⁹ The inspector must submit an investigation report within sixty days after the filing of the complaint. If the inspector submits a charge sheet against a polluter, the Environmental Court may take cognizance of the offence.¹⁹⁰ A problem with this approach is that it is contributing to the insufficient case load in the Bangladesh environmental courts.¹⁹¹ The low caseload has led to concerns not only with respect to protecting the environment but also practical concerns related to judicial down-time, uneven workloads compared with the rest of the judiciary, and the time and expense spent to support the functioning of separate environmental courts. Furthermore, given the importance of time in mitigating detrimental effects to the environment, 60 days may be too long to submit an investigation report and for the court to take cognizance of the complaint. The Philippine Supreme Court passed a binding resolution¹⁹² that designated 117 municipal and regional trial courts as environmental courts, following discussions that took place in Manila at the 2007 Asian Justices Forum on the Environment. Of the 117 new environmental courts, 45 were previously designated as "forestry courts" and will essentially continue to function as such, while 48 municipal trial courts and 24 regional trial courts were added to manage all other environmental cases.¹⁹³ Judges and court personnel of the new environmental courts underwent focused environmental law training at the Judicial Academy.¹⁹⁴

Some countries, for instance, Sri Lanka¹⁹⁵, do not have an established "green" bench or chamber – nevertheless, they have developed rich and interesting jurisprudence relying on the ordinary court system, especially an environmentally active Supreme Court. Still, other countries, including Thailand and the People's Republic of China (PRC), have

¹⁸⁵ George (Rock) Pring, Catherine (Kitty) Pring, "Specialized Environmental Courts and Tribunals: The Explosion of New Institutions to Adjudicate Environment, Climate Change, and Sustainable Development" (Pace Law School 2010)

¹⁸⁶ Bangladesh: Environmental Court Act 2000, available on Lexadin.

¹⁸⁷ *Ibid*

¹⁸⁸ *Ibid*

¹⁸⁹ *Ibid*

¹⁹⁰ *Ibid*

¹⁹¹ George Pring and Catherine Pring, *Greening Justice: Creating and Improving Environmental Courts and Tribunals* (The Access Initiative, 2009) 17.

¹⁹² Philippines: Resolution 20 November 2007, as amended 22 January 2008 (AM No. 07-11-12-SC).

¹⁹³ "117 courts to handle 'green cases'" Manila Bulletin 13 January 2008, available at: http://www.illegal-logging.info/item_single.php?it_id=2492&it=news.

¹⁹⁴ Hon Hilario G Davide Jr and Sara Vinson, "Green Courts Initiative in the Philippines" (Publication from Pace Law School 2010) 125, available at: http://www.law.pace.edu/sites/default/files/IJIEA/jciDavide_Philippines%203-17_cropped.pdf.

¹⁹⁵ Further discussion regarding judicial innovations by the Supreme Court of Sri Lanka in legal standing and public interest litigation is found in a latter part of this section.

created environmental divisions within the general courts to oversee environmental cases. India's Supreme Court provides a unique model of a "green" bench. In the 1990s, the Court undertook a period of activism and gave itself the role of environmental protector based on the constitutional right to life¹⁹⁶. The power of the Supreme Court of India to enforce fundamental rights, including the right to life, is derived from Article 32 of the Indian Constitution.¹⁹⁷ It gives citizens the right to directly approach the Supreme Court and seek remedies against the violation of these fundamental rights.¹⁹⁸ This entitlement to constitutional remedies is itself a fundamental right and may be enforced through the use of writs.¹⁹⁹ While India's judicial activism has resulted in some significant public interest litigation victories, it has also struggled with problems of case overload and ineffective policy development, monitoring, and enforcement of the constitutional remedies it has ordered.²⁰⁰ Most recently, a National Green Tribunal, discussed below, was created to address these issues.

Thailand established an Environmental Division in the Supreme Court, in order to enhance judicial capacity in exercising environmental civil and criminal jurisdiction. The Division was primarily created to promote awareness of current environmental problems in the lower courts and to guide judges in dealing with them.²⁰¹ Gradually, "green" divisions have been set up in the Courts of Appeals and the Civil Courts.²⁰² In the past eight years, the new environmental divisions have decided over 1,263 environmental cases.²⁰³ Of these decisions, the vast majority (1,229 cases or 97 per cent) related to criminal matters and a minority (34 cases or 2.7 per cent) related to civil matters.²⁰⁴ The subject matters of these cases were, in order of the most common problems: nature conservation, including biodiversity and related to illegal fishery and the tracking and trading of endangered species; pollution of all types, such as wastewater discharge, hazardous waste disposal, and radiation; and natural resources destruction.²⁰⁵

China experimented with "environmental courts" (as they are often referred to in various sources) as early as the late 1980s, but they were disbanded by the Supreme People's Court in the mid-1990s.²⁰⁶ Since 2007, China's "environmental courts" have taken the

¹⁹⁶Constitution of India, 1950, art 21.

¹⁹⁷*Ibid* Art 32.

¹⁹⁸ "Judicial Activism Under the Indian Constitution" (Address by Hon KG Balakrishnan, Chief Justice of India, Trinity College Dublin, Ireland, 14 October 2009) available at:

http://supremecourtfindia.nic.in/speeches/speeches_2009/judicial_activism_tcd_dublin_14-10-09.pdf.

¹⁹⁹ *Ibid*

²⁰⁰ George Pring and Catherine Pring, *Greening Justice: Creating and Improving Environmental Courts and Tribunals* (The Access Initiative, 2009) 24.

²⁰¹ Justice WinaiRuangsri "Environmental Law in the Thai Supreme Court Bench", 4 (Address by delegation from Thailand attending the Roundtable for ASEAN Chief Justices and Senior Judiciary on Environmental Law and Enforcement – Judicial Reforms to Respond to Environmental Challenges: Institutionalizing Environmental Expertise through Specialization and Environmental Courts, Jakarta, Indonesia, 5-7 December 2001) available at: <http://asean.mahkamahagung.go.id/index.php/article/29-environmental-law-in-the-thai-supreme-court-green-bench.html>.

²⁰² Thailand: Environmental Divisions: Supreme Court B.E. 2548 (2005), Court of Appeal B.E. 2549 (2006), Civil Court B.E. 2554 (2011).

²⁰³ *Supra* note 201

²⁰⁴ *Ibid*

²⁰⁵ *Ibid*

²⁰⁶ Report about Establishing an Environmental Court by the People's Court of Qiaokou District in Wuhan City, Sup.People's Ct, effective Feb 10, 1989, 1989 Fajinghan 19 (PRC) in Alex L Wang and JieGao, "Environmental

form of environmental divisions within the intermediate people's courts as well as Basic People's Courts.²⁰⁷ Unlike in Thailand, environmental adjudication in China is principally a bottom-up movement. On the one hand, it has raised limited awareness at the national level and often failed to take on major polluters. On the other hand, these "courts" have set forth rules and implemented practices with a variety of innovations in standing, jurisdiction, and remedies, among other things. The most recent *Amendment to the Civil Procedure Law*²⁰⁸ incorporated some of these innovations.²⁰⁹ The most innovative "environmental courts" are found in Guizhou, Jiansu, and Yunnan provinces. The Guiyang and the Wuxi "environmental courts" are most active in accepting public interest litigation cases, but their caseloads vary greatly in number and type. For example, from 2008 to 2009, criminal cases dominated "environmental courts" in Guizhou, while non-litigation administrative enforcement cases brought by local environmental authorities represented virtually all cases in "environmental courts" in Jiansu.²¹⁰

The Indonesian Supreme Court has begun collaborating with the Ministry of Environment to create an environmental judicial certification program. Only certified judges are qualified to hear cases of a purely environmental nature.²¹¹ However, they are allowed to try other cases whenever there is a low environmental caseload.²¹² Like many countries in the region, Indonesia is seeking to improve its judicial capacity to handle environmental cases. Though the Court considered other modes of environmental specialization, including environmental courts and "green benches," they decided that the judge certification program was the best approach given the requirement to amend the Constitution to accommodate major changes in the court structure.²¹³ Some fear that this scheme will not be enough to slow down developments that have been harmful to the environment.²¹⁴ In particular, Indonesia is concerned with the rapid rate of deforestation and unchecked trade in endangered species. It is worth mentioning that "green" benches, chambers, panels of judges as well as legally-trained, expert environmental judges have certain advantages over the environmental court model. For instance, they do not call for special legislation or a separate budget. They may not even require judicial expertise or training in environmental law.²¹⁵ A person also does not need to file in a separate court in a potentially far-off location, nor does the person need special knowledge about what constitutes an environmental case. Furthermore, the "green bench" and environmental judge models allow the court to first, manage a caseload where the number and

Courts and the Development of Environmental Public Interest Litigation in China" *Journal of Court Innovation* 3:1, 2010, 38, available at: http://www.law.pace.edu/sites/default/files/IJIEA/Wang_Gao_FINAL1.JB-2-15doc_cropped.pdf.

²⁰⁷ Alex L Wang and JieGao, "Environmental Courts and the Development of Environmental Public Interest Litigation in China" *Journal of Court Innovation* 3:1, 2010, 38, available at: http://www.law.pace.edu/sites/default/files/IJIEA/Wang_Gao_FINAL1.JB-2-15doc_cropped.pdf.

²⁰⁸ PRC: August 31, 2012 Amendment to the PRC Civil Procedure Law (promulgated in 1991).

²⁰⁹ *Ibid.* Art 55.

²¹⁰ *Supra* note 207

²¹¹ Fidelis E Satriastanti & HeruAndriyanto "Green' Judges Latest Weapon in Fight for the Environment" *The Jakarta Globe*, 2010, available at: <http://www.thejakartaglobe.com/archive/green-judges-latest-weapon-in-fight-for-the-environment/>.

²¹² *Ibid*

²¹³ ADB "Environmental Governance and the Courts in Asia: An Asian Judges Network on the Environment" June 2012, available at: <http://www.adb.org/sites/default/files/pub/2012/2012-brief-01-environmental-governance.pdf>.

²¹⁴ *Supra* note 211

²¹⁵ *Supra* note 200. Pg. 23

complexity of environmental cases fluctuates and second, help ensure the workload is spread consistently among judges.²¹⁶

Environmental tribunals have been established in India, Pakistan, Thailand, and Malaysia. The National Green Tribunal in India was created with the aim of reducing the burden of environmental litigation in the Supreme Court of India. To make it as accessible as possible, the Tribunal will follow a circuit procedure with five places in sitting: New Delhi being the principal place of sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai as the other four places of sitting.²¹⁷ The environmental tribunal in Pune is expected to be operational this year.²¹⁸ In Pakistan, environmental tribunals were formed under Section 20 of the Pakistan *Environment Protection Act* of 1997.²¹⁹ Nevertheless, the tribunals in Sindh, Kyber Pakhtunkhwa, and Balochistan have been non-operational since July 2010, January 2011, and July 2011, respectively.²²⁰ In Punjab, the tribunal was closed for lengthy periods on three occasions: eight months in 2006 to 2007, six months in 2009, followed by a period of nearly a year in 2011.²²¹ From 2002 to 2012, the Punjab environmental tribunal has been sent a total of 2,800 cases, of which it ruled on 435 cases or approximately 15 per cent of cases.²²² In other words, the tribunal in Punjab had 2,294 environmental cases pending in 2012. According to reported official data, up until 2010, as many as 119 environmental cases were pending in Kyber Pakhtunkhwa, 16 cases in Sindh, and 13 cases in Balochistan.²²³ There are various reasons why the tribunals have been ineffective. Some of these reasons include elderly tribunal chairs, government delays in appointing new chairs, a general tendency among tribunal members to favour development over environmental concerns, loopholes in environmental legislation, and the lack of an effective enforcement and fine collection mechanism.²²⁴ When the tribunals were operational, they mostly dealt with violations of sections 11 and 12 of the Act, which concerns national environment quality standards and environment impact assessments, respectively.²²⁵ These cases involved development activities in all sectors, including industry, residential, municipal agencies, energy, utility service providers, and energy.

²¹⁶ *Supra* note 200 .Pg. 23

²¹⁷ India: Ministry of Environment & Forests, National Green Tribunal, available at: <http://moef.nic.in/modules/recent-initiatives/NGT/>.

²¹⁸ "Pune's green tribunal bench will function in 3 months", The Times of India, 9 May 2013, available at: http://articles.timesofindia.indiatimes.com/2013-05-09/pune/39142334_1_ngt-environment-cases-national-green-tribunal.

²¹⁹ Pakistan: Environmental Protection Act 1997, s 20. Note this federal law was replaced by the Punjab Environmental Protection Act of 2012.

²²⁰ Sonia Malik, "Environmental tribunal: Only 15% of cases decided, 20% fines recovered", The Tribune, available at: <http://tribune.com.pk/story/387884/environmental-tribunal-only-15-of-cases-decided-20-of-fines-recovered/>.

²²¹ *Ibid*

²²² *Ibid*

²²³ Pakistan: 2010 data from Ministry of National Disaster Management in Sonia Malik, "Environmental tribunal: Only 15% of cases decided, 20% fines recovered", The Tribune, available at: <http://tribune.com.pk/story/387884/environmental-tribunal-only-15-of-cases-decided-20-of-fines-recovered/>.

²²⁴ *Supra* note 220

²²⁵ *Supra* note 219

Thailand currently boasts environmental divisions in the Supreme Administrative Court, Central Administrative Court, and nine regional administrative courts.²²⁶ The regional administrative courts are located in Chiang Mai, NakhonRatchasima, KhonKaen, Phitsanulok, UdonThani, Royang, Songkhla, UbonRatchathani and Nakhon Si Thammarat.²²⁷ A total of 4,634 environmental cases have been lodged with administrative courts in the 10 years prior to setting up the new division, with 3,657 of them having been completed as of the end of May 2011.²²⁸ Of the cases currently being accepted by the 9 regional courts, 70 per cent have been lodged at the KhonKaen administrative headquarters.²²⁹ Most of these cases relate to hazardous or illegal operations of waste disposal businesses and stone millers.

In African countries environment courts/ green courts are on the rise. For instance, the Constitution of Kenya 2010, in addition to establishing the right to a clean and healthy environment in Article 42, it mandates parliament in the subsequent Article 72 to make the requisite legislation for the enforcement of these rights. Particularly Article 162 (2) (b) of the constitution requires Parliament to establish a court with status of the high court to determine disputes relating to environment and the use and occupation of, and title to land. Following this an Environment and Land Court Act was enacted in 2011 to ... “facilitate the just, expeditious, proportionate and accessible resolution of disputes governed by this Act...” In South Africa, an environment court was established in 2003 to specifically fight the derogation of marine resources. Later on in 2014, the government established a second environmental court to specifically fight water crimes.²³⁰

²²⁶ Thailand: Environmental Divisions of the Administrative Courts of First Instance and the Supreme Administrative Court were established 5 July B.E. 2554 (2011) and officially operated nationwide on 2 August B.E. 2554 (2011) for adjudicating administrative cases concerning environmental issues.

²²⁷ The Nation, “Plenty on agenda for new ‘green court’ division”, available at: <http://www.nationmultimedia.com/2011/08/03/national/Plenty-on-agenda-for-new-green-court-division-30161823.html> – need to find the amendment to the procedure law.

²²⁸ *Ibid*

²²⁹ *Ibid*

²³⁰ South Africa sets up new environmental court available at <http://www.afrol.com/articles/11360> <accessed January 21, 2014>

PART III: Innovative Legislative Instruments and Institutions in Key Sectors Relevant to Sustainable Development and Green Economy

3.1 Agriculture

The majority of the agriculture-based laws discussed in this study stress the relationship between environmental protection and the economics of agricultural practices. Additionally many laws make the direct connection between the green economy and agricultural practices and also endorse sustainable development practices as they relate to agriculture.



Figure 2.: Soil and water management measures against during agriculture will increase yield and prevent land soil erosion, water scarcity and overall land degradation hence sustainability of agriculture. Left: Micro-basins; Centre: Mulch; Right: Conservation tillage. Credit: WOCAT

Some laws, particularly in the Latin American and Caribbean region, place heavy emphasis on the promotion of organic farming and agricultural practices not only to promote healthy farm yields but also to promote responsible land and water use and to protect biodiversity. Often the switch to organic farming is subsidized for farmers through financial and tax incentives from the state.

Law No. 8591 on the development, promotion and development of organic farming in Costa Rica promotes organic farming with the aim of achieving effective benefits to

human, animal and plant health as a whole, and, as a complement, develops public policies referring to land use, water resources and biodiversity. Under this law, the state will implement a permanent programme for the promotion of organic products for domestic consumption. In this regard, it will coordinate with the producers of each zone, to elaborate the necessary programmes with the aim of raising awareness on the benefits of this type of production. Further, the law allows organic farming entities to benefit from financial incentives such as 1) banking support to the activity; 2) resources for financing SMEs; 3) tax exemptions; and 4) support during transitional stages. Additionally, the regulation of organic agriculture No.29782 – MAG passed by Costa Rica has the aim of establishing guidelines for regulating the production, processing and marketing of organic agricultural products in the country, as well as defining the rules for the different stages of the production process and certification. The regulation affirms that genetically modified organisms and those obtained through genetic engineering and products from such organisms are not compatible with the principles of organic production and their use is not permitted in organic agriculture that is governed by this regulation. The regulation contains interesting provisions relating to water resource conservation, which, if used for irrigation must, have a conservation plan. Further, the regulation provides that both the fertility and biological activity of the soil should be maintained or improved through a programme for soil management and conservation. It is in short a regulation that strongly promotes the use of organic techniques in the farming activity within the country.

Argentina issued Law 25,127 on Ecological, Biological and Organic Production in order to allow for a clear identification of ecological, biological and organic products by consumers, and prevent damage and prevent unfair competition. The law establishes the National Ministry of Agriculture, Livestock, Fisheries and Foods and Beverages as its Implementing Authority, and also involves the National Health Service and Food Quality (SENASA), which should promote agricultural, ecological, biological and organic production throughout the country, and most especially in those regions where the environmental and socioeconomic conditions are favourable for the activity and need the restructuring of production. This policy together with other imposed regulations in the same line within the country, demonstrate clear support for organic farming in Chile, providing that activity a series of incentives aimed at promoting the sector.

Tunisia's national organic farming legislation, subsidies and fiscal incentives have provided a coherent and comprehensive regulatory framework with which to organize and develop Tunisia's organic agricultural sector. The Government set up a Commission to explore organic agriculture and this resulted in the adoption of the Loi 99-30 du 5 Avril 1999, relative à l'agriculture biologique, the establishment of the National Commission on Organic Agriculture, of the Technical Centre of Organic Agriculture in Sousse, a package of tax breaks and financial incentives, and an annual Presidential prize for the best organic farm. The law draws from the International Federation of Organic Agriculture Movements (IFOAM) Basic Standards, as well as organic farming legislation from France and the European Union. The Tunisian Government supports organic agriculture through a package of tax breaks and financial incentives, which combined can cover up to 70% of the costs of certification. These are: tax deductions for all investment income and benefits during the first ten years; tax deductions on income and benefits

reinvested as part of the initial capital investment in an organic agriculture company or as an increase in such investment, including invested benefits to the company; exemption from custom duties and suspension of value added tax (VAT) for imported equipment that does not have a locally manufactured equivalent; and suspension of VAT for locally produced equipment; Others include reimbursement of contract fees incurred as a result of investing in agricultural land; subsidies related to project study fees; investment subsidies fixed at 30% of the value of equipment and tools specific to organic projects; and annual subsidies for five years to cover inspection and certification fees, equivalent to 70% of the cost, provided that the overall value of the subsidies does not exceed 5,000 Tunisian dinars. Additionally, there are incentives for agricultural projects that are entirely export-oriented, such as: exemption from custom duties and suspension of VAT for the acquisition of equipment and supplies necessary for production, the possibility of assistance for local marketing at the rate of 30% of the production value, and the requirement that all foreign experts working in Tunisia must be government approved. For organic agriculture, the government allows export-oriented projects to recruit up to four foreign experts without prior written agreement from the government to help save time and money.

Under the Nigerian 2010 Bill for an Act to regulate activities in genetically modified organisms, to establish the National Biosafety Authority and for connected purposes, the objectives are: a) to facilitate responsible research into, and minimize the risks of harm that may be posed by, genetically modified organisms; b) to ensure an adequate level of protection for the safe transfer, handling and use of genetically modified organisms that may have an adverse effect on the health of the people and the environment; and c) to establish a transparent and predictable process for reviewing and making decisions on the transfer, handling and use of genetically modified organisms and related activities.²³¹

Under the terms of the *Sustainable Agriculture Act*, the US State of Illinois embraced the understanding of the entwined nature between the economy and the environment for agricultural purposes.²³² As a result, the Illinois law emphasizes funding and cultivating research and development in sustainable agriculture.

Japan's *Food, Agriculture and Rural Areas Basic Act* establishes general principles and policies to stabilize and improve the life of the citizens and to develop the national economy. This Act also recognizes that agriculture plays multiple roles. Besides providing stable food supply, maintaining the stable life of the citizens and the national economy, agriculture also plays an important role in conservation of national land, water resources, natural environment, and formation of good landscapes and respect for the cultural tradition.²³³ Sustainable development is another goal stipulated in this Act, it requires that agriculture should be promoted by securing agricultural facilities including

²³¹ See section 4 of this Bill. Section 5 of the same Bill provides for the establishment, powers and functions of the National Biosafety Authority in Nigeria. The following Federal Ministries and Agencies that constituted the National Coordinating Committee of the National Biosafety Policy Framework responsible for the development of the 2005 Policy Framework: - Ministries of Agriculture and Rural Development, Environment, Science and Technology (National Biotechnology Development Agency etc), Health, Industries, Commerce, Justice, Education, etc.

²³²Sustainable Agriculture Act, IL Stat. Ch. 505 s 135/1 (2012)

²³³Food, Agriculture and Rural Areas Basic Act, Article 1 & 3.

necessary farmlands, water for agricultural use, other agricultural resources and a workforce, establishing a desirable agricultural structure with an effective combination of aforementioned elements based on regional characteristics, and maintaining and improving natural cyclical function of agriculture.²³⁴ To promote sustainable agricultural development, the State shall take necessary steps to develop efficient and stable farm management and agricultural structure. The Act provides measures such as revitalization of family farming to develop originality and creativity in their farm management, securing agricultural use of land suitable for farming and promoting effective use of farmland, creation of multipurpose paddy fields, maintenance of better functions of irrigation and drainage facilities, development and securing of human resources, and promotion of women's and elderly farmers' participation, etc.²³⁵ Rural areas play an important role as the base for sustainable agricultural development.²³⁶ The State shall take necessary measures such as encouraging exchanges between urban and rural areas, and developing agricultural activities around urban areas, which can meet the demand of urban residents, making use of advantages of proximity to the consumers.²³⁷

Interestingly, one of the more innovative pieces of legislation regarding the green economy and agriculture can be found in the US unincorporated territory of Puerto Rico, which enacted an extremely comprehensive set of green energy laws.²³⁸ These laws include an overall Green Energy Fund and also a set of tax incentives aimed at promoting green agriculture endeavours on the island. Additionally, the Canadian province of British Columbia has created a system of agricultural land reserves within the state.²³⁹ In these areas, economic activity is allowed but subject to strict licensing requirements so that the province can ensure that the activities conducted do not harm the environment.

In addition to agricultural practices, there is an increasing concern regarding food safety, food security, and food sourcing. The laws relating to these concerns have begun to focus on incorporating aspects of green growth and the green economy in order to ensure a continuous and sustainable food supply for the people of the relevant state. This concern is also reflected in the practice of protecting certain lands within a designated geographical area for agricultural purposes. Concerns about food safety have also prompted states to take actions against genetically modified foods and crops. Whether it be in Europe or Latin America, state action against these products has consistently focused on health and environmental concerns.

For example, in the *Rhode Island Local Agriculture and Seafood Act*, the US State of Rhode Island stressed the importance of sustainable and local food sources in order to promote food security within the state.²⁴⁰ This Act further provides for small grant programs for farmers and fisheries that are seeking to promote sustainability and local food sources. Similarly, the US State of North Carolina established the *North Carolina*

²³⁴ *Ibid.*, Art. 4

²³⁵ *Ibid* Art. 21-30.

²³⁶ *Ibid.* Art 5.

²³⁷ *Ibid.* Art 36

²³⁸ 13 L.P.R.A. s 10422 et seq. (2012).

²³⁹ Agricultural Land Commission Act, B.C. Reg. 171/2002.

²⁴⁰ Rhode Island Local Agriculture and Seafood Act, RI Stat s 2-25-1 (2012)

Sustainable Local Food Advisory Council in order to improve the economy at the state and local level by associating it with sustainable farming practices and food security protections.²⁴¹ In the US State of Minnesota, there is a law on sustainable agriculture that establishes a number of investigation and reporting requirements for administration officials in order to promote and develop the desired practices throughout the state.²⁴² The State of Arkansas created a small section of law that defines sustainable agriculture and provides that the agriculture department will encourage it.²⁴³

States have traditionally offered assistance to farmers and so it is perhaps not a surprise that states are beginning to offer grants and other financial incentives to farmers who engage in practices such as experimentation with key crops or modernizations of their facilities in order to ensure clean, green production at these facilities. Further, there has been a trend in North America for states/provinces to create specialized agricultural research, development and training programs at local universities to assist in the goals of developing sustainable agriculture.

In the US State of Vermont, laws relating to sustainable agriculture emphasize the importance of research and education on the topic and promote both of these activities in order to increase environmental and economic benefits to the state.²⁴⁴ Vermont's laws also focus on the economic and environmental importance of food security to the state and create a financial assistance program for farms that voluntarily undertake sustainable agriculture and farming practices. The US State of Hawaii incorporated concerns for sustainable energy practices into its laws on important agriculture lands, which declare that there is a constitutionally significant compelling state interest in conserving agricultural land throughout the state for environmental and economic purposes.²⁴⁵ The US Virgin Islands enacted comprehensive laws regarding the promotion and incorporation of sustainable agricultural practices and also about including education on sustainable agriculture across grade levels.²⁴⁶ The US States of Connecticut, Pennsylvania and Ohio have each established funding mechanisms to promote agricultural sustainability practices and programs within their respective states. Further, the US State of Vermont has created the Sustainable Jobs Fund Program in order to promote many forms of industry in the state including sustainable agriculture, while Pennsylvania enacted the *Sustainable Agriculture Act* in order to link economic and environmental interests together through such programs as sustainable agriculture specific loan programs for farmers.²⁴⁷

The US State of Washington created the Centre for Sustaining Agriculture and Natural Resources, a component of the University of Washington system, which is tasked with researching and exploring the importance of conservation, sustainability and pollution in

²⁴¹North Carolina Sustainable Local Food Advisory Council Act , N.C. G.S. 106-833 (2012).

²⁴²MN Stat. s 17.114 (2012)

²⁴³AR Stat. s 2-1-102 (2012)

²⁴⁴VT Stat. tit.10 s 326 (2012)

²⁴⁵HI Stat. s 205-41 (2012)

²⁴⁶VI Stat.tit. 7 s 3 et sq. (2012)

²⁴⁷13 L.P.R.A. s 10422 et seq. (2012)

terms of economic consequences as well as purely environmental consequences.²⁴⁸ Similarly, the US State of California established sustainable agriculture research and development programs within the University of California system.²⁴⁹

3.2 Forests

The link between environmental concerns and economic practices within the forestry industry has been accepted throughout the world. The concept of sustainable forestry has been incorporated in the laws of states across the globe and is an underpinning of recent forestry laws and practices. In addition to ensuring that forests are kept intact and safe from pollution as a general matter, many domestic legal regimes have come to focus on forestry practices as vital areas for regulation and protection of forests and the biodiversity within them. This includes measures to protect certain designated native forests, including the use of state funds to protect these areas.



Figure 3: Deforestation in Serra Parima, Orinoco River basin. Credit: Mark Edwards/Still Pictures

Under Chile's Law 20283, relating to Native Forest Recovery and Forestry Development, has the objectives of protection, recovery and improvement of native forests with the aim of ensuring forest sustainability and environmental policy. The law creates a competitive fund for the conservation, restoration and sustainable management of the native forest, through which bonuses are awarded to help settle the costs of the mentioned activities. Further, Chile's Budget Act annually reassesses a research fund for native forests, with the objective of promoting and increasing knowledge in matters related to native forest ecosystems, their management, preservation, protection, recovery and increase, notwithstanding the private contributions to complement it. The resources allocated for this procedure will be publicly competitive.

Recent environmental valuation work in Kenya highlights the impact of forest ecosystem change to the national economy. A UNEP supported Kenya Forest Service Report links the value of montane forests to the economy and has also stimulated the establishment of

²⁴⁸WA Stat. 15.92.005 (2012)

²⁴⁹CA FOOD & AG s 500 (2012)

a steering committee on forest resource accounting, with efforts to include this accounting in official forest statistics.²⁵⁰

In order to oversee forestry practices, many states have turned to creating specialized administrative entities. These entities are often in control of the process required to obtain a permit for legal forestry and logging practices within a designated area as well as overseeing the industrial practices of those entities granted permits. Key concerns tend to focus on pollution of the areas being harvested as a result of harvesting practices as well as ensuring the use of sustainable forestry practices as required through laws and regulations.

Vietnam's Decision 380 and Decree No. 99/2010/ND-CP on the Policy for Payment for Forest Environmental Services provides a legal framework for a national policy on payment for forest environmental services. The Decision stipulates the responsibilities and benefits of the payer and payees of forest environmental services (FES), the types of forest environmental service allowed, the norms of payments for use of service, the management of the money collected from FES, and the responsibilities of the government agencies to the implementation of the policy on payment for FES. Further, Decree No. 99/2010/ND-CP on the Policy for Payment for Forest Environmental Services addresses the policy for payment for FES – including the types of environmental service that users pay to the suppliers²⁵¹ - the allowed suppliers and users of FES²⁵², the management and use of the payment form FES, the rights and obligations of suppliers and users of FES, and the responsibilities of state management agencies at various levels and of different sectors in implementing payment for FES.

Act 2780 of the province of Neuquén (Argentina) aims to establish guiding principles for the territorial management of native forests of the province as provided in Article 6 of the National Law 26331 on the Minimum Budgets for Environmental Protection of Native Forests. The aim of the National Law is to promote the conservation and sustainable use of native forests and promote activities for the conservation, recovery, enrichment, restoration, rehabilitation, research, sustainable management and use of native forests. However, the determination of compensation for environmental services is carried out through the Provincial Fund for Sustainable Use and Conservation of Native Forests which will be administered by the Ministry of Territorial Development or any administrative entity that replaces it in the future and its destination will be indicated by the enforcement authority and will have the sole purpose of compensation for environmental or ecosystem services, conservation of native forests of the Province and their environmental services and the promotion of sustainable use of native forests. To comply with the provisions established in the preceding article, the approval of conservation and sustainable management plans is required.

²⁵⁰ UNEP. "The Role and Contribution of Montane Forests and Related Ecosystem Services to the Kenyan Economy (2012) Available at" http://www.unep.org/pdf/Montane_Forests.pdf

²⁵¹ Decree No.99/2010/ND-CP on the Policy for Payment for Forest Environmental Services, Article 4.

²⁵² *Ibid.* Art.7 & 8.

Law No. 36935 – Ministry of Environment, Energy and Telecommunications (MINAET) from Costa Rica establishes the State Forestry Administration under the MINAET, through the National Forestry Financing Fund (FONAFIFO) and the National System for Conservation Areas (SINAC). Through negotiation for international and national cooperation projects, MINAET requested financial support to strengthen and give continuity to the Payment for Environmental Services Programme, as well as to allow for the development and institutionalization of other financing mechanisms, such as the sale of environmental services for the mitigation of greenhouse gases and the payment mechanism for the conservation of environmental services such as the water resources in Costa Rica.

Additionally, many states, particularly those in Africa, have enacted measures including the development of REDD and REDD+ programs and their legal and societal incorporation. These measures include cooperation between state actors and international

Box 12



The UN-REDD Programme is the United Nations collaborative initiative on Reducing Emissions from Deforestation and Forest Degradation (REDD) in developing countries. The Programme was launched in 2008 and builds on the convening role and technical expertise of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP). The UN-REDD Programme supports nationally-led REDD+ processes and promotes the informed and meaningful involvement of all stakeholders, including Indigenous Peoples and other forest-dependent communities, in national and international REDD+ implementation.

The Programme supports national REDD+ readiness efforts in 48 partner countries, spanning Africa, Asia-Pacific and Latin America, in two ways: (i) direct support to the design and implementation of UN-REDD National Programmes; and (ii) complementary support to national REDD+ action through common approaches, analyses, methodologies, tools, data and best practices developed through the UN-REDD Global Programme. By June 2013, total funding for these two streams of support to countries totaled US\$172.4 million. For an overview of current funds and budget allocations, consult the Programme's Multi-Partner Trust Fund Gateway.

Source: UN-REDD <http://www.un-redd.org/AboutUN-REDDProgramme/tabid/102613/Default.aspx>

Ethiopia, Equatorial Guinea, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Nigeria, Republic of Congo, Sudan, Tanzania, Uganda, and Zambia. In furtherance of this programme Ethiopia has situated its 'REDD Readiness Wheel' within the Climate Resilient Green Economy initiative developed by the Ethiopian government, explicitly incorporating REDD+ within the initiative that seeks to coordinate the main sectors of the economy to develop an environmentally sustainable growth path in Ethiopia. Forestry activities are part of Ethiopia's poverty reduction strategy and there are plans to extend participatory forest management across the country, which has the potential to contribute towards emission reductions as well as to greater empowerment and social equity. Ethiopia has recently secured funding from the World Bank's Forest Carbon Partnership Facility to continue to develop its national REDD+ strategy.

Forests are also explicitly included in Ethiopia's Climate Resilient Green Economy (CRGE) strategy, as 37% of national greenhouse gas emissions come from the forestry and land use sector. One of the four pillars of CRGE is the protection and re-establishment of forests for providing economic benefits and ecosystem services. CRGE seeks the protection and expansion of forest carbon stocks through reduced demand for fuel wood via fuel-efficient stoves, increased afforestation, reforestation and forest management. REDD+ was also integral in Ethiopia's Plan for Accelerated and Sustainable Development to End Poverty that promoted forest rehabilitation with the goal of increasing national forest cover. As a participant country in the World Bank's Forest Carbon Partnership Facility and a partner country of the UN-REDD Programme, Ethiopia now has the endorsement and finance to further develop a national REDD+ strategy and readiness.

There is a noticeable trend in state use of strategic action plans to evaluate economic policies and how they relate to the environment and forestry. This is of particular importance in the African region, where states are seeking to include REDD and REDD+ into their overall economic policies and practices. The African practices in this area demonstrate the importance of including all aspects of the market – regulator, producer and consumer – into these plans. The African practices also highlight the importance of including sustainable development within these plans and focusing on the importance of poverty eradication as part of the state's economic development goals since poverty eradication is also an essential aspect of sustainable development, the green economy and green growth.

The Democratic Republic of the Congo has developed a 'REDD+ to a green economy' scenario as part of its analysis of policy reforms required for REDD+ with stakeholders and the Ministry of Planning, providing an example of what such transformation based on REDD+ investments. The REDD+ Framework Strategy finalized in 2012 also includes direct reference to the importance of a green economy in REDD+ planning and processes. The Democratic Republic of the Congo's REDD+ framework includes direct reference to the green economy. Scenario analyses have been employed in the Democratic Republic of the Congo to establish REDD+ policy reform options and a pathway to 2035, and as part of this exercise, a 'REDD+ to a green economy' scenario was generated. The exercise raised awareness of the linkages between REDD+ and a green economy,

including a variety of stakeholders, among them the Ministry of Planning. Also underway in the Democratic Republic of the Congo is sensitization to and customization of the Threshold-21 model. Threshold-21 is a simulation tool that can analyze different policy options to reach a desired goal. Developed by the Millennium Institute, the model integrates social, economic and environmental factors and can be customized to a country's context to support integrated planning as well as the monitoring and evaluation of results.

In Kenya, pursuant to deforestation concerns, the constitution 2010 mandates the state in Art 69 1 (b) to work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya. In addition, as a response to the escalating news of poaching in the country, Parliament overhauled the wildlife legislation with the 2013 wildlife conservation and management which aims at...”to provide for the protection, conservation, sustainable use and management of wildlife...”

Illegal logging practices now serve as a threat to not only forests themselves but also the biodiversity within them and the lives of those who live near them and work in them. The EU and its member states have been at the forefront of this issue, as evidenced by the EU's laws on illegality in the timber industry. Additionally, France has enacted a similar piece of domestic legislation and has also adopted voluntary measures regarding the designation of products as legal timber. The use of voluntary measures is not just limited to the EU and has become important for producers in many states in order to certify to potential consumers that their products are legal. With an increasingly savvy market, particularly in the timber industry, these measures are important even if they are voluntary at this point.

In the US State of Minnesota, the legislature created significant laws on sustainable forest resource protections that recognize the link between economic and environmental growth to the state, however they are currently scheduled to sunset in 2017.²⁵³ Among these provisions are requirements that focus on the management of timber harvesting and landscape-level forest resources as well as general monitoring requirements for forestry practices throughout the state. Additionally, the law establishes the Forest Resources Council to oversee related issues within the state. Further, the US State of Michigan has recognized the importance of sustainable forestry and has begun to regulate the many sectors that are involved in maintaining sustainable forestry, particularly water pollution and air pollution with the specific intent of protecting the forests for the future.²⁵⁴

The Canadian province of Ontario has established significant laws regarding sustainability and environmental protections in both Crown forest areas.²⁵⁵ The *Crown Forests Sustainability Act* has been updated several times and now includes extensive licensing requirements for exploitative activities in Crown forests and provisions establishing a Forest Renewal Trust to ensure funding for the Crown forests of the future. One particularly important feature of this Act for the purposes of supporting the green

²⁵³MN Stat. s 89A.01 et seq. (2012)

²⁵⁴MI Stat. 324.52501 (2012)

²⁵⁵Crown Forest Sustainability Act, S.O. 1994, c. 25

economy as a legitimate business concept is the Act's establishment of penalties for illegally harvesting resources of any nature from the designated Crown forests.

3.3 Biodiversity

Biodiversity plays an important role in laws throughout the world, which makes the clear connection between the need to develop the economy and to protect biodiversity. In order to do this, many states have established administrative entities with specific charges to oversee the protection of biodiversity within a state or region.

Box 13

Why protect bio-diversity in the law?



Figure 4: Honey bees (*Apis mellifera*, *Apis mellifica*) provide regulatory services through pollination.

The contributions of biodiversity-dependent ecosystem services to national economies are substantial. The economic value of ecosystem services, together with their ecological essence necessitates legal measure to protect them and to guide their management in order to promote sustainable development.

Sources: *Emerton and Bos 2004, FAO 2004, MA 2005, Nabhan and Buchmann 1997, UNEP 2006a, WHO 2001*

The Canadian government has adopted the *Species at Risk Act*.²⁵⁶ This Act specifically noted the interrelationship between Canadian natural heritage and economic status, noting Canada's international obligations regarding issues such as biodiversity as well as national commitments to conservation at all levels of government and on behalf of all peoples in Canada. In order to do this, the Act establishes a number of specialized councils and administrative entities and also requires the creation of stewardship plans

²⁵⁶Species at Risk Act, S.C. 2002, c. 29

that involve environmental protection measures and information sharing requirements at many different levels of public and private involvement in wilderness activities.

Japan's Basic Act on Biodiversity sets fundamental principles for the conservation and sustainable use of biodiversity, and allocates the responsibilities among the State government, local governments, business entities, citizens, and other private parties to ensure the performance of the conservation and sustainable use of biodiversity.²⁵⁷ When implementing policies for conservation and sustainable use of biodiversity, the Act requires that all governmental agencies should also give necessary considerations to ensure the mutual coordination of prevention of global warming,²⁵⁸ the creation of a sound material-cycle society and the creation of other policies for conservation of environment.²⁵⁹ The State should set a basic and comprehensive plan for conservation and sustainable use of biodiversity on national level and the prefectural and municipal governments are responsible for setting basic plans on conservation and sustainable use of biodiversity within their areas.²⁶⁰ There is an Environmental Impact Assessment requirement at an early stage if a project has a potential impact on biodiversity.²⁶¹

Chile recognized these themes in Law No. 19300, which states that "the State will administer a National System for Wildlife Protection Areas, which will include parks and marine reserves, with the aim of ensuring biological diversity, guaranteeing the preservation and conservation of the environmental heritage. (...) (Art. 34) The State will promote and encourage the creation of protected areas on private property (...)." Similarly, Costa Rica incorporates "the sovereignty on the biological diversity as part of its natural heritage. The activities geared toward conservation, improvement, and if possible to the recovery of biological diversity in the national territory are of public interest; also focused on ensuring their sustainable use."

Colombia also places importance on the traditional knowledge, stating that it will promote the development and dissemination of knowledge, values, and technologies on environmental management and natural resources, of indigenous cultures, and other ethnic groups. Guatemala's law states that the Executive Branch will issue guidelines in relation to the following: a) the protection of species or animal or vegetation specimens in danger of extinction; b) the promotion of the development and use of conservation methods and enhancement of the flora and fauna of the country; c) the establishment of a system of conservation areas with the aim of safeguarding the national genetic heritage, protecting and conserving special geomorphological phenomena, landscape, flora and fauna; d) the importation of animal and plant species that damage the ecological balance of the country, and the exportation of unique species in danger of extinction; e) the trade of illicit species considered in danger of extinction; and f) the compliance with international conventions relating to the conservation of the natural heritage.

²⁵⁷ Basic Act on Biodiversity, Art. 1

²⁵⁸ *Ibid.* Art 3 Sec. 5, Art. 9

²⁵⁹ *Ibid* Art 9

²⁶⁰ *Ibid* Art 4 & 5

²⁶¹ *Ibid* Art 25

Honduras defines protected flora and fauna as those plant and animal species that should be subject to special protection due to their scarcity, condition in the ecosystem or in danger of extinction. Their exploitation, hunting, capture, commercialization or destruction is prohibited under Honduran law. Additionally, the law provides that forest resources should be used and managed under the principle of biodiversity protection, sustainable yield, and multiple use concept of the resource, meeting their economic, ecological and social functions. The native ethnic groups shall receive special state support in relation to their traditional systems for the integral use of natural renewable resources, which should be studied with the aim of establishing their viability as a sustainable development model. The future development of these groups should be incorporated in the existing sustainable development norms and criteria. Nicaragua, in its General Environmental Law, states that in the case of indigenous people and ethnic communities contributing genetic resources, the state shall ensure that the use of these resources shall be granted under certain conditions determined in consultation with them.

Peru, an extremely diverse country in the region, has established laws relating to the sustainable exploitation of the natural resources, including conservation of biological diversity, through the recovery and protection of ecosystems, species, and their genetic heritage. Under these laws, no circumstance or consideration can justify or excuse actions that could threaten or create a risk of extinction of any species, subspecies or the variety of flora or fauna. Venezuelan law also states that certain areas of the national territory will be declared ecosystems of strategic importance, namely: 1) when communities of plants and animals that represent highly relevant components in terms of food security are located within these areas; 2) for the protection of human health and other living things; 3) for medical pharmaceutical development; 4) for the conservation of species; 5) for scientific research relating to the sustainable use of components of biological diversity; 6) for the prevention of risks; and 7) for national security and other types of interests of collective well-being.

Cuba's laws state that "the endemic species, which are endangered, on the verge of extinction, which have special connotation and representative examples of the different types of ecosystems, as well as their genetic resources, are subject to special protection from the State, which includes the establishment of rigorous regulation mechanisms, control, management, and protection that guarantee their conservation and rational use."

The Canadian province of Nova Scotia enacted a key law with regard to the protection of wildlife and the wilderness. In the *Wildlife Act*, Nova Scotia committed itself to supporting biological diversity within the province in order to foster both environmental and economic benefits. This Act included the creation of a specific fund to assist in compliance, establishing wildlife management areas within the province in order to protect vulnerable species and providing assistance for wildlife research and education that benefits the province.

3.4 Fisheries

As the studies in this report demonstrate, fisheries and fishing operations have become heavily regulated industries throughout the world. These regulations embrace sustainable development and also include pollution controls on involved industries. Such measures include the use of fishery licensing requirements, extensive environmental evaluation requirements once licenses are granted, and the use of management plans and administrative oversight for fisheries. It should be noted that these regulations are applied to both public and private entities involved in fisheries.



Figure 5: The *Telestes polylepis*, a critically endangered freshwater species found in Croatia.

Credit: Jörg Freyhof

The purpose of New Zealand's Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act is to promote the sustainable management of the natural resources of the exclusive economic zone and the continental shelf. The Act provides permitted activities, discretionary activities, and prohibited activities. The classification of an activity is prescribed by regulations made by Governor-General.²⁶² A person must have a marine consent before undertaking a discretionary activity. After performance of the impact assessment, any person may apply to the Environmental Protection Authority for a marine consent to undertake a discretionary activity in the exclusive economic zone and continental shelf.²⁶³ After taking account of relevant factors, the Environmental Protection Authority may decide whether grant a marine consent or not.²⁶⁴ To minimize the adverse effect of an activity, the Authority may incorporate an adaptive management approach, appropriate conditions, bonds, and monitoring conditions to consent.²⁶⁵

Sections 1 and 2 of Article 25 of East Timor's Basic Law on Environment requires the State government to ensure the integrated management of marine coast as the basis for the conservation, protection and sustainable use of marine resources, ecosystems and marine species. The definition of an integrated management plan of the sea coast must take into account the limits of natural process and long-term equilibrium of the components that are environmental, economic, social, cultural and recreational services,

²⁶² Exclusive Economic Zone and Continental Shelf Environmental Effects Act, Section 29.

²⁶³ *Ibid.* Section 35-39.

²⁶⁴ *Ibid.* Section 62.

²⁶⁵ *Ibid.* Section 63-66.

including: 1) the control and prevention of pollution and the discharge of waste from sources on land or sea; 2) the regulation of fisheries and aquaculture; 3) the measures in response to natural disasters; and 4) measures to promote ecotourism.²⁶⁶

In Mauritius, the Fisheries and Marine Resources Act 1998 provides as its objective to provide for the management, conservation, protection of fisheries and marine resources, and protection of the marine ecosystems. As for conservation measures, Section 9(1) provides that the Minister may by regulations prescribe measures for the protection, conservation and management of fisheries and marine resources including -(a) the prohibition of fishing by certain means, in certain areas and or during certain periods;(b) the prohibition of fishing of a specific species; size; or gender of fish;(c) conditions to be attached to possession, manufacture, purchase of any gear;(d) schemes for setting and allocating quotas and for limiting entry into all or specified fisheries;(e) the prohibition of an activity likely to disturb the marine ecosystems and habitats.

In addition to fisheries generally, fishing itself has become highly regulated in order to avoid pollution and overfishing in order to protect essential fish stocks. These regulations also tend to offer those who are impacted by the regulations funding and other assistance in order to ensure that they are able to comply with the regulations and stay in business. In some instances, voluntary codes of corporate conduct for entities involved in fishing are also included in the laws relating to fishing and fisheries.

In Japan, the key fisheries law is the Act on Preservation and Control of Living Marine Resources. To preserve the living marine resources in Japan's exclusive economic zone, and to develop fisheries and the stable supply of aquatic products, the Act requires the government to establish a basic plan for the preservation and control of living marine resources in Japan's Exclusive Economic Zone, and to take required measures to control the fish and the fishing effort. The living marine resources are specified as Class I and Class II by Cabinet Order. The total allowable catch, total allowable effort, and modes of gathering or catching of each Class I and Class II living marine is prescribed in the basic plan.²⁶⁷ The Act also requires that each prefecture formulate a prefectural plan concerning the preservation and control of living resources accordingly.²⁶⁸ To ensure that the quantity control is not exceeded, the Minister of Agriculture, Forestry and Fisheries or the governor of any prefecture may give necessary advice to the persons carrying out the carrying or catching.²⁶⁹ The Minister or a governor may also issue necessary order to persons carrying out the gathering or catching to suspend the gathering or catching, or order the persons to anchor, if the quantity control has been exceeded or is very likely to be exceeded.²⁷⁰ A person who carries out gathering or catching related to quantity control by the minister may also enter into an agreement on the preservation and control of the specified living marine resources which are related to quantity control set by the Minister, and may obtain certification from the Minister of Agriculture, Forestry and Fisheries.

²⁶⁶ Basic Law of Environment 2012, Article 25.

²⁶⁷ Act on Preservation and Control of Living Marine Resources, Article 3.

²⁶⁸ *Ibid.* Art. 4 & 5.

²⁶⁹ *Ibid.* Art. 8 & 9.

²⁷⁰ *Ibid.* Art. 10 & 12.

²⁷¹By specifying each living marine resources, classifying each resources, setting up appropriate quantity control, and establishing enforcement, the Act ensure the sustainable consuming and production of fishery in Japan.

In the Canadian province of British Columbia, the *Fish Protection Act* seeks to prevent damage to the native fish populations in rivers and streams throughout the province which are designated as protected in order to promote the sustainability of fish found in them.²⁷² This designation limits the fishing activities that can take place in rivers and streams and also limits the commercial, industrial and residential uses that can occur on nearby areas of land if they will impact on the river or stream. In some instances it is possible for an entity seeking to exploit the fish resources in a particular river or stream to obtain a license to do so. However, it is also possible for provincial officials to deem it inappropriate for any development of the river or stream to occur, in which case no licenses can be granted and the economic uses of the impacted area are quite limited. Another example of fish resource protection which impacts on the green economy comes from the US State of Washington, which crafted an experimental fishery permit system in association with the ability of the state to designate an entity as an emerging commercial fishery.²⁷³ These permits are intended to authorize those who are entering into areas of new commercial fishing within the state and are used to limit the number of entities able to enter into these areas. Limitations on the number of available permits serve to protect the marine environment and also to ensure the commercial viability of the new area.

²⁷¹ Act on Preservation and Control of Living Marine Resources, Article 13 &14.

²⁷² Fish Protection Act, S.B.C. 1997, c. 21.

²⁷³ Marine Waters Planning and Management Act, WA Stat. 43.372.005 (2012); WA Stat. 43.372.005

3.5 Marine/Coastal

The major threats to coastal areas and to oceans world-wide, are coastal and marine pollution, overexploitation of coastal and marine resources, and coastal habitat loss.²⁷⁴ While these issues remain widespread, the coastal issues dominating policy discussion are competing uses of fisheries and rapid and unplanned



Figure 6: Coastal erosion negatively affects breeding sites for various biodiversity such as turtles

development of coastal areas, including those for aquaculture and

tourism. Appropriate legislation therefore, for management and community based management including others effective regulatory mechanisms, is necessary for sustainable coastal resource management. The US State of California enacted laws regarding the conservation and management of marine living resources with a view to ensuring that water resources in the state, and particularly the state's maritime border on the Pacific Ocean, are used in a sustainable way that promotes the ecology and economy of the state.²⁷⁵ Within these laws are terms requiring that marine fisheries be managed in a way that is sustainable while also economically viable and that the technologies used by members of this industry incorporate adaptive fishery management technologies as they become available. Additionally, these laws set out requirements for all stakeholders within the fisheries industry, including governmental and private actors, so that everyone is vested in the sustainability of the operations as well as the profitability of these operations. The aquatic resources of the US State of Hawaii are subject to intense protection at the legal level due to the dependence of the state on these resources for everything from food to tourism.²⁷⁶ As part of the legal regime used by Hawaii there is a recognition that aquatic resources can be threatened from both within and without and, as a result, the legal regime in place includes not only strict licensing requirements for the exploitation of these resources but also restrictions on the importation of non-native aquatic life to the island.

²⁷⁴ UNEP, Global Environment Outlook 3 (2002) p. 180

²⁷⁵ CA FISH & G s 7050 (2012).

²⁷⁶ HI Stat. s 187A-1 (2012).

Further, these laws embrace the traditional roles played by designated members of the indigenous Hawaii populations in fishing activities by providing these members of the population with special fishing rights throughout the year.

In Nigeria, the purpose of the 2011 National Environmental (Coastal and Marine Areas Protection) Regulations is to provide the regulatory framework for preserving the natural ecological conditions of the estuarine system, barrier islands system and the beaches so as to safeguard and perpetuate their natural productivity and their biological, economic and aesthetic values.²⁷⁷

Another notable piece of law is the *Marine Waters Planning and Management Act* from the US State of Washington.²⁷⁸ This Act highlights the connections between the state's economy and its marine water resources, and the ways in which these resources need to be managed in order to serve both interests. As a result, the Act requires the use of detailed management and development plans for the exploitation of marine water resources and establishes oversight bodies for the implementation of these plans. Similarly, in 2002 the Canadian government enacted the *National Marine Conservation Areas Act*, which incorporates sustainable development concepts and the precautionary principle into the national policy toward marine conservation.²⁷⁹ At the same time, the Act embraces the role of marine resources in the economic health and development of the nation and seeks to manage these resources through an administrative system that takes all of these concerns into account. Another example comes from the *Water Act* in the Canadian province of Alberta.²⁸⁰ This Act recognizes the dual needs of the province to exploit its water resources for economic benefits while at the same time protecting and conserving these water resources. The Act creates environmental management acts which are made applicable to water uses in the province for both public and private water uses and also establishes the requirement that the province establish an aquatic environment protection strategy to protect the biodiversity that is associated with water.

²⁷⁷ See Regulations 2011, No. 18 Gazette No. 45, Vol. 98 of 13th May, 2011.

²⁷⁸ Marine Waters Planning and Management Act, WA Stat. 43.372.005 (2012); WA Stat. 43.372.005.

²⁷⁹ Canada National Marine Conservation Areas Act, S.C. 2002, c. 18.

²⁸⁰ Water Act, R.S.A. 2000, c. W-3.

3.6 Water Regulation

Water itself is highly regulated in laws that incorporate sustainable development into economic considerations and economic development. These laws include the use of water management plans and specialized licenses or permits for water use.

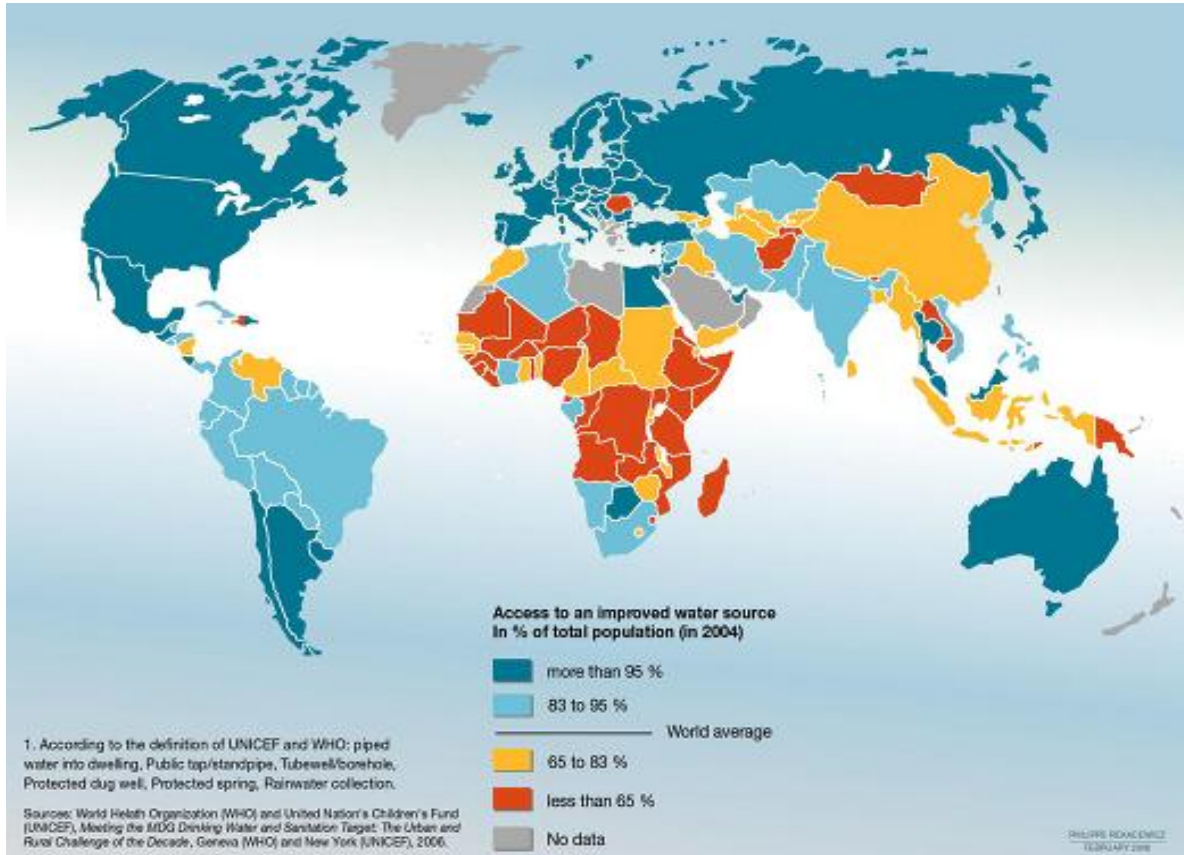


Figure 7: Water Graphics UNICEF, WHO

Water resources within Cambodia are governed by the Law on Water Resources Management of the Kingdom of Cambodia, which manages and develops these resources based on integrated water resources management (IWRM). The IWRM should take into account all aspects of water resources, the lineages between water resources and other components of the natural environment, and the requirement for effective and sustainable water for use by human beings, environment generally and other sectors.²⁸¹

The purpose of the New Zealand Marine and Coastal Area (Takutai Moana) Act is to establish a durable scheme to ensure the protection of the legitimate interests of all New Zealanders in the marine and coastal area of New Zealand, to recognize the customary rights of aboriginal inhabitants, and to provide for the exercise of customary interests in the common marine and coastal area. For the purposes of protection, the Minister of Conservation or the Director-General may declare or extend a marine reserve that is

²⁸¹Law on Water Resources Management of the Kingdom of Cambodia, Article 4.

wholly or partly in a customary marine title area or may declare or extend a conservation protected area that is wholly or partly in a customary marine title area without the permission of the relevant customary marine title group.

In the United Republic of Tanzania, the objective of the Water Supply and Sanitation Act 2009 is to provide for sustainable management and adequate operation and transparent regulation of water supply and sanitation services with a view to give effect to the National Water Policy, 2002; to provide for the establishment of water supply and sanitation authorities as well as community owned water supply organizations; to provide for appointment of service providers, repeal of the Waterworks Act and to provide for related matters.

3.7 Sustainable Tourism

As an area of interest, sustainable tourism has grown in recent years. Several states have acted to ensure that, while this area of tourism is promoted, it is also conducted in a way that protects ecosystems and areas of cultural and historical heritage that could be vulnerable to damage through over-use as tourist sites. These measures also focus on the development of sustainable tourism practices and promotion. Voluntary codes of conduct have also been used in the realm of sustainable tourism.

Tourism Australia was established by the Tourism Australia Act. As a comprehensive management agency in respect of tourism in Australia, its objects are – in cooperation with the tourism industry and Australian government and foreign governments – to influence people to travel to Australia, to foster a sustainable tourism industry in Australia, and to help increase the economic benefit to Australia from tourism. To ensure the proper and efficient performance of Tourism Australia’s functions and to determine Tourism Australia’s policy, the Act also establishes the Board of Directors of Tourism Australia.²⁸² The Board is required to prepare a corporate plan for Tourism Australia. The corporate plan covers the objectives that Tourism Australia intends to pursue, the strategies and policies that the Board intends to adopt to achieve the objectives, the assessment of the outlook for the Australian tourism industry, and the performance indicators for the assessment of Tourism Australia’s performance of its functions. The Board must give each corporate plan to the Minister for his or her endorsement.²⁸³

The aim of the Laos Law on Tourism is to promote, develop and extend cultural, historical, and nature tourism in sustainable ways, to transform the Lao tourism industry into a modern tourism industry, to contribute to national protection and development, and to promote mutual understanding, peace, friendship, and cooperation in international development.²⁸⁴ The law defines the state’s policy toward tourism, requires that the state centrally and uniformly administer conservation, protection and development requirements for areas of cultural, historical, and nature tourism importance throughout

²⁸²Tourism Australia Act 2004, Section 9.

²⁸³*Ibid.* Section 33 &34.

²⁸⁴Law on Tourism, Art. 1.

the country in a sustainable manner and with the participation of the community. Under the terms of the law, the state should consider tourism to be a component of the national economy and promote production and services that enhance the export reputation of the state, create employment, generate income and improve the livelihood of the multi-ethnic Lao people. The state is also charged with overseeing the creation of conditions favorable to, and to the protection of the rights and interests of, individuals, and organizations within the country and abroad that invest in the development and promotion of tourism.²⁸⁵ According to these measures, to develop tourism in Laos, the government should prepare long-term, medium-term, and short-term tourism development plans. The plans are required to define the primary contents, purposes, objectives, development goals, assessments and analyses of potential resources, conditions of the tourism markets, the outcomes, and impacts on the economy, society, culture, and the environment, including determination of methods, regulations and measures for implementation.²⁸⁶

In Cuba, the sustainable development of tourism is based on the fact that this is carried out in a way that harmonizes the effective use of the potential recreational aesthetics, scientific, cultural, and any other kind of natural resources that constitutes their basis, with the protection of those resources and the guarantee that they can contribute equal or superior benefits to future generations. Additionally, sustainable development of tourism is to be based on respect for national cultures and their territorial expressions and on the integration of the local populations in the development of their activities, in that way contributing to the improvement of the quality of human life.

Honduras has declared the touristic resources of the country as national interests, including natural and cultural resources. Accordingly, under the law the work of tourism development should identify, rescue, and preserve the natural, scenic, architectural, and historical values of the different regions of the country. Tourism projects within the National System of Protected Areas must be operated in compliance with the regulation and management plans that are issued by the appropriate authorities and in consideration of the development of ecotourism as a source of employment and income.

The US unincorporated territory of Puerto Rico provides a comprehensive example of the evolution of tourism laws and the green economy as well as the overall balance of interests necessary to promote the green economy through tourism. Initially, Puerto Rico enacted the *Ecotourism Act* in order to promote the emerging concept of ecotourism from a commercial perspective, providing funding for such ventures as new media campaigns promoting Puerto Rico as an eco-friendly place for tourists.²⁸⁷ However, several years later the terms of this Act were deemed to be insufficient and the *Puerto Rico Sustainable Tourism Development Public Policy Act* was implemented. The crux of this Act is the recognition of Puerto Rico's natural resources being in need of a tourism policy that both promoted them and preserved them. In order to achieve this, the Act created a new planning body and tasked it with crafting and implementing a master plan for sustainable development tourism in Puerto Rico. The Act highlighted the importance of sustainable

²⁸⁵*Ibid.* Art. 4.

²⁸⁶*Ibid.* Art. 53.

²⁸⁷H.B. 1888 (2006).

tourism as a facet of sustainable development and linked the need to promote the economic value of the island's natural resources with its ability to preserve them for future generations.

The Canadian province of Yukon enacted the *Wilderness Tourism Licensing Act* and included significant provisions regarding the balancing of wilderness protection measures and the protection and encouragement of the tourism industry within the province.²⁸⁸ The Act requires that those proposing to operate tourism-related activities and businesses in designated wilderness areas obtain licenses from the province to do so and that these licenses can be revoked if proper cause is shown.

3.8 Energy

There has been a marked trend toward new and innovative laws promoting the use of green and renewable energy and clean technologies in recent years, across many industries and within both developed and developing state systems. These technologies have been incorporated into both long and short term energy goals and policies, as is evidenced by the use of long and short term energy efficiency targets for states and particular industries. In many instances, the overall goal of these targets and laws is not only to promote energy efficiency but also to promote energy self-sufficiency for security and economic purposes as well as environmental purposes. In order to promote the use of more efficient energy technologies, many states have taken to using financial incentives, particularly feed-in-tariffs and subsidies.

²⁸⁸Wilderness Tourism Licensing Act, R.S.Y. 2002, c. 228



Figure 8: Global demand for energy keeps growing, placing an ever increasing burden on natural resources and the environment. Source: UNEP, *Global Environment Outlook* (2007)

i. Renewable Energy -Promotion of Renewable Energy

The purpose of China’s Renewable Energy Law is to promote the development and utilization of renewable energy, to improve the energy structure, to diversify energy supplies, to safeguard energy security, to protect the environment, and to realize the sustainable development of the economy and society.²⁸⁹ The state lists the development of utilization of renewable energy as the preferential area for energy development and promotes the construction and development of the renewable energy market. It also encourages economic entities to participate in the development and utilization of renewable energy.

Article 6 of Argentina’s Act 26,190 “defines actions for dissemination with the aim of achieving a higher level of acceptance in society on the benefits of greater use of renewable energy in the national energy matrix.” This same rule – and its regulatory decree 562/2009 – designed the national development regime for the use of renewable energy sources intended for electricity production. The Act declares the use of renewable energy sources to generate electricity as a national interest. Specifically, it incorporates environmental parameters closely linked with the concept of green economy in addressing energy issues. Therefore, the enforcement authority must promote and approve new construction-based investment projects for the production of electric energy

²⁸⁹ Renewable Energy Law, Art. 1.

through renewable sources, taking into account the following guidelines: (i) job creation, (ii) minimization of environmental impact, (iii) integration of work with domestic capital goods, and allowing for their integration with foreign capital goods, where it is ascertained that there is no competitive technology offer domestically. The “main” objective proposed by the law is ambitious and is aimed at making a contribution to renewable energy sources to achieve 8% of the national electricity consumption within a period of ten years (expires in 2016). The current share of renewable energy in Argentina is about 2.4% or 3% of the total generated in the country. During this period, the regulations provide an investment scheme for new construction works aimed at the production of electricity from renewable sources. Additionally, the analysed standard also provides a series of incentives economic in type in regard to “promotional benefits”, according to which companies may choose to: 1) advance the refund of value added tax (VAT) for depreciable property included in each project, except for automobiles – 2) accelerate depreciation tax on earnings from investments made – 3) eliminate such goods from the taxable minimum presumed income until the third financial year after the date of commissioning the project.

Uruguayan law No. 18,195 on agro-combustibles proposes the promotion, production, commercialization and utilization of agro-combustibles. The law also includes the 1) promotion of related investments; the promotion of technological development associated with the use of domestic supplies and equipment; 3) the strengthening of production capacities at the local, regional and national level; 4) the participation of small and medium sized agricultural or industrial companies; 5) the generation of employment especially in designated areas of need; 6) the promotion of an equilibrium between production and care of the environment in regard to criteria for land use; and 7) the promotion of security for the internal energy supply. In the same vein as other regional regulatory standards within the same field, the law includes a number of tax benefits and considerations. It establishes that biodiesel will have the same existing tax regime with diesel fuel with the taxation of gasoline (petrol). It empowers the executive to waive all or part of the national bio-fuel taxes that fall on targeted biodiesel producers and, in addition, provides that the domestic biodiesel industry is exempted from the Internal Specific Tax (IMESI) for a period of 10 years from the time of enactment of the law. From the industrial point of view, companies producing biodiesel and alcohol fuel that are integrated in the required register under the Act have access to additional tax relief and exemptions for significant periods of time.

Law No. 1450 (National Development Plan 2010-2012) issued by the Colombian parliament, also promotes changes in the energy matrix toward renewable and alternative energy. The law designs and implements a national policy responsible for promoting research, development and power innovation in solar, wind, geothermal, tidal, hydro and any other energy alternatives that are environmentally sustainable, as well as a national policy to assess the impact of carbon on the different sectors and to establish incentives and alternatives to reduce its mark in our country. Additionally, Colombian law 697/0001 promotes the rational and efficient use of energy and encourages the use of alternative energies. The law creates a programme for the rational and efficient use of energy and other forms of nonconventional energy (“PROURE”), with the objective of gradual

implementation of programmes so that the entire energy chain is continuously providing the minimum energy levels necessary to guarantee energy efficiency without prejudice to the current standards on the environment and the natural renewable resources. The law also requires that the state and private companies design strategies for education and promotion of rational and efficient use of energy among citizens based on information campaigns using mass media, and other appropriate communication channels. For example, public utility companies providing electricity and gas services should print on the cover of the receipt of invoice or payment slip motivating messages for the rational and efficient use of energy and its benefits to the preservation of the environment.

In Nigeria, the Electric Power Sector Reform Act 2005 provides for renewable energy, energy efficiency and rural electrification. The innovative provisions under the Act may be summarized as follows:

Box 14

Nigeria, the Electric Power Sector Reform Act 2005

Section 88(4) the Minister shall, not later than one year from the date of commencement of this Act, prepare and submit for the approval of the President a sustainable and coordinated Rural Electrification Strategy and Plan for Nigeria. Under Section 88(9) the Minister shall, once in a quarter, submit to the President reports, prepared in consultation with the Rural Electrification Agency and the Commission, on the progress and achievement of the Rural Electrification Strategy and Plan, which shall include information summarized in table below.

- (a) the expansion of the main grid;
- (b) the development of isolated and mini-grid systems; and
- (c) renewable energy power generation.

Section 88(13) states that, the purpose of the Rural Electrification Fund shall be to promote, support and provide rural electrification programmes through public and private sector participation in order to:

- (a) achieve more equitable regional access to electricity;
- (b) maximize the economic, social and environmental benefits of rural electrification subsidies;
- (c) promote expansion of the grid and development of off grid electrification and
- (d) stimulate innovative approaches to rural electrification; provided that no part of the Rural Electrification Fund shall be used as subsidies for consumption.

Under Section 91(2), the eligibility criteria for the purposes of subsection (1)(b) of this section shall be determined taking into account;

- (a) the extent to which the proposed activity can demonstrate technical, economic and financial viability for a sustained period;
- (b) the extent to which the proposed activity demonstrates support for rural development taking into account the priorities of the local communities; and
- (c) the level of community and investor commitment to the proposed activity.

- (3) The selection criteria for the purposes of subsection (1)(b) of this section, and the quantum of disbursement, shall be determined taking into account:
- (a) the resources available from the Rural Electrification Fund;
 - (b) the cost of each new connection created under the project; and
 - (c) other objective criteria that the Rural Electrification Agency may determine, such as tariff levels and quality of service.

Another area of particular note is the use of geothermal resources. These resources have been strictly governed for many years in some areas and yet the recent legal trends have been to promote the use of these resources but under strict environmental oversight systems. Other areas of legal and regulatory interest for the states surveyed include various forms of biofuels.

The utilisation of geothermal energy in Iceland is governed mainly by Iceland's Act on the Survey and Utilisation of Ground Resources, and the Electricity Act. Issues related to the environmental impact that the use of geothermal energy may have are addressed through both of these laws. For example, on the declarative level, the Electricity Act states environmental protection as one of its objectives. Matters related to environmental protection are also addressed through the operative conditions of these laws. According to these laws, the utilization of geothermal energy is subject to the issuing of licenses. As part of the conditions for the granting of such licenses, the environmental impact of the surveying and the utilization of geothermal energy is to be considered²⁹⁰ Moreover, according to the Act on the Survey and Utilisation of Ground Resources, the opinion of the Ministry of the Environment must be obtained prior to the issuing of a license. Furthermore, Iceland also incorporated the EU's Impact Assessment Directive into its domestic legal system. Therefore environmental impact assessments are required where geothermal projects are likely to have an impact on the environment. Iceland's regulation also imposes future-facing obligations on license holders, such as the duty to "take care not to cause pollution and damage to the biosphere"²⁹¹, and the duty to extract geothermal energy "so as to maximize the long-term efficiency [...]" including "not extracting more geothermal [...] than necessary [...]" and that the "drilling shall be conducted in a manner that will cause the minimum possible inhibition of further utilisation later"²⁹²

²⁹⁰ See Article 17 of Iceland's Act on the Survey and Utilisation of Ground Resources and Article 5 of the Electricity Act

²⁹¹ Article 26 Act on the Survey and Utilisation of Ground Resources

²⁹² *Ibid* Art. 25

Law No. 443 on the exploration and exploitation of geothermal resources in Nicaragua aims at establishing and promoting the basic conditions for regulating the exploration and exploitation of geothermal resources of the country to exclusively generate electricity. For purposes of encouraging the production of alternative energies, the law introduces interesting instruments such as the possibility of the beneficiary exploring and or exploiting geothermal resources and their contractors and subcontractors, and the possibility of importing all goods and equipment necessary to carry out geothermal explorations and exploitations without customs duties. Nicaragua’s Law No. 532 for the promotion of electric generation from renewable sources promotes the development of new projects for electric generation with renewable sources which are currently in operation, as well as electric power generation projects which use biomass and or biogas as their source of energy produced in a sustained way.

The regulation of geothermal resources is not new in some areas of North America. For example, the US State of Texas created laws regarding geothermal resources in 1975; the State of New Mexico enacted laws regarding geothermal resource conservation in 1975; the State of Louisiana created laws regarding geothermal resources between 1975 and 1976; the State of California authorized geothermal exploratory projects in 1978; the State of Virginia enacted the Virginia Geothermal Resource Conservation Act in 1981; the State of Utah enacted the Utah Geothermal Resource Conservation Act in 1981; the State of Nebraska

Figure 4: Olkaria Geothermal Station in Kenya. Geothermal energy is an environmentally benign source of energy

authorized the development of geothermal resources in 1982; the State of Idaho enacted the Geothermal Resources Act in 1987; the US State of Hawaii created laws regarding geothermal resources in 1988; and the State of Montana has updated its geothermal resource provisions several times over a number of years.

Within North America there are, however, important pieces of

legislation that have been crafted more recently and provide instances of innovation. The US State of Arizona enacted laws to address geothermal resources in order to secure the use of the resources as well as to prevent water pollution and other environmental



damage that can be associated with the extraction of geothermal resources.²⁹³ In order to secure against these potentialities, Arizona requires that entities wishing to enter into drilling for geothermal resources provide drilling bonds prior to these activities. Administrative approval is required prior to any geothermal activities; this includes not only an application but also a hearing process. Where there is an attempt to purchase land associated with geothermal resources, administrative approval is also required. The terms of applications and licenses obtained by entities seeking to engage in geothermal resource extraction are deemed to be binding on successor entities. The Canadian province of British Columbia's *Geothermal Resources Act* provides for permitting and licensing requirements for the exploration or exploitation of geothermal resources in the province.²⁹⁴ The Act also places significant public health and safety requirements on those holding permits and licenses for geothermal resource exploration and exploitation.

Originally enacted earlier, the US State of Alaska's laws regarding geothermal resources underwent updating in 2010.²⁹⁵ As a result, these laws provide for an intensive permitting requirement prior to any entity commencing the extraction of geothermal resources and also make it clear that the state is concerned with the waste of geothermal resources during the extraction process. The US State of Colorado enacted laws that emphasize that the extraction of geothermal resources can benefit the state and the public because of the potential economic benefits but that it is essential for this extraction to take place carefully due to the potential public and private damage posed by problems with the extraction process.²⁹⁶ In order to achieve this, Colorado enacted extensive permitting and leasing requirements for entities seeking to enter into exploration and/or exploitation of geothermal resources. Similar policy justifications and permitting requirements for the geothermal resource extraction process have become law in the US State of Washington.²⁹⁷ In addition, Washington requires that an entity wishing to obtain an exploration permit enter into a performance bond arrangement.

The Canadian province of Yukon's *Public Utilities Act*, discussed above, also requires that geothermal plants and geothermal resource exploration projects obtain an official energy project certificate prior to their operation and that they provide periodic reports on environmental and other practices to designated regulatory entities within the province.²⁹⁸ The Canadian province of Ontario's *Electricity Act*, discussed above, is a comprehensive law that classifies geothermal energy as a renewable energy source and submits it to stringent licensing and permitting requirements. Similarly, the Canadian province of Nova Scotia's *Public Utilities Act* definitively defines geothermal resource plants as public utilities and subjects them to licensing requirements as well as requirements to pay assessments to the province annually.²⁹⁹ The Act establishes a duty for all public utilities – including geothermal resource plants – to provide information on their operations and finances to the province and also requires that public utilities affirmatively not take

²⁹³ AZ Stat. s 27-651 (2012).

²⁹⁴ Geothermal Resources Act, R.S.B.C. 1996, c. 171.

²⁹⁵ AK Stat. s 41.06.005 (2012).

²⁹⁶ Colorado Geothermal Resources Act, CO Stat. s 37-90.5-101 (2012).

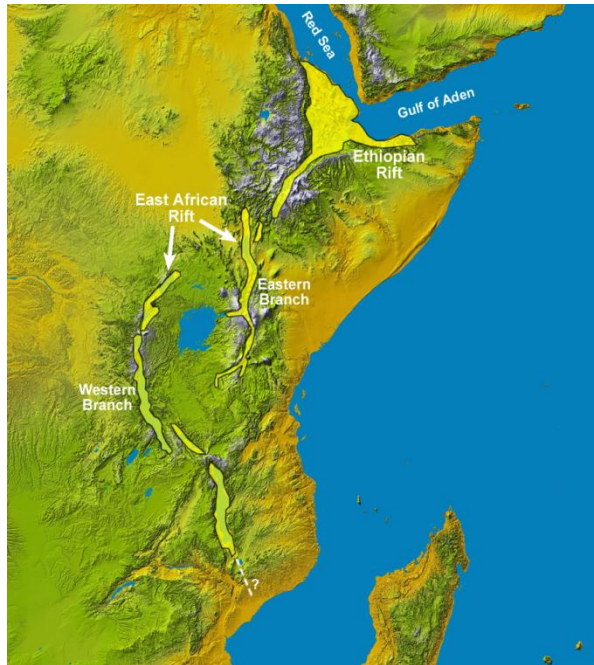
²⁹⁷ WA Stat. 78.60.010 et seq. (2012).

²⁹⁸ Public Utilities Act, R.S.Y. 2002, c. 186.

²⁹⁹ Public Utilities Act, R.S.N.S. 1989, c. 380; Mineral Resources Act, S.N.S. 1990, c. 18.

actions that would harm indigenous communities within the province. Additionally, Nova Scotia's *Mineral Resources Act* allows the designated minister to deem geothermal resources as protected resources of the Crown, meaning that there is a right in the Crown to explore and remove these minerals.

In Africa, the East Africa Rift System (EARS), which passes through Eritrea, Djibouti, Ethiopia, Kenya, Tanzania, Uganda, Rwanda, the Democratic Republic of Congo (DRC), Zambia, Malawi, Mozambique and Madagascar, is endowed with geothermal energy potential more than 20,000MWe.³⁰⁰ Kenya and Ethiopia have started utilizing this renewable energy with an installed production capacity of 245 MW and 7MW respectively.³⁰¹ Kenya has been operating under the ambit of the Geothermal Resources Act of 1982, which has so far enabled it to harness the highest capacity of geothermal energy resources in Africa.



To increase the amounts of geothermal resources harnessed, and also to commence production in other countries, this sub-region is now looking to revamp its geothermal legislation, revise its energy policies and formulate new legislation while establishing institutions alongside them to eliminate the policy, institutional, and regulatory inadequacies. For instance Rwanda is in the process of developing a Geothermal Act, which is yet to be adopted. These new laws and establishments will help to demystify the sector regulation, while eliminating regulatory gap, and enabling private and public investments in the sector.

ii. Economic and Financial Incentives

The Trinidad and Tobago *Finance Act* incorporates national tax provisions and also establishes economic mechanisms for the purposes of promoting development through renewable energy. The law facilitates the acquisition of machinery and equipment related to the provision of compressed natural gas, the acquisition and installation of compressed natural gas systems in vehicles, the acquisition of machinery and equipment for the production of solar water heaters, the acquisition of equipment related to the production of wind energy (wind turbines), the acquisition of photovoltaic solar energy systems and

300 UNEP ARGeo Project <<http://www.unep.org/energy/Activities/ARGeo/tabid/79467/Default.aspx>> Accessed November 1, 2013

301 Meseret Zemedkun, Overview of Geothermal Resource Exploration and Development in the East African Rift System (United Nations Environment Programme, 2012)

the acquisition of solar water heating systems. It is therefore important to include economic incentives with the aim of modifying the energy matrix toward alternative energies accruing from renewable resources as a way of promoting efficient energy use.

The Dominican Republic has promulgated the law No. 57-07 on incentives for the Development of Renewable Sources of Energy And their Special Regimes. This law contains many exemptions from import duties on equipment, machinery and imported accessories by companies or individuals provided that these goods are necessary for the production of energy from renewable sources. Remarkably, the exemption amount is 100% of the designated taxes. This incentive also includes importation of processing equipment, and transmission and interconnection of electricity to SENI. Designated entities are freed from these taxes for a period of 10 years from the commencement of their operations, and with a maximum validity until 2020. Additionally, this tax exempt period extends to the total payment of income tax on income derived from the generation and sale of electricity, hot water, steam power, bio-fuels or the synthetic fuels identified, generated basing on renewable energy sources. Designated entities receive identical economic benefits for those economic activities that produce energy from bio-fuels. Another innovative provision is contained in the *Nigeria Electric Power Sector Reform Act*. It establishes the social innovation of a Rural Electrification Fund in Section 88(13) which serves to promote more equitable access to electricity.³⁰²

The US State of Delaware enacted an overarching *Energy Act*.³⁰³ Its provisions include the creation of a Green Energy Fund – designed to provide state funding to public and private entities seeking to engage in green energy use – the Energy Efficiency Investment Fund and the Sustainable Energy Utility, an oversight body for the terms of the Act. Similarly, the US State of North Carolina created a Green Business Fund that provides funding and economic incentives for entities seeking to engage in green energy use and development, the US State of Washington created a Green Energy Incentive Account for similar endeavors, the US State of California enacted Energy Efficiency and Conservation Block Grants, the US State of Tennessee provides extensive tax reductions for businesses engaging in green energy use, and the US State of Vermont enacted the Sustainably Priced Energy Enterprise Development Program, which also includes special incentives for renewable energy pricing. The US State of Missouri created the “energy center to coordinate sustainability activities,” which focuses heavily on green and renewable energy use and production.³⁰⁴ The US State of Florida established Energy Economic Zone Programs, which provide incentives and other benefits for those who enter into green energy projects that generate jobs within defined geographical areas within the state.³⁰⁵ Similarly, the US State of New York created special benefit programs to encourage the creation of green jobs within the state, including green energy associated jobs.³⁰⁶

³⁰² Nigeria Electric Power Sector Reform Act, 2005

³⁰³ 29 Del.C. § 80 (II).

³⁰⁴ MSA 643.010 et seq. (2012).

³⁰⁵ West's F.S.A. § 377.808 (2012).

³⁰⁶ Public Authorities Law § 1891 (2012).

The US State of Oregon's law on utilities regulation contains significant provisions regarding energy conservation.³⁰⁷ Notably, it establishes energy conservation tariff schedules, makes regulations for the encouragement and use of solar energy through designated pilot programs, and allows the Oregon Public Utility Commission to create and implement a conservation program investment policy that establishes a special form of utility investment bond program where the utilities involved use conservation strategies. The US State of Wisconsin established the Bioenergy Council to craft best management practices for the development and use of biomass and biofuel production within the state.³⁰⁸ The Council empowered to work with public and private sectors and industry to research these topics and to implement experimental biomass and biofuel methods.

iii. Energy Efficiency

Mexico has issued a standard (NOM -028 -ENER-2010) specifically dedicated to energy efficient lamps for general use. This nationally implemented standard establishes minimum efficiency limits for general purpose lamps, designed to light residential areas, commercial, service, industrial and public lighting, as well as their test methods. The standard establishes an essential requirement for marketing and placing lamps on the market, which is to obtain a certificate of conformity of the product. The applicant for this document may opt for the certification mode of periodically testing the product, or for the certification mode through the quality assurance system in the production line. With this, there is higher periodic control through the implementing authority of these inputs as well as the introduction of energy efficient measures in the market for general purpose lamps.

On this topic, it is also important to analyse the Cuban laws³⁰⁹ in regard to the "Energy Saving Programme in Cuba" (PAEC). This is a programme for the elimination of incandescent lamps through the sale of two compact fluorescent lamps (CFLs) at subsidized prices to every customer. To date, the program has generated significant results, as Cuba has replaced about 10 million light bulbs, which has reduced electricity consumption in the country to more than 720 million kWh, and in turn reduced CO2 emissions by more than 1,300 million tons, and electricity demand at peak hours by more than 250MW. In addition to this, the government established a programme for the collection of fluorescent tubes for their treatment and storage in a safe place to prevent the release of mercury in the environment. The county is also considering setting up a recollection system for CFL. One of the proposed variants is to reduce the retailing price of CFL if the customer returns the broken or worn out CFL."³¹⁰

³⁰⁷O.R.S. § 284.701 (2012).

³⁰⁸WI Stat. 285.01 et seq. (2012).

³⁰⁹ Borrador del *Informe sobre la transición a una iluminación eficiente en Latinoamérica y el Caribe* Iniciativas UNEP/GEF en lighten& REGATTA en colaboración con OLADE. Presentado en el marco del IV Seminario de Eficiencia Energética en América Latina y el Caribe, Santo Domingo, Republica Dominicana, 3 y 4 de agosto de 2011.

³¹⁰ Referenced in:

<http://www.pnuma.org/forodeminstros/18ecuador/Reunion%20Expertos/Informe%20Economia%20Verde/ESPANOL%20Economia%20Verde%2016%20DEC%202011.pdf>

New Zealand's Climate Change Response Emissions Trading and Other Matters Amendment Act amended the Climate Change Response Act by revising provisions relating to the system of synthetic greenhouse gas levy. Under the terms of the amendments, a levy is imposed on a qualifying motor vehicle that is registered on or after 1 July 2013, and on an item of qualifying goods that is imported into New Zealand on or after 1 July 2013. Persons who register qualifying motor vehicle or import qualifying goods on or after 1 July 2013 is responsible for paying the levy.³¹¹

Law No. 13,798 of the State of Sao Paulo (Brazil) contains a series of interesting provisions regarding the promotion of renewable energies. This law promotes an urban planning system with low energy and environmental impacts. In a way, the law tends toward encouraging and promoting measures that favour sustainable patterns of production, trade and consumption, propose the precise implementation of initiatives related to energy efficiency in public buildings and also related to the industrial activities linked through the development and implementation of technologies with less intensive energy consumption and less pollution.

The US State of New Hampshire enacted similar laws regarding air pollution, air quality and emissions standards.³¹² What should be noted in regard to innovative laws coming from New Hampshire is the legal regime it has crafted to handle the issue of acid rain and penalties for those responsible for it since acid rain was and continues to be a threat to the environmental wellbeing of the state. In addition, New Hampshire has established a framework for emissions reduction trading programs within the state, extending beyond a focus on carbon trading programs to include other greenhouse gases as well.

Outside of emissions trading, many US states have been active in creating regulatory systems that ensure compliance and further develop policy related to emissions and climate change prevention. In this area as well there is an emphasis on alleviating the burdens placed on small businesses that need to comply with new rules and regulations. These mechanisms include financial and taxation incentives, particularly the use of credit sinks and feed-in-tariffs. In some states these incentives have a particular focus on assisting businesses with defraying the costs of switching from coal-based energy to cleaner forms of energy. Assistance is often given to promote research and development in climate change related technology areas.

The Canadian province of Manitoba established a green energy equipment tax credit which provides tax incentives for both manufacturers and purchasers of green energy equipment within the province.³¹³ Later Manitoba enacted the *Emissions Tax on Coal Act*, which imposes additional taxes on entities that purchase more than 1 tonne of coal per year. Further, Manitoba enacted the *Energy Savings Act*, which establishes the Affordable Energy Fund in order to assist individuals and businesses wishing to implement programs or engage in research geared toward fuel conservation and the

³¹¹ Climate Change Response Emission Trading and Other Matters Amendment Act (2012), Section 227-229.

³¹² NH Stat. s 125-J:1 et seq. (2012).

³¹³ Man. Reg. 186/2008 — Green Energy Equipment Tax Credit Regulation; The Emissions Tax on Coal Act, S.M. 2011, c. 41, Sched. A; The Energy Savings Act, S.M. 2012, c. 26.

development of alternative energy sources. The Act also requires the establishment of an energy efficiency plan containing targets for energy efficiency by 2013.

The US State of California established some of the lowest and most stringent vehicle emissions standards in the world, and continues to update these standards in order to reflect lower target emissions goals.³¹⁴ Indeed, California emissions standards have recently become the target goal of the US government, although this has yet to be fully implemented as a matter of law. The US State of New Jersey linked its emissions standards to California's low emissions vehicles as well. Additionally, New Jersey created the *Global Warming Response Act*, which links environmental and economic concerns regarding global warming together and offers a legislative response to these combined concerns in ways that support the green economy.³¹⁵

The US State of Utah enacted the *Air Conservation Act* in order to maintain air quality within the state.³¹⁶ The measures selected to enforce this are primarily focused on administrative and regulatory requirements and enforcement bodies, although provisions are also made for a small business assistance program to help such businesses to implement new emissions standards in terms of financial and technical assistance. The US State of Hawaii enacted extensive air pollution control laws which place the onus for establishing and implementing air pollution measures on the state as well as on smaller political sub-divisions out of a realization that these entities enjoy a special understanding of the issues raised by air pollution. Included in these provisions is a series of emissions benchmarks with the target date of implementation by 2020. Hawaii requires that owners/operators of power and other air pollutant emitting facilities in sensitive environmental areas produce yearly reports on their emissions for neighboring communities and makes specific allowances for citizen suits against both administrative officials and those who build/propose to build facilities that would cause a violation of the statute's terms. Further, Hawaiian law creates a small business assistance program for small businesses seeking to comply with air pollution requirements so that they are not economically burdensome and places this under the supervision of a designated small business ombudsman for air pollution.

The US State of Wisconsin also uses its air pollution laws to establish acceptable rates of greenhouse gas emissions other than carbon, including emissions from waste incinerators and emissions of other ozone depleting substances.³¹⁷ Wisconsin law establishes a small business stationary source technical and environmental compliance assistance program in order to lessen some of the economic burden of enforcement for small businesses. Further, Wisconsin law creates a clean fuel fleet requirement for state vehicles. In the US State of Arizona, established legal regimes make it clear that addressing the issue of air pollution is the duty of all levels of government as well as private citizens and establishes citizen suit rights.³¹⁸ Further, the State of Arizona has created measures encouraging

³¹⁴CA Stat. tit.13 s 1961-1961.1 (2012).

³¹⁵Air Pollution Control Act, NJ Stat. 26:2C-1 (2012); Global Warming Response Act, NJ Stat. 26:2C-37 et seq. (2012).

³¹⁶UT Stat. s 19-2-101 et seq. (2012).

³¹⁷WI Stat. s 285.01 et seq. (2012)

³¹⁸AZ Stat. § 49-401 (2012)

alternative fuel delivery systems, established an agricultural best practices management committee, and provided for technical assistance for small businesses as they seek to comply with stringent air quality standards.

The US State of Florida is particularly concerned with air and water pollution and, accordingly, has enacted environmental control provisions relating to these topics, noting the important role that air and water quality play in Florida's environment and economy individually and collectively. The US State of Washington makes extensive legal provisions for climate change mitigation throughout the state. These provisions begin with an explanation as to the threats posed by climate change to Washington's environment and economy and then go on to establish specific greenhouse gas emissions requirements and performance standards for the state. In particular, Washington places restrictions on the ability of energy companies to operate based on greenhouse gas emissions and also places restrictions on the ability of public owned utility companies to operate based on their greenhouse gas emission levels. Further, Washington requires that there be a memorandum of understanding in effect between the state and coal-based facilities in order to ensure that binding commitments and reductions are made regarding greenhouse gas emissions. It should also be noted that Washington makes allowances for a carbon credit system as a solely state-based entity even though this topic has not been passed at the national level.

In the Canadian Province of British Columbia, the *Greenhouse Gas Reduction Targets Act* commits the province to an overall 33% reduction in greenhouse gas emissions by 2020.³¹⁹ This is to be done in both the public and private sectors through establishing carbon neutral goals for public sector emissions, increasing overall regulations on emissions in order to reduce greenhouse gas emissions, and establishing emission offset programs, such as emissions sequestration and storage, within the province. There is a further target of total emissions reductions of 80% by 2050. Among the Act's innovative terms is the requirement that all public sector institutions issue carbon neutral action reports discussing the ways in which these institutions both have attempted to reach their target goals and also have established benchmarks for the future. Most recently, the US State of Nebraska enacted the *Natural Gas Motor Vehicle Fuel Promotion Act*.³²⁰ This act is focused on promoting alternative fuel sources for state and citizen use, particularly natural gas. In order to accomplish this goal, the Act provides for loans and other financial, tax and technical assistance to state and private entities seeking to exploit natural gas resources for fuel.

iv. Grid Legislation and Smart Grid

Notably, the Canadian province of British Columbia enacted *the Clean Energy Act*.³²¹ A main goal of this Act is for the province to achieve electricity self-sufficiency and at the very least to significantly reduce the province's demand for electricity overall by 2020. The Act is linked to the terms and requirements of the *Greenhouse Gas Reduction Targets Act* and requires that a designated minister create an integrated resource plan to

³¹⁹Greenhouse Gas Reduction (Cap and Trade) Act, S.B.C. 2008, c. 32

³²⁰NE LB 1087 (2012)

³²¹Clean Energy Act, S.B.C. 2010, c. 22; Greenhouse Gas Reduction (Cap and Trade) Act, S.B.C. 2008, c. 32

further these requirements. In order to ensure that the targets of these acts are met, the Act includes prohibitions on potentially damaging energy-generating activities and also limits certain types of corporate acquisitions that could threaten potential emissions reductions. Further, the Act allows for standing offer and feed-in tariff programs in order to promote green energy projects and creates measures that promote energy efficiency generally as well as greenhouse gas emissions in particular. The Act also establishes the First Nations Clean Energy Business Fund in order to ensure that First Nations communities are included in the legislative push toward green energy.

The Canadian province of Ontario enacted the *Electricity Act* in order to ensure that planning and management of electric resources is adequate, safe and sustainable, clean and attractive to users, and able to promote “economic efficiencies and sustainability in the generation, transmission, distribution and sale of electricity.”³²² In order to implement this, the Act creates a significant administrative and regulatory apparatus that includes allowances for feed-in tariffs to encourage renewable energy sources, require non-discrimination in access to renewable energy, encourage the creation and use of electricity conservation, and encourage the use of alternate and renewable energy sources. The Canadian province of Nova Scotia’s *Public Utilities Act* also establishes a significant administrative and regulatory apparatus for its implementation, including alternate energy sources such as geothermal resources within the scope of its reach.

v. Access to Energy and Energy Security

The recent legislative framework for Mother Nature and Integral Development for Better Living Standards, No. 300 from Bolivia, provides a very extensive number of provisions relating to the concrete policies and actions that will be adopted by the Bolivian State in the area of Climate Change. Another law establishing the adoption of climate change-based adaptation measures to is the General Law on the Environment No. 19300 from Chile. Article No.70 requires that the appropriate ministry “Propose policies and formulate plans, programme and action plans in regard to climate change. In the exercise of this authority, [the appropriate ministry] should collaborate with the different organs of state administration at the national, regional and local level with the objective of determining their effects, as well as establishing the necessary measures for adaptation and mitigation ...”

The US federal *Energy Independence and Security Act* represents a relatively early effort at the regulation of energy.³²³ This Act reflects not only the commitment of the US government to supporting clean energy sources but also the recognition by the US government that energy issues pose an increasing threat to national security and independence. The Act is a wide-ranging piece of legislation seeking to protect consumers from the vicissitudes of an oil-dependent market, increase the production of clean energy and the supply of clean energy sources, increase the greening of buildings and vehicles throughout the US, increase federal research funding for clean and efficient

³²²Electricity Act, S.O. 1998, c. 15, Sched. A.

³²³Energy Independence and Security Act of 2007, H.R. 6 (2007)

sources of energy and fuels, and improve the overall energy uses of the US government. Included in these measures are labeling requirements for vehicles so that consumers can better understand the energy efficiency of vehicles.

3.9 Climate Change

i. Mitigation

Mexico enacted the General Law on Climate Change, a ground-breaking law for Mexico and the region overall.³²⁴ This law created an administrative mechanism that was charged with establishing and overseeing a carbon market within Mexico. Additionally, the law allows for the establishment of measures through which Mexico and Mexican entities could enter the existing global carbon mechanisms. Mitigation and adaptation strategies, their creation and their promotion, are also allowed and encouraged within Mexico under the new law.

The Canadian province of Alberta enacted the *Climate Change and Emissions Management Act*.³²⁵ From the outset, the Act asserts the place of the province as the steward of the natural resources and environment in the province for current and future generations while also establishing the need to use these resources responsibly in order to promote the provincial economy. The Act establishes greenhouse gas emissions targets to be achieved by 2020 and vests the Lieutenant Governor with the necessary administrative and regulatory powers to achieve these goals. In order to further these goals, the Act provides for emissions credits, sinks and offsets for economic use and establishes the Climate Change and Emissions Management Fund, which is geared toward assisting in the development and implementation of adaptive measures to counter climate change. The Canadian province of Manitoba enacted the *Climate Change and Emissions Reduction Act* in order to protect the environment as well as to “promote sustainable economic development and energy security.”³²⁶ The Act notes that the majority of Manitoba’s electricity sources are already clean and renewable and explains that the Act itself is geared toward creating even more progressive measures for the provincial environment and economy. These measures include setting emissions reduction targets starting in 2012 and extending to 2020 and establishing methods for calculating emissions offsets. Further, the Act implements green building requirements and vehicle emissions standards for the public and private sectors and requires that Manitoba Hydro implement a phase out procedure for using coal.

ii. Adaptation

The Philippines’ Climate Change Act establishes the Climate Change Commission and requires the Commission to formulate a Framework Strategy on Climate Change that is renewable every 3 years. The Framework serves as the basis of a program for climate

³²⁴General Law on Climate Change (2012).

³²⁵Climate Change and Emissions Management Act, S.A. 2003, c. C-16.7

³²⁶The Climate Change and Emissions Reductions Act, S.M. 2008, c. 17

change planning, research and development, and the monitoring of activities to protect vulnerable communities from the adverse effects of climate change.³²⁷ Components of the Framework Strategy and Program on Climate Change are to include: a) national priorities, b) impact, vulnerability and adaptation assessments, c) policy formulation, d) compliance with international commitments, e) research and development, f) database development and management, g) academic programs, capability building and mainstreaming, h) advocacy and information dissemination, i) monitoring and evaluation, and j) gender mainstreaming.³²⁸ Based on the Framework Strategy and Program on Climate Change, the Commission is to formulate a National Climate Change Action Plan. The Plan must include: a) the assessment of the national impact of climate change, b) the identification of the most vulnerable communities/areas, c) the identification of the differential impacts of climate change on men, women and children, d) the assessment and management of risk and vulnerability, e) the identification of greenhouse gas mitigation potentials, and f) the identification of options, prioritization of appropriate adaptation measures for joint projects of national and local governments.³²⁹ Consistent with the provisions of the Framework and National Climate Change Action Plan, Local Climate Change Action Plan is set up to implement climate change action plans in their respective areas.³³⁰ Due to the complexity and the widespread effects of climate change, when developing and implementing the National Climate Change Action Plan, and the local plans, the Commission must coordinate with the NGOs and other concerned stakeholder groups.³³¹

The contribution made by the General Law on Ecological Balance and Environment of Mexico is very valuable. This law provides that for the formulation and promotion of the environmental policy, and the issuance of official Mexican standards and other instruments provided for under this Act, in the field of preservation and restoration of ecological balance and environmental protection, the Federal Executive shall observe the following principles: whoever undertakes works or activities that can affect the environment, is obliged to prevent, minimize or repair the damage caused, as well as assume the costs that such an engagement involves. And in turn, Article 23 reads, "...to contribute to the achievement of the environmental policy, planning for urban development and housing, in addition to complying with the provisions of article 27 of the constitution on human settlements, consider the following criteria: X. Federal States, Federal Districts and Municipal authorities, within the sphere of their competence, should prevent human settlements in areas where populations are exposed to disaster risks due to the adverse impact of climate change..."

Nigeria's effort in promoting Climate Change Policy is evident in ensuring a truly national response to the significant and multi-faceted impacts of climate change, Nigeria has put in place a number of policy initiatives. They include: *Vision 20:2020: The Federal Government's current economic growth plan*, *Nigeria Vision 20:2020, Economic Transformation Blueprint*, recognizes a changing climate as a threat to sustainable growth

³²⁷ Climate Change Act of 2009, Section 11.

³²⁸ *Ibid.* Sec. 12.

³²⁹ *Ibid.* Sec. 13.

³³⁰ *Ibid.* Sec. 14.

³³¹ *Ibid.* Sec. 16.

in the next decade. It sees climate change as a critical challenge globally and, in Nigeria, as a potential driver of “*damaging and irrecoverable effects on infrastructure, food production and water supplies, in addition to precipitating natural resource conflicts.*” This recognition is an important first step towards a climate change adaptation strategy and action plan. *Nigeria Climate Change Policy Response and Strategy*: Nigeria recognizes the need to address climatic change in a policy responsive and strategic way. It has, therefore, put in place a *Climate Change Policy and Response Strategy* with the strategic goal of fostering low-carbon, high growth economic development path and building a climate resilient society through the attainment of the following objectives:

- Implement mitigation measures that will promote low carbon as well as sustainable and high economic growth;
 - Enhance national capacity to adapt to climate change;
 - Raise climate change related science, technology and Research & Development to a new level that will enable the country to better participate in international scientific and technological cooperation on climate change;
 - Significantly increase public awareness and involve private sector participation in addressing the challenges of climate change;
 - Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance.
- *National Adaptation Strategy and Plan of Action for Climate Change Nigeria (NASPA-CCN)*: Nigeria has developed an inclusive and widely supported adaptation strategy and action plan. This strategy and action plan is integrative, comprehensive in scope, and inclusive of all stakeholders. It is linked to other initiatives of the Nigerian government. In developing the NSAPA-CCN, Nigeria envisions a country in which climate change adaptation is an integrated component of sustainable development, reducing the vulnerability and enhancing the resilience and adaptive capacity of all economic sectors and of all people -- particularly women, children, and resource-poor men – to the adverse impacts of climate change, while also capturing the opportunities that arise as a result of climate change. Its goal is to take action to adapt to climate change by reducing vulnerability to climate change impacts and increasing the resilience and sustainable wellbeing of all Nigerians; and to reduce or minimize risks by improving adaptive capacity, leveraging new opportunities, and facilitating collaboration inside Nigeria and with the global community. The main objective of NASPA-CCN is to reduce the impacts of climate change through adaptation measures that can be undertaken by the Federal, State and Local governments, civil society, private sector, communities and individuals, including measures that will:
 - Improve awareness and preparedness for climate change impacts;
 - Mobilize communities for climate change adaptation actions through the provision of appropriate user-friendly information;
 - Reduce the impacts of climate change on key sectors and vulnerable communities; and

Integrate climate change adaptation into national, sectoral, state and local government planning and into the plans of universities, research and educational organizations, civil society organizations, the private sector and the media.

Strategic Framework for Voluntary Nationally Appropriate Mitigation Action (NAMA) in Nigeria: Towards meeting its obligations to part of the UNFCCC global agreements on climate change, Nigeria is in the process of finalizing a NAMA programme document. The overall objective is to contribute to global efforts to reduce emissions and to seek international support and funding for Nigeria. The NAMA strategic framework will allow Nigeria to develop strategic, long-term, participatory, transformational measures and comprehensive programmes in driving towards a low carbon climate resilient and pro-growth and gender sensitive and sustainable development path.

Other climate change-related policies: In addition to the above-mentioned key climate change related policies, Nigeria has several environmental and sectoral policies and plans where climate change adaptation policies could apply. For example, the National Policy on Environment supports “*the prevention and management of natural disasters such as floods, drought, and desertification*”. And one of the objectives of Nigeria’s Agricultural Policy is to “*protect agricultural land resources from drought, desert encroachment, soil erosion, and floods*”. Other examples include Nigeria’s *Drought Preparedness Plan, National Policy on Erosion and Flood Control, National Water Policy, National Forest Policy, and National Health Policy.*

3.10 Transportation

As a general matter, issues related to sustainable transportation tend to be found in framework laws or laws relating to emissions standards for both commercial and civilian vehicles. Subsidies are again used in order to assist in compliance with these requirements. Some states, such as Singapore, are notable for their extensive provisions regulating motor vehicle emissions, including the obligations of motor vehicle producers, sellers and consumers.

Following the adoption of the UK Climate Change Act, the UK government drew up a Carbon Plan,³³² in which the transportation sector receives specific attention. The Carbon Plan includes the provision of 400 GBP million in support of the supply and use of ultra-low emission vehicles, an investment of 600 GBP million in transport projects aimed at the promotion of economic growth and the reduction of carbon emissions, and the purchasing of low carbon emission buses.

Part IV of Singapore’s Energy Conservation Act regulates required energy conservation measures for transport sector, including the fuel economy labeling for motor vehicles. Generally, a certificate relating to fuel economy, fuel consumption and carbon dioxide emission must be submitted by any authorized dealer, manufacturer or importer of motor

³³² U.K. Government, “The Carbon Plan: Delivering our low carbon future” (2011), online: UK Government <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47613/3702-the-carbon-plan-delivering-our-low-carbon-future.pdf>.

vehicles intending to sell any motor vehicle of a class that is declared by order of Transport Ministry to be subject to the fuel economy requirements in Singapore on or after the Fuel Economy Labeling (FEL) effective date. Transactions are prohibited if the FEL is not displayed on a motor vehicle.³³³ Other than motor vehicles, this Act provides energy management and conservation practice in transport facility operators.

Nigeria has recently enacted new legislation that targets vehicle emissions. This law provides that there be nationally established and mandated vehicular emissions standards in order for automobiles to be certified as road ready and that these standards be enforced at the national level. This *Nigeria Vehicular Carbon Emissions Control Regulation* also banned the highly polluting 2-stroke engine.³³⁴

As part of the *Delaware Energy Act*, the US State of Delaware's Sustainable Energy Utility is involved in regulation of transportation and transportation-related emissions throughout the state.³³⁵ In a very recent action, the Governor of the US State of California issued an Executive Order that focused on zero-emissions standards for vehicles throughout the state.³³⁶ The motivation for this Order was a belief that zero-emissions targets for vehicle are not only important from an environmental standpoint but also from an economic standpoint. Included in this Order were technologies such as fuel-cell and plug-in technologies for vehicle powering.

In Uganda the Ministry of Works and Transport is developing a policy for Non-Motorized Transport (NMT) in which is intended to raise the profile of NMT within planning and programming for transport in general, to provide guidelines for the inclusion of NMT needs within transport projects, and to provide an over-arching advocacy document for the Government both to consider and approve.³³⁷

³³³ Energy Conservation Act 2012, Section 40-42.

³³⁴ 2011 quoted in Ladan, M.T., *Recent Trend in Environmental Law and Access to Justice in Nigeria* (2012 Lambert Publishing).

³³⁵ 29 Del.C. § 80 (II).

³³⁶ CA PUB RES § 25450 (2012).

³³⁷ Uganda, Ministry of Works and Public Transport, Draft Non-Motorized Transport Policy, 2012

Box 15

Urban planning and sustainable transportation

The chaotic growth of cities, their demand for resources, and the pressure created by current production and consumption patterns should give way to a sustainable use of the resource base so as to improve people's quality of life, and meet long-sought development goals. To achieve this, the use of economic instruments and effective compliance with environmental law need to be coupled with participatory and ecologically oriented urban planning as the strategic basis for sustainability.

Several successful examples clearly demonstrate the feasibility of developing and implementing policies that address at least some of these pressing environmental problems in cities, such as urban air pollution. All are based on sounder urban environmental planning and management. For example, the integrated public transport systems developed in Curitiba (Brazil) and Bogota (Colombia) have become a model for other large cities in the region (Mexico City, Sao Paulo and Santiago de Chile) and in Europe (Bilbao and Seville), as has the integrated programmes for air quality management implemented in major Mexican cities since the 1990s (Source: *Molina and Molina, 2002*).



Figure 5: The integrated public transportation system in Curitiba, Brazil. Credit: Ron Giling/Still Pictures

Source: *UNEP Global Environment Outlook 4(2007)*

3.11 Buildings and Construction

The field of green building technologies is the site of a great deal of innovation throughout the states surveyed. States are increasingly willing to provide financial and taxation benefits not only to entities that use green building technologies but also entities that engage in research and development of new green building technologies. The field of green buildings is also the site of green job development and creation.

An interesting approach through which the green economy is being promoted is the construction sector through Norway’s Planning and Building Act. The approach adopted by this Act is focussed on the planning stage and the administrative process of building applications. This law instructs the planning authorities to adopt a holistic approach and consider issues relating to environmental, social, economic and cultural aspects, including climate change and public health in their decisions. Furthermore, in this Act the authorities are specifically instructed to take into consideration the interests of the future generations by ensuring the conservation of outdoor recreation areas among other requirements. The planning and building authorities are required in certain cases to conduct an impact assessment prior to the authorisation of projects, assessing the impact of building plans on the environment and on the society.

Many US States have opted to create legislation that provides for economic or other incentives for public or private entities that engage in building or construction practices that are green in some form. Indeed, states in the US are quite concerned with ensuring that governments at all levels are involved in green building and construction practices. These trends are evident in table 10.

Table 9: United States innovative laws and programmes on green building and construction

State	Innovative Law/programme
Connecticut	<ul style="list-style-type: none"> ▪ Tax credit for green buildings program
Delaware	<ul style="list-style-type: none"> ▪ Delaware Energy Act
District of Colombia	<ul style="list-style-type: none"> ▪ Green Building Advisory Council
Florida	<ul style="list-style-type: none"> ▪ Focusing on incorporation of solar technology, renewable and green energy programs
Maryland	<ul style="list-style-type: none"> ▪ Use of a green buildings tax credit that is part of the jurisdiction of the Green Building Council
New York	<ul style="list-style-type: none"> ▪ Green Jobs-Green New York Program

Nevada	<ul style="list-style-type: none"> ▪ Focus on energy efficiency in state-owned buildings
Oregon	<ul style="list-style-type: none"> ▪ Green energy technology cultivation
Vermont	<ul style="list-style-type: none"> ▪ Use of building efficiency goals that encompass energy efficiency
West Virginia	<ul style="list-style-type: none"> ▪ Use of green buildings minimum standards to ensure significant achievement of meaningful standards

The *Places to Grow Act* from the Canadian province of Ontario requires that a holistic assessment of community building and other activities be evaluated through a growth plan.³³⁸ The growth plan in turn is required to evaluate many factors regarding building, growth and the specific community, such as: population rates and needs, areas of priority growth, the amount of land needed for public and private growth purposes, protecting sensitive lands, agricultural lands and water resources, energy conservation and natural resource needs, transportation requirements, and the financial abilities of the community. In order to ensure the growth plan's community oriented nature, there is a requirement for community involvement in the development of the growth plan itself.

Some jurisdictions have embraced either the mandatory or voluntary use of eco-labeling in green buildings in order to inform the consumer of the ecological impact of the items they are purchasing and installing in their homes and commercial buildings. There are also instances of voluntary guidelines being developed for the construction industry so that consumers can be assured of the ecological impacts of their homes and business sites. In other instances, states have developed mandatory energy efficiency codes for existing and newly constructed commercial and residential buildings.

The objective of Hong Kong's Building Energy Efficiency Ordinance is to require compliance with code practice concerning the energy efficiency of air-conditioning installation, electrical installations, lift and escalator installations and lighting installations and energy audits in respect of several types of buildings and to provide for related matters. To ensure energy efficiency, the owner of a building is required to carry out an energy audit no later than every 10 years – the audit should be carried out by a registered energy assessor.³³⁹

Box 16

Ontario Places to Grow Act

This Act brought about the Places to Grow program which is the Ontario government's program to plan for growth and development in a way that supports economic prosperity, protects the environment and helps communities achieve a high quality of life across the province. Through Places to Grow, the program develops regional growth plans that guide government investments and policies

³³⁸Places to Grow Act, 2005, S.O. 2005, c. 13.

³³⁹Building Energy Efficiency Ordinance, Section 22.

3.12 Manufacturing

Typically, relevant manufacturing requirements tend to focus on the promotion of green manufacturing and, concomitantly, green jobs through green manufacturing. In the Asia-Pacific region, there is also a tendency to apply the polluter pays principle and general principles of responsibility to entities along all aspects of the manufacturing to consumer chain in the event of pollution.

Both the Canadian province of Manitoba and the US State of Florida use significant tax and other incentives to promote the development of green manufacturing within their states.³⁴⁰ This method of innovation is similar to those used in the green building sector.

Combined with stakeholder responsibilities, Hong Kong's Product Eco-responsibility Ordinance introduces producer responsibility schemes, which are based on the "polluter pays" principle. It requires manufacturers, importers, wholesalers, retailers, consumers or other parties to share the responsibility for the reduction in the use or the recovery of, and recycling or proper disposal of those products. The Ordinance provides measures to minimize the environmental impact of certain types of products, which may include plastic shopping bags, vehicles tire, electrical and electronic equipment, packaging material, beverage containers and rechargeable batteries.³⁴¹ These producer responsibility schemes may include: 1) a product take-back scheme; 2) a deposit-refund scheme; 3) the imposition of a recycling fee to finance the proper waste management of certain products; 4) the imposition of an environmental levy to discourage the use of certain products; and 5) the restriction on the disposal of certain products at any designated waste disposal facility.³⁴² To decrease the use of plastic bags, the Ordinance sets levies on plastic shopping bags, and sets restriction on the provision of plastic shopping bags by, and registration of, prescribed retailers. A registered retailer is required to charge a customer for plastic shopping bags.³⁴³

3.13 Mining

There is perhaps no other industry that has the same connection with the environment as the extractive industry does. The laws regulating mining operations and mineral extraction throughout the states surveyed recognize this connection and the importance of balancing the economic benefits of these practices with the potential environmental harms. In order to regulate these practices, states often claim title to the natural resources found within their territories and then use licenses and permits as mechanisms for allowing some extraction to occur although under the watchful eye of a designated administrative entity. While these laws often focus on extraction of coal, oil and petroleum, they also extend to other forms of minerals found within the particular jurisdiction.

³⁴⁰FL Stat. § 403.01 (2012); R.S.M. 1988, c. I10, s. 10.3

³⁴¹Product Eco-Responsibility Ordinance, Section 1 (1)

³⁴²*Ibid* Sec.1 (2)

³⁴³ *Ibid* Sec. 18-23

The Mining Code, Law No. 007/2002 of the DRC, specifies the need for an Environmental Impact Study, a Management and Reporting Plan and an Environmental Monitoring and Performance Plan. The Mining Code applies to all commercial activities associated with the prospecting, exploitation, processing, transportation and sale of mineral substances, as well as artisanal mining activities but excludes extraction of liquid or gaseous hydrocarbons.

The Canadian province of Alberta created a significant legal regime in order to regulate mines and mining operations within the province.³⁴⁴ Although the Act applies generally to minerals throughout the province, it particularly singles out silver, gold and coal bed methane for regulation. Regardless of the form of mineral or mining operation, all such operations within the province are subject to a provincial licensing requirement for exploration and exploitation. This is especially important in terms of coal, petroleum, and natural gas exploration and exploitation, which are subject to targeted licensing and royalty requirements. Alberta's laws also focus on the potential for access to and exploitation of oil sands in the province and particularly those oil sands found in the McMurray formation. Carbon sequestration regulation is covered by the terms of Alberta's laws as well. In addition, there is a requirement that orphan facilities funds be established for handling remediation of sites that have been contaminated or abandoned. The province went even further when it established the *Coal Conservation Act* in order to provide specialized protections of the environment and economy in the face of coal resource development. This Act also contains requirements for safe practices in the coal industry and licensing requirements.

The Canadian province of Nova Scotia's *Mineral Resources Act* is a sweeping piece of legislation that vests title in all mineral resources in the province in the Crown and then provides for licensing regimes to be used in order for these resources to legally be explored and exploited. Similarly, the Canadian province of Alberta's *Oil & Gas Conservation Act* establishes the same ownership and licensing rights and requirements with the goal of protecting the resources found in the province while also providing economic benefits to the province.³⁴⁵ This Act also creates an orphan fund that is to be funded by levies from operational wells within the province. The US State of Louisiana has enacted laws regarding minerals, oil, gas and environmental quality as methods to protect and enhance the environment and the economy at the same time. These laws also contain rules regarding air quality standards, permitting requirements for exploration and exploitation of minerals, oil or gas, and provisions regarding the handling of nuclear energy-generated waste, particularly in terms of spills and their remediation. In order to assist in the costs associated with increased pollution control requirements, Louisiana established the Small Business Stationary Source Technical and Environmental Compliance Assistance Program. In order to create greater understanding of environmental issues facing the state, Louisiana has established a specific *Environmental Education Act*.

³⁴⁴Mines and Minerals Act, R.S.A. 2000, c. M-17; Coal Conservation Act, R.S.A. 2000, c. C-17; Oil and Gas Conservation Act, R.S.A. 2000, c. O-6.

³⁴⁵Mineral Resources Act, S.N.S. 1990, c. 18

The US State of Texas has enacted laws regarding the conservation of oil and gas, which establish that any activity regarding the exploration, exploitation and sale of oil or gas within the state must be done with the permission of the appropriate state administrative agency.³⁴⁶ These laws establish complaint procedures for complaints of individuals or public entities against corporate entities that are alleged to have violated these laws. In the US State of Kentucky, it has been established that geologic storage of carbon dioxide poses a threat to the environmental, economic and societal health of the state unless it is done in a carefully supervised method. In order to achieve this, Kentucky has established important administrative and regulatory requirements for storage and also established pilot programs in order to attract potential corporations and investors to the state. Similar requirements regarding petroleum resources have been created by the Canadian province of Nova Scotia.

The Canadian province of Saskatchewan created the *Oil & Gas Conservation Regulations* in order to implement earlier laws on oil and gas conservation within the province. The Regulations provide an extensive definition of what constitutes oil and gas resources under their terms and also sets out permitting and licensing requirements for any exploration and exploitation activities related to these resources.³⁴⁷ The Regulations focus in part on the forms of chemicals used in oil and gas exploration and exploitation and require that they are marked as dangerous to the larger community. Reserved and protected areas in which any form of drilling is prohibited are also established in the Regulations if there are environmental, societal or natural resource preservation issues. Waste disposal mechanisms for exploration and exploitation, provisions for decommissioning and reclaiming mining facilities, and for establishing oil and gas orphan funds are also included in the Regulations. The *Pipeline Act* from the Canadian province of New Brunswick brought some flexibility to the amount of information necessary for applicants for pipeline construction and maintenance licenses within the province.³⁴⁸ These licenses generally require a great deal of information from the applicant and regarding the environmental impacts of the pipeline activities. The US State of Montana requires that damage mitigation accounts be established in view of the potential for spills or other contamination by oil or gas facilities.

3.14 Waste Management and Waste-minimization

Issues related to waste management are often governed by framework laws. The requirements surrounding waste management apply to both solid and hazardous wastes due to the acknowledgement across all regions that both forms of waste have the potential to cause severe environmental and economic damage. Some jurisdictions, such as the EU, have incorporated sustainable development principles such as the polluter pays principle into their waste management laws and policies.

Australia's Products Stewardship Act and Product Stewardship (Televisions and Computers) Regulations is an approach to reducing the environmental and other impact of products by encouraging or requiring relevant stakeholder to take responsibility for

³⁴⁶TX NAT RES s 85.001 et seq. (2012).

³⁴⁷The Mineral Resources Act, 1985, S.S. 1984-85-86, c. M-16.1

³⁴⁸Pipeline Act, N.B. Reg. 2006-3.

those products. The Act provides three kinds of products stewardship. They are: 1) Voluntary product stewardship; 2) Co-regulatory product stewardship; and 3) Mandatory Product Stewardship.³⁴⁹ Product Stewardship (Televisions and Computers) Regulations support co-regulatory product stewardship for recycling televisions, computers, printers and computer products. The co-regulatory approaches involve a combination of government regulation and industry action, whereby government makes regulations that set the outcomes to be met, while industry funds and implements the scheme and has flexibility in determining how those outcomes are achieved. If an entity is described in the Regulations as a liable party,³⁵⁰ it is obligated to become a member of an approved co-regulatory arrangement, and is designated to achieve the recycling target. The arrangement must have outcomes, and the arrangements can have one liable party member or multiple liable parties participating.³⁵¹



Figure 12: Effective waste management strategies are lacking or are inadequate in many countries.

Source: UNEP, *Global Environment Outlook 4* (2007)

In Brazil, DEC 7,404/2010 (Executive Decree) instituted the National Policy on Solid Waste, created the Inter-ministerial Committee that institutes National Policies on Solid Waste and created the Guidance Committee on the Implementation of the Logistics System. This decree establishes that manufacturers, importers, distributors, traders, consumers, service providers for urban cleaning and solid waste management are responsible for the life cycle of their products. The system of selective collection of solid waste and logistics prioritizes the participation of cooperatives or other forms of associations of tasters of recyclable materials constituted by individuals. In the context of

³⁴⁹Product Stewardship Act 2011, Part 1 Division 2 Section 3.

³⁵⁰Product Stewardship (Televisions and Computers) Regulations 2011, Division 2.1 and Product Stewardship Act 2011, Section 19 (1).

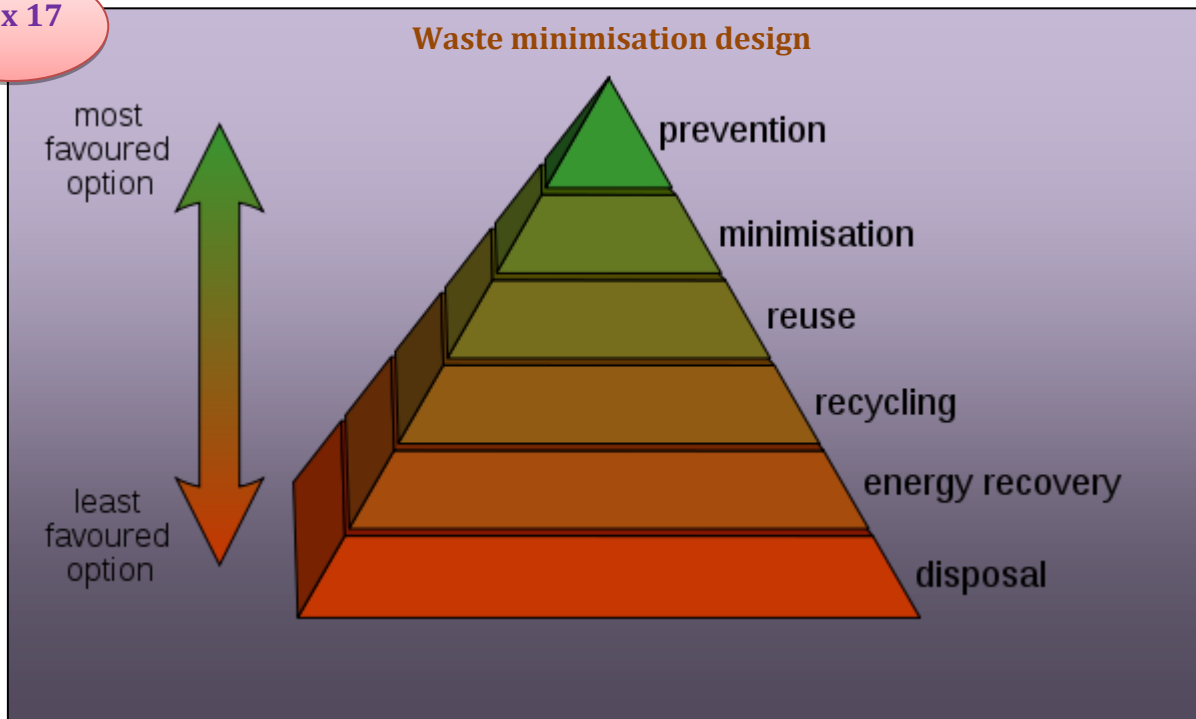
³⁵¹Product Stewardship (Televisions and Computers) Regulations 2011, Division 3.1.

this decree, two economic instruments are created for the initiatives envisaged in art. 42 Law No. 12,305 and will be promoted through tax, financial and credit incentives, also through the transfer of public land and economic subsidies among others.

Law No. 3956 of the Integrated Management of Solid Waste (Paraguay), which sustains the principle of sustainability and socioeconomic development, to be accomplished through the appropriate comprehensive management that does not compromise the chances of the present and the future generations. The law also develops the Principle of Market Value, where solid waste that is a product of daily work of the society can be reused, and forming part of the raw materials that some productive systems are in need of. Therefore there is a market value for buying and selling. The law promotes recycling of solid waste, including exploitation during its use or reincorporation in the productive process as secondary material, without representing risks to health and the environment, recovery, reduction, composting, natural fertilizers, and others that are considered “harvesting Systems.”

Law No. 1450, which determines the National Development Plan for the year 2011 (Colombia), addresses this issue from the point of view that prosperity is for all and has the objective of consolidating security with the aim of achieving peace, taking a leap to social progress, achieving regional economic dynamism that enables sustainable development and growth, achieving more formal employment and less poverty, and ultimately achieving greater prosperity for all the population.

Legislation 29,419 from Peru establishes a normative framework for the regulation of the activities of recycling workers. It is aimed at protecting, training and promoting social and professional development, promoting their formalization, association and contributing to the improved eco-efficient management of solid waste in the country, in the framework of the objectives and principles of Legislation No. 27,314, General Legislation on Solid Waste, and Legislation No. 28,611, General Legislation on the Environment. It is important to note that this law has also created incentives under which local governments implement incentive programmes for the separation at the source, which can include compensation to the taxpayers through reduced fare payment or delivery of goods and services at a less cost or freely, or as part of the environmental



certification programmes for companies or institutions in general. National Environmental Fund (FONAM), in coordination with private institutions, create a special fund aimed at facilitating access to credit to recyclers for purposes related to their activities, formalization and association.

Waste management is often regulated at the local level due to the intimate connection between local jurisdictions and the impacts of waste generation and disposal. Typically, the conduct of all aspects of waste management is subject to licensing and permitting requirements that tend to encourage the incorporation of recycling and the 3Rs in waste management practices.

Since the formulation of The Basic Act for Establishing a Sound Material-Cycle Society, Japan has enacted a national legislative system to promote the 3Rs principles. The system comprises the Waste Management and Public Cleansing Law (Waste Management Law) and the Act on the Promotion of Effective Utilization of Resources as essential legislation, and other regulatory instruments in specific fields such as the Law for Promotion to Recover and Utilize Recyclable Food Resources, the Law on Recycling of Specified Kinds of Home Appliance, the Law on Recycling of Construction-Related Materials, the Law for Promotion of Sorted Collection and Recycling of Containers and Packaging, the Law on Recycling etc. of End-of-Life Vehicles, and the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by States and Other Entities (Law on Promoting Green Purchasing) provide guidance for the national government to take initiative in promoting procurement of recycled products, etc. The 3Rs Laws draw up a workable framework that all relevant stakeholders in public and private sectors should cooperate with each other to shift society to a sound material-cycle society where consumption of natural resources is minimized and achieve the goal of sustainable development. Under the Basic Act for Establishing a Sound-Material-Cycle Society, the 3Rs Laws require manufacturers of containers, home appliance, food, construction

materials, and end-to-life vehicles to take necessary measures to reduce, reuse, and recycle the products.

China's Regulations on the Administration of the Recovery and Disposal of Waste Electrical and Electronic Products implement framework laws³⁵² regarding waste management and carry out the 3Rs principles. The Regulations provide for the recovery and disposal of waste electric and electronic products. The state is required to establish a fund for the disposal of waste electric and electronic products to be used as allowance for the recovery and disposal of electric and electronic products. The manufacturers of these products and other relevant business should contribute to the fund for waste electric and electronic product disposal.³⁵³

The South Africa Waste Management Act provides for the Reduce, Reuse and Recycle of solid waste to enhance Sustainable Consumption and Production. In other countries throughout Africa, the 3R principle is anchored in many framework environmental laws. However, the concept of extended producer responsibility is yet to gain momentum in Africa with South Africa being the only country so far to enforce it in legislation.

To address pollution causes by waste management states often establish remediation requirements and provide assistance to entities that are required to enter into these measures, particularly when they are innocent of the initial pollution. As seen in the measures discussed above, in some jurisdictions in the Asia-Pacific region there is a particular focus on the handling and disposal of electronic waste products.

The US State of New York has crafted wide-ranging laws regarding solid and hazardous waste management policies and planning.³⁵⁴ The justifications of and goals for these laws are based on both economic and policy concerns. These laws focus on numerous forms of waste, from hazardous and solid waste and litter to batteries and battery acid, to waste tires to mercury-added consumer products. Under these laws, transporters of all forms of waste are subject to heavy rules and restrictions regarding transportation throughout the state as well as basic recycling requirements. The *Waste Management Act* created by the US State of Virginia focuses on a number of pollution forms including lead acid batteries, computer recycling and rechargeable battery recycling.³⁵⁵ Virginia also includes restrictions on the transportation of hazardous waste in and throughout the state.

The US State of North Dakota enacted laws relating to solid waste management and land protection in order to protect the environment and economy of the state from harms identified as caused by the creation and disposal of solid waste. In order to achieve this, North Dakota has created administrative and regulatory requirements. In the US State of Kentucky, assistance programs have been established to help businesses and others that are subject to waste remediation requirements at the state level. Similar provisions have

³⁵² China, Law of the People's Republic of China on Clean Production Promotion, Law on the Prevention and Control of Environmental Pollution by Solid Waste.

³⁵³ Regulation on the Administration of the Recovery and Disposal of Waste Electrical and Electric Products, Article 7.

³⁵⁴ NY ENVIR CONSER § 27-0101 (2012).

³⁵⁵ Virginia Waste Management Act, VA Stat. § 10.1-1400 (2012).

been enacted for solid waste management funding in the US State of Georgia.³⁵⁶ In the US State of Indiana, a citizen solid waste management advisory committee has been established to assist in the creation and implementation of laws and rules regarding solid waste.³⁵⁷ This committee must include representatives of the solid waste management industry as well as environmental groups. Additionally, Indiana requires that bonds be taken out for solid waste management plans and projects within the state. Similarly, the US State of South Carolina has created a solid waste management fund and waste tire grant trust fund.³⁵⁸

In the US State of Washington, hazardous waste management is subject to administrative and regulatory oversight.³⁵⁹ The laws relating to hazardous waste management place obligations on individuals as well as state and local actors, and focus particularly on private sector actions regarding managing and disposing of hazardous waste. This focus manifests itself in permitting requirements for the generation of hazardous waste and also punitive requirements in the event that the terms of these permits are violated by a private sector entity. The US State of Oklahoma established a special economic development trust fund to assist areas that are within a certain radius from hazardous waste facilities in the event of spills or other contamination.³⁶⁰ Similarly, the US State of Michigan created several forms of funds to assist in various forms of contamination and remediation. The US State of Minnesota created environmental assistance grant and loan purposes for the same situations.³⁶¹ Minnesota provides for public education on waste management issue in order to create an informed public and also requires the creation of waste management bonds.

The US State of Vermont has established significant waste management laws. These laws note that historically waste management has resulted in severely detrimental pollution that damages people and businesses, and also take significant note of the damage that solid waste has done to sustainability within Vermont.³⁶² These laws place the burden of enforcing solid waste management plans and regulations on the state and localities due to their unique knowledge of individual communities. Burdens are placed on individuals and corporate actors as well. In order to enforce these requirements, these laws establish permitting requirements and also the creation of solid waste management plans by state agencies.

The Canadian province of Ontario has enacted the *Waste Diversion Act*. This Act was created with the goal of promoting waste reduction and recycling programs as well as the creation and implementation of waste diversion programs.³⁶³ Accordingly, the Act created Waste Diversion Ontario as a corporate entity charged with increasing public knowledge and participation in waste diversion and recycling programs and establishing

³⁵⁶GA Stat. § 12-8-20 (2012).

³⁵⁷IN Stat. 13-21-1-1 (2012).

³⁵⁸SC Stat. § 44-96-10 (2012).

³⁵⁹WA Stat. 70.105.005 et seq. (2012).

³⁶⁰OK Stat. tit. 27A § 2-7-101 (2012).

³⁶¹Waste Management Act, MN Stat. s 115A.01 et seq. (2012).

³⁶²VT Stat. tit.10 § 6601 (2012).

³⁶³Waste Diversion Act, 2002, S.O. 2002, c. 6.

dispute settlement methods for industries that are involved in the handling of waste among other functions. Additionally, the Act provides for the creation of industrial stewardship programs for waste diversion and associated issues.

Part IV: Regional Trends Relevant to Sustainable Development and Green Economy

4.1 European Union

In some jurisdictions, particularly Europe and North America federal and regional constitutions provide laws, directives and mandatory requirement upon the member states, which are to be implemented by the states in their national legal order. In terms of green economy and environmental protection, close to 90% of all EU member states legislation is influenced by EU law. It is pertinent to evaluate these regional laws for innovative provisions promoting green economy.

4.1.1 Constitutional Provisions

In the European Union, the Treaty on the Functioning of the European Union provides that “environmental protection requirements must be integrated into the definition and implementation of the Union’s policies and activities, in particular with a view to promoting sustainable development.”³⁶⁴ Additionally, the EU Charter provides that “a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development.”³⁶⁵ This provision appears to highlight only one ‘principle of sustainable development’, but as is clear from the Commentary to the Charter, the provision drafters referred to all existing principles of EU law relating to the environment and sustainable development.³⁶⁶ For the purposes of promoting the green economy, these include the polluter-pays principle, the precautionary principle, and the principle of integration of environmental considerations into development decision-making, among others.

Overall, also at the regional level there is a discernible trend toward embracing sustainable development as part of the package of rights provided to citizens. The Treaty on European Union provides that “[The EU is] DETERMINED to promote economic and social progress for their peoples, taking into account the principle of sustainable development and within the context of the accomplishment of the internal market and of reinforced cohesion and environmental protection, and to implement policies ensuring that advances in economic integration are accompanied by parallel progress in other fields.”³⁶⁷

³⁶⁴TFEU preamble.

³⁶⁵EU Charter art. 37.

³⁶⁶ EU Network of Independent Experts on Fundamental Rights, *Commentary of the Charter of Fundamental Rights of the European Union*, online: <http://ec.europa.eu/justice/fundamental-rights/files/networkcommentaryfinal_en.pdf>. of the European Union (Commission 2005) p. 315; available online http://ec.europa.eu/justice/fundamental-rights/files/networkcommentaryfinal_en.pdf

³⁶⁷TEU Preamble.

4.1.2 Framework Laws

The EU Eco-Innovation Action Plan is another important green economy measure.³⁶⁸ Though not a “mandatory” action plan, and perhaps better described as a support plan, this plan focuses on innovation for achieving the green economy. As such the Action plan specifically highlights the transition to the green economy and the potential ways in which this can be achieved:³⁶⁹ “[t]he Eco-innovation Action Plan (EcoAP) also complements other Europe 2020 Flagship Initiatives. A major building block for the transition towards a green economy is the “Resource Efficient Europe” Flagship and its roadmap, creating and reinforcing demand for eco-innovation and related investment.” The EU Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste (“Waste Framework Directive”)³⁷⁰ adopts measures in order to prevent and reduce the adverse environmental impacts of waste, and to improve the efficiency of waste management. The Directive introduces the ‘waste hierarchy’ as a leading guideline for waste management, making the prevention of waste a priority. The waste hierarchy set by the Directive is: Prevention; Preparing for re-use; Recycling; Other recovery; and Disposal. The Waste Framework Directive instructs Member States to include the principles of precaution and sustainability in their waste management policies, to ensure that their plans are technically and economically feasible, and to safeguard the protection of resources and the overall environmental, health, economic and social impacts of waste on their populations.

The EU Parliament has adopted Directive 2009/28/EC on the promotion of the use of energy from renewable sources (“Renewable Energy Directive”).³⁷¹ This Directive provides a plan to achieve the goals of 20% share of energy from renewable sources in the EU’s overall energy consumption by 2020, and a mandatory 10% minimum target to be achieved in the transport sector by all Member States by 2020. This Directive sets mandatory national targets for the overall share of energy from renewable sources, as well as for the share of energy from renewable sources in transport. This EU Renewable Energy Directive prescribes that the EU’s Member States shall prepare action plans in order to achieve the Directive’s targets. The Directive also lays down guiding rules concerning issues such as cooperation between Member States (e.g. joint projects), guarantees of origin, administrative procedures, information and training, and access and operation of electricity grids. This Directive further establishes sustainability criteria for biofuels and bio liquids.

³⁶⁸ See European Commission, “About the Action Plan”, online: European Commission <http://ec.europa.eu/environment/ecoap/about-action-plan/index_en.htm>.

³⁶⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Innovation for a sustainable Future - The Eco-innovation Action Plan (Eco-AP) /* COM/2011/0899 final */ Available online: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0899:EN:NOT>

³⁷⁰ *Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives*, [2008] O.J. L 312/3.

³⁷¹ *Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources*, [2009] O.J. L 140/16. This Directive is discussed in more detail below, under section 2.2(h), and under section 2.2(c)

a. Impact Assessment in Framework Laws

The EU's 2010 Directive 2010/31/EU on the energy performance of buildings³⁷² aims to promote the energy efficiency of buildings in Europe. This Directive instructs the EU Member States to set minimum requirements for energy performance in buildings. Member States are permitted to adopt different rules for new and existing buildings, while requirements concerning new buildings apply starting from the very beginning of their construction. The objective of this Directive with respect to new buildings is highly ambitious, and described as “nearly-zero consumption” by 2020. The Directive further instructs the Member States to adopt a system of certification of energy performance of buildings. According to this system energy performance certificates (which include information on energy consumption) must be presented to potential buyers, and energy indicators must be published alongside sale or rent advertisements.

Article 28 of the EU Waste Framework Directive imposes an obligation on the EU Member States to prepare action plans, in accordance with the Directive's general guidelines. A more specific guideline for the preparation of such plans was published by the EU Commission.³⁷³ Also, the EU Renewable Energy Directive prescribes that the EU's Member States shall prepare action plans in order to achieve the Directive's targets. According to Article 4 of this Directive, these action plans shall include *inter alia* the national targets for the share of energy from renewable sources consumed in several key sectors, as well as the measures to be taken in order to achieve these targets.

The EU Impact Assessment Directive imposes a legal obligation to conduct an EIA prior to the approval of projects that are likely to have significant effects on the environment. According to this Directive the following factors are to be assessed: effects on human beings, fauna and flora, soil water, air, climate, landscape, material assets, and cultural heritage. The Directive includes a specific list of projects the approval of which must be subjected to EIA (e.g. crude-oil refineries, thermal and nuclear power stations, and chemical installations), and establishes guideline criteria concerning the conducting of EIAs, including extensive public participation obligations. Efforts to update the content and the scope of the EU Impact Assessment Directive are constantly taking place. In early 2013, the European Commission issued guidelines on the integration of two issues that are not explicitly mentioned in the Directive: climate change and biodiversity.³⁷⁴ In a current proposal for the amendment of the Directive³⁷⁵ it is suggested, *inter alia*, that these two issues (as well as others such as disaster risks and the use of natural resources) will be added to the Directive. It is further suggested that measures such as mandatory scoping and post-EIA monitoring should be included in the assessment process in order to improve the quality of EIAs. Another European mechanism that is aimed at reducing

³⁷² Directive 2010/31/EU of the European Parliament and of the Council on the energy performance of buildings, [2010] O.J. L 153/13.

³⁷³ EU Commission, “Preparing a waste management plan: A methodological guidance note” (2012), online: EU Commission <http://ec.europa.eu/environment/waste/plans/pdf/2012_guidance_note.pdf>.

³⁷⁴ European Commission, “Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment” (2013), online: EU <<http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf>>.

³⁷⁵ “Proposal for a Directive of the European Union and the Council, amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment” Brussels, 26.10.2012, (COM(2012) 628 final).

environmental impact is the EU Directive 2009/125/EC establishing a framework for the setting of eco-design requirement for energy-related products (“Eco-Design Directive”).³⁷⁶ The Eco-Design Directive covers all energy-related products (i.e. products that the use of which affect energy consumption). As a condition for the placement of energy-related products on the EU market, producers are required to comply with the eco-design requirements. These measures (specific, technical measures are adopted under specific legislation³⁷⁷) are intended to generate product improvements (e.g. lower power consumption in standby mode of electric and electronic appliances). Furthermore, in order to maximise the environmental benefits of improved design of products, adequate information on the environmental characteristics and performance of the products, as well as on how to use the products in an environmental friendly manner, is to be disseminated to consumers.

b. Codes of Conduct

An example of such framework regulation adopted on the EU level is the (voluntary) European Code of Conduct for Coastal Zones (“Code of Conduct”).³⁷⁸ The Code of Conduct provides practical guidelines for the conservation of nature and biodiversity in coastal areas. The Code covers sectors such as agriculture, energy, fisheries, and tourism, and prescribes a number of key principles including the principle of careful decision making, the principle of avoidance, the precautionary principle, the principle of translocation, the principle of ecological compensation, the principle of ecological integrity, the principle of restoration and (re)creation, the principles of best available technology and best environmental practice, the polluter pays principle, and the principle of public participation and public access to information.

Another example of a self-regulatory legal instrument developed at the EU level is the EU EMAS Regulation. The EU EMAS Regulation is a voluntary eco-management and audit scheme available for public and private organisations. The EMAS Regulation requires participant organisations to implement an environmental management system, while in return it is asserted that these organisations will enjoy benefits such as energy and resource savings, improved stakeholder relationships, productivity improvement, financial savings, and improved staff recruitment/retention.³⁷⁹

³⁷⁶ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products, [2009] O.J. L 285/10.

³⁷⁷ See a review of specific legislation concerning specific energy-related products such as tumble driers, water pumps, air-conditioners and more, in “Eco-design legislation: Implementing Regulations” 7 March 2013, online: EU Commission <http://ec.europa.eu/energy/efficiency/ecodesign/doc/overview_legislation_eco-design.pdf>

³⁷⁸ *European Code of Conduct for Coastal Zones*, [1999], online: <<http://www.coastalguide.org/code/cc.pdf>>

³⁷⁹ EMAS user’s guide, *supra* note 381.

c. Financial Support

A key European auditing instrument is the EU Regulation 1221/2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (“EMAS Regulation”).³⁸⁰ The EU EMAS Regulation is a voluntary EU scheme available to public and private organisations. The objective of the EMAS Regulation is to encourage organisations to reduce their environmental impacts and improve their environmental performance. The EMAS Regulation requires participant organisations to perform a review of their activities and the effects these may have on the environment, to implement environmental management systems (in accordance with section 4 of the EN ISO 14001:2004 standard), to perform an internal audit and management review, to issue an environmental statement, and to verify its environmental review, statement, and management system by an accredited EMAS verifier. As part of the implementation of the environmental management system, an internal audit procedure must be set up. The internal audit’s objectives are *inter alia* to verify that the environmental management system is in compliance with the requirements of the EMAS Regulation, and that it is being properly, and effectively, implemented by the organisation.³⁸¹

Perhaps the most eminent European financial instrument of relevance to the green economy is the EU Directive 2009/29/EC, amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community (“ETS Directive”).³⁸² The EU Emission Trading System (“EU ETS”) is often regarded as the “cornerstone of the EU’s climate change strategy.”³⁸³ The Directive’s objective is to help Member States to achieve their commitments under the Kyoto Protocol by reducing their greenhouse gas emissions in a cost-effective and economically efficient manner. Under the EU ETS scheme, a “cap and trade” system is established, according to which a cap is set on the total amount of the Member States’ emissions, and an emission trading system is established. The cap and trade system creates an incentive for investments in a low-carbon economy, and puts in practice the polluter pays principle insofar as it creates a price for carbon allowances and incentivizes industries to take steps to reduce their emissions. The ETS Directive further provides rules for the use of the ETS’ revenues (e.g. at least 50% of the revenues from auctioning should be invested in project related to climate change abatement).

An example of a financial instrument aimed at the alleviation of social costs resulting from the transition into a green economy is EU Council Decision 2010/787/EU on State aid to facilitate the closure of uncompetitive coal mines.³⁸⁴ As the subsidization of

³⁸⁰ Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), [2009] O.J. 342/1.

³⁸¹ For more detail, see *Commission Decision of 4 March 2013 establishing user’s guide setting out the steps needed to participate in EMAS*, Decision 2013/131/EU O.J. L76/1, online: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:076:FULL:EN:PDF>> [“EMAS user’s guide”]

³⁸² [Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the community](#) [2009] O.J. 140/63.

³⁸³ http://ec.europa.eu/clima/policies/ets/index_en.htm.

³⁸⁴ *Council Decision of 10 December on State Aid to facilitate the closure of uncompetitive coal mines*, (2010/787/EU), [2010] O.J. 336/24.

uncompetitive coal mines is no longer compatible with the EU policies (including its environmental policy), it was decided that the financial aid for these mines³⁸⁵ will be discontinued.³⁸⁶ However, according to this Decision, in order to alleviate the social and regional consequences of the expected closure of the no-longer-supported uncompetitive coal mines, Member States are allowed to provide them with State Aid. This Decision further prescribes that such aid to the coal industry is to be considered compatible with the proper functioning of the internal market. At the EU level, following Council Regulation (EC) No 1198/2006 of 27 July 2006 on the European Fisheries Fund,³⁸⁷ the European Fisheries Fund was established. The main objective of this body is to support the realization of the EU's Common Fisheries Policy (CFP) through the financing of activities aimed at ensuring the conservation and sustainable use of marine resources. The Fund is instructed to take into account environmental, economic and social aspects in a balanced manner.

4.1.3 Sector Specific Provisions

i. Forests

An example of an important institution in this respect is the EU's Forest Law Enforcement, Governance and Trade initiative ("FLEGT"). According to this initiative, Voluntary Partnership Agreements between the EU and producer-states are being signed. These agreements oblige timber importers to obtain a FLEGT license, which requires producers to follow a list of sustainability criteria. Alongside CITES permits, FLEGT licenses are now used in order to validate the legality of imported timber under EU Law. FLEGT licenses are also required according to national laws such as those adopted by the UK and Denmark concerning the purchase of timber.

ii. Biodiversity

There are often protections requiring protections for specific species, such as birds, sometimes through the designation of particular regions as protected, as is the case in the EU's Natura 2000 program. Natura 2000 is comprised of a network of 26,000 nature reserves across Europe, spread over more than 750,000 km² (18% of the EU's land area). Natura 2000 protects a variety of species and habitats. Beyond bio-diversity, the Natura 2000 network also supports policy objectives including the creation of jobs and securing livelihood. Natura 2000 supports economic activity such as tourism and recreation, estimated to create between 4.5-8 million jobs across Europe.³⁸⁸ The wide-range of economic and social benefits of the Natura 2000 network are highly significant and were estimated by some as having a value of between 200 and 300 billion EURO per year (including benefits beyond mere creation of jobs, e.g. benefits arising from soil and water quality, air quality, etc.).³⁸⁹

³⁸⁵ See Regulation (EC) No 1407/2002 on State aid to the coal industry.

³⁸⁶ See para 3 and 4 of the preamble to Council Decision 2010/787/EU

³⁸⁷ Council Regulation (EC) No 1198/2006 of July 27 2006 on the European Fisheries Fund, [2006] O.J. L 223/1.

³⁸⁸ See *The Economic Benefits of the Natura 2000 Network: A synthesis Report* (European Union, 2013) online: <http://ec.europa.eu/environment/nature/natura2000/financing/docs/ENV-12-018_LR_Final1.pdf> ["The Economic Benefits of the Natura 2000 Network"] at 30.

³⁸⁹ The Economic Benefits of the Natura 2000 Network, *supra* note **Error! Bookmark not defined.** at 50.

iv. Fisheries

One of the main pieces of regulation at the EU level is EU Council Regulation (EC) No 847/96 of 6 May 1996 introducing additional conditions for year-to-year management of TACs and quotas. This regulation imposes a total allowable catch (“TAC”) policy, essentially a catch limit for most significant commercial fish stocks. The TAC is set annually, based on scientific advice provided by the European Commission’s Scientific, Technical and Economic Committee for Fisheries (“STECS”). At the same time, however, the need to balance not only environmental problems, but also social and economic interests is also reflected in European regulations. The need to balance these interests is reflected in the activity of institutions such as the European Fisheries Fund and voluntary regulatory frameworks such as the Code of Conduct for coastal zones, which provides regulatory guidelines for the integration of environmental protection with the need to develop coastal zones for among others, industrial, touristic, or agricultural purposes.

v. Tourism

Under the EU code of conduct for coastal zones, touristic development should be carried out in such a way so as to ensure that the environmental, cultural, and social diversity of the area is protected and enhanced. Most notably, touristic development policies shall take into considerations the needs of the local host community without compromising the natural or cultural values which are attractive to tourists, or the economic viability of existing sustainable commercial activities. The Code provides states with guidelines for different aspects related to tourism such as planning and water conservation, and even specific aspects of touristic development such as the construction of golf courses and water sports. The EU EMAS Regulation is a voluntary eco-management and audit scheme available for public and private organisations. In accordance with Article 46 of the EMAS Regulation, the EU Commission is currently developing sectoral reference/guidance that will provide more practical implementation of the EMAS requirements. To date, four sector-specific guidance documents have been developed, including for the tourism sector.³⁹⁰ The reference document for the tourism sector covers the full value chain for this sector, including elements related to transport, accommodation, waste management, food and drink services, and more.³⁹¹ This reference document includes a review of the environmental aspects and challenges of each sub-sector, and specific best practices and recommendations.

vi. Climate Change

The EU has established the EU Emissions Trading Scheme as a functioning carbon emissions trading mechanism. At the EU level, the Member States are obliged to adopt policies that will lead to a reduction in their energy consumption and will increase the share of renewable energies in the EU’s overall energy consumption (see more detailed discussions above in section 2.2(c)). As a block, the EU is committed to reducing its

³⁹⁰ “Best environmental management practice: The reference document for the Tourism sector”, online: EU Commission <http://susproc.jrc.ec.europa.eu/activities/emas/documents/TOURISM_BP_REF_DOC_2012j.pdf> [“The EMAS reference document for the Tourism sector”].

³⁹¹ The EMAS reference document for the Tourism sector

emissions level by 20% by the year 2020, and by 80-95% by the year 2050.³⁹² Among the laws and policies that were adopted by the EU and its Member States, an important regulatory trend that can be identified is the use of market-based instruments. These regulatory instruments are aimed to reduce emissions in a cost-effective manner, and incentivise the private sector to invest in clean technologies. A unique institution that was established in order to support the EU's climate policy is the Union's Registry. Established by the ETS Directive in 2009,³⁹³ the Union's Registry administers the accurate accounting for allowances under the EU ETS. Among the Register's functions is to record the holding of emission allowances, the transactions relating to the emissions allowances (including free allowances, auctioning, and trading), the opening, management and closure of accounts, the monitoring of consistency in such actions with the EU ETS rules, and more.³⁹⁴

Another notable trend in this field of European regulation is the use of financial support in order to encourage the transition into a green energy sector. Policies adopted for this purpose include the implementation of specific rules on the subsidization of the closure of coal mines in order to alleviate the regional and social impact of such,³⁹⁵ and the subsidization (or indirect subsidization) of the production of renewable energy through schemes such as FIT.³⁹⁶

vii. Transport

The transportation sector was specifically mentioned in the EU's 20-20 by 2020 policy, in which a target of 10% share of biofuels of the overall petrol and diesel consumption was set.³⁹⁷ More recent attempts to include the transportation sector under the EU's climate policy are the planned inclusion of the aviation and shipping sectors in the EU ETS.³⁹⁸ A second regulatory tool adopted in European legal systems with respect to the transition into more sustainable transportation is the use of subsidies. At the EU level, financial support is offered in order to encourage the transportation sector to use more sustainable forms of transportation. This is being done, *inter alia*, in accordance with the Marco Polo programme,³⁹⁹ under which the EU is providing financial support for transport service operators who plan to shift their transport modes from roads to more environmental-friendly modes, such as rail or waterborne transport.

³⁹² EU Commission, "Communication from the Commission: A roadmap for moving to a competitive low carbon economy in 2050", Brussels, 8.3.2011 [COM/2011/0112 final].

³⁹³ See also EU Commission, "Commission Regulation No. 389/2013 of 2 May 2013, establishing a Union Registry" 3.5.2013, O.J. L 122/1.

³⁹⁴ *Ibid.*

³⁹⁵ See Council Decision of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines.

³⁹⁶ See for example the German Renewable Energy Sources Act, adopting a feed-in tariffs programme.

³⁹⁷ EU Commission, "Communication from the Commission: 20 20 by 2020 – Europe's climate change opportunity" Brussels, 23.1.2008 [COM/2008/0030 final]; See also Directive 2009/28/EC, discussed above in detail.

³⁹⁸ With respect to aviation, see Directive 2008/101/EC amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowances trading within the Community" (2009) O.J. L 8/3.

³⁹⁹ See *inter alia*, EU, "Regulation (EC) No 923/2009 establishing the second 'Marco Polo' programme for the granting of community financial assistance to improve the environmental performance of freight transport system" (2209) O.J. L 266/1. For more related legislation see EU Commission, "Marco Polo legislation", online: EU Commission <http://ec.europa.eu/transport/marcopolo/about/in-law/index_en.htm>.

viii. Mining

A specific example of a regulatory instrument aimed at the regulation of the mining and minerals sectors is EU Directive 2006/21/EC on the management of waste from extractive industries (“the Mining Waste Directive”).⁴⁰⁰ The main objective of the Mining Waste Directive is the reduction of the adverse effects of waste management from extractive industries. The Mining Waste Directive therefore imposes several obligations on operators in the mining sector, including a requirement to obtain an environmental permit. According to Article 7 of this Directive, the application for the permit must include a waste management plan, and an environmental impact assessment where required. The objectives of the waste management plan should be the prevention or the reduction of waste, the increased recycling and re-use of waste, and the long-term safety of waste disposal. The Member States are instructed by this Directive to inspect waste facilities on regular basis.

In addition to licensing and permitting requirements, the trend in laws across the states surveyed is to establish extensive requirements for remediation of spills and other forms of pollution that occurs during the process of extraction. However, it should be noted that states often establish provisions to assist small businesses with the burden of these measures, particularly if they are not the original entities responsible for the act of pollution that requires remediation. Many of these laws are discussed above. Further, there has been a particular focus in the EU on assisting those who had been employed in extractive industries that are no longer economically or environmentally viable to find new jobs, as well as to receive educational and vocational training.

Beyond the imposition of environmental restrictions on the mining sector, the EU also attempts to deal with the social cost of such environmental regulation, which may result in the closure of production facilities and consequently unemployment and poverty. As the EU’s policy for encouraging renewable energy sources does not justify support for uncompetitive coal mines, the EU’s Council Decision on State Aid to facilitate the closure of uncompetitive coal mines is aimed at enabling Member States to alleviate the social and regional consequences of the closure of uncompetitive coal mines.

ix. Waste

The three main legal frameworks in the EU concerning this field are the Waste Framework Directive, the Waste Electrical and Electronic Equipment (WEEE) Directive and the Mining Waste Directive. The regulation of this field at the Member State level is mostly being done in accordance with these Directives (see for example Luxembourg’s *Loi relative à la gestion des déchets*). Several trends in the field of waste management can be identified in these Directives. First, there is a strong emphasis on such activities as prevention, re-use and the recycling of waste, while safe disposal is regarded as a last resort. This is clear from the ‘waste hierarchy’ set by the Waste Framework Directive, but can also be understood from the content of the other Directives. Second, the presence of

⁴⁰⁰*Directive 2006/21/EC on the management of waste from extractive industries*, [2006] O.J. L102/15.

the polluter pays principle (or its more concrete realization in this field as the ‘producer responsibility’ principle) is evident in these Directives.

x. *Green Manufacturing*

A significant trend relating to resource efficiency can be identified in European states’ regulation of buildings and construction. Both at the EU and Member state levels, a notable legal policy in this respect is the obligation to provide information relating to energy and environmental performances of buildings. Examples of laws adopting this approach were already discussed above in more detail, and include the EU Directive 2010/31/EU on the energy performance of buildings and Denmark’s energy labelling law.

4.1.4 Regional Jurisprudence

This is of particular importance in supranational entities such as the European Union (EU), where states are required to ensure that their own laws comply with EU laws, regulations and constitutional principles. However, as seen in most other regions, there is a trend for regional blocs and entities to embrace sustainable development and poverty eradication and engrave legal provisions towards this in their treaties, declarations and resolutions. Several innovative green economy provisions in these regional documents will therefore be examined.

With this in mind, several key trends in jurisprudence relevant to the green economy should be noted at the beginning of this section. Overall, courts have demonstrated increased willingness to allow cases involving environmental concerns to be litigated. In the EU context, it is important to note that the European Court of Justice (ECJ) has allowed states to take actions which might otherwise be seen as compromising the requirement that states not take actions which benefit themselves to the detriment of other EU members when there are considerable sustainable development issues at play. A notable example of this trend is the ECJ’s allowance of laws that place limits on access to genetic modification within the state’s market when this limitation was premised on the idea of promoting green growth.

Constitutional provisions have been interpreted by European courts in the past, and these cases have contributed to the clarification and the evolution of the constitutional meaning of the EU treaties. The ECJ, for example, has commented on the application of Article 11 Treaty on the Functioning of the European Union (TFEU):⁴⁰¹“In the light (...) of the wording of (...) Article [11 TFEU], which lays down that environmental protection requirements must be integrated into the definition and implementation of Community

⁴⁰¹*Concordia Bus Finland v. Helsinginkaupunki et al.* (Preliminary Ruling) [2002] C-513/99 at para 57. See a review of the application of provisions related to sustainable development by the ECJ in a presentation made by Professor Pallemmaerts, “Sustainable Development Principles before the Court of Justice of the European Union”, June 2011, at the International Development Law Organization. See presentation online: IDLO <<http://www.idlo.int/DOCNews/SDEventJune2011/Marc%20Pallemmaerts%20-%20EUSDECJ.pdf>>

policies and activities, it must be concluded that Article 36(1)(a) of Directive 92/50 does not exclude the possibility for the contracting authority of using criteria relating to the preservation of the environment when assessing the economically most advantageous tender.”

Similarly, in the *Laval* case the ECJ has also commented regarding the role of Article 3 Treaty on European Union (TEU) in balancing the different elements of sustainable development:⁴⁰²“It should be added that, according to Article 3(1)(c) and (j) EC, the activities of the Community are to include not only an 'internal market characterised by the abolition, as between Member States, of obstacles to the free movement of goods, persons, services and capital', but also a policy in the social sphere'. Article 2 EC [Article 3 TEU] states that the Community is to have as its task, inter alia, the promotion of a harmonious, balanced and sustainable development of economic activities' and a high level of employment and of social protection.”

In this case, the Court of Justice of the European Union (CJEU) also commented on the importance of the sustainable development principle of integration, as manifested by EU Law:⁴⁰³“Since the Community has thus not only an economic but also a social purpose, the rights under the provisions of the EC Treaty on the free movement of goods, persons, services and capital must be balanced against the objectives pursued by social policy, which include, as is clear from the first paragraph of Article 136 EC, inter alia, improved living and working conditions, so as to make possible their harmonisation while improvement is being maintained, proper social protection and dialogue between management and labour.” While it is somewhat debateable how the overall outcome of the *Viking/Laval* cases has to be seen, its emphasis of the relevance of sustainable development is an important step forward.

4.2 Africa

Africa has generally experienced rapid economic growth over the last decade with annual growth rates across the continent, averaging five to six percent per year.⁴⁰⁴ A significant driver of growth has been the high demand and prices for raw materials, macro-economic reforms and greater political stability.⁴⁰⁵ Urbanization has also strengthened the services sector, a growing middle class and the emergence of pan-African entrepreneurship.⁴⁰⁶ Despite these promising developments and economic performance, poverty, food security, lack of access to energy, education and infrastructure remain pervasive problems and limited access to skills, markets and technology mean that most enterprises are insufficiently equipped to be competitive in an increasingly globalized

⁴⁰²*Laval un Partneri LTD. v. Svenska Byggnadsarbetareförbundet et al.* (Preliminary Ruling) [2007] C-341/05 at para 104.

⁴⁰³*Ibid.* at para 105.

⁴⁰⁴ African Development Bank. “Green Growth: Perspectives for Africa and the AfDb in the 21st Century” <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/FINAL%20Briefing%20Note%208%20Green%20Growth%20452012.pdf>, 7th March 2012

⁴⁰⁵ *Ibid*

⁴⁰⁶ *Ibid*

market.⁴⁰⁷ Notably, the GINI index, which represents a measure of income equality, has increased over the years, showing a widening gap between the rich and the poor.⁴⁰⁸

African economies are highly dependent on sectors that rely on natural resources such as agriculture, forestry, fishing, mining and quarrying, tourism and oil and natural gas for their Gross Domestic Product (GDP). Natural capital assets are thus critical to the economic activities and the livelihoods of millions of people who depend on these resources.⁴⁰⁹ On the other hand, Africa's ecological footprint is increasing rapidly through depletion of natural resources, land degradation, air and water pollution, energy poverty rapid population growth, urbanization, disaster risk and climate change, globalization, economic volatility and consumption patterns⁴¹⁰.

Globalization, climate change, demographic developments, the availability of energy and raw materials and the declining carrying capacities of ecosystems will have a direct influence on current and future markets, economic practices and quality of life in Africa. Green economies in Africa in which environmental and economic agendas are largely compatible requires substantive policy shifts and must be analyzed against a background of ensuring that economic development objectives are reached while striving to manage Africa's resources sustainably, minimize waste and pollution and building resilience especially to the effects and impacts of climate change.

The Constitutive Act of the AU⁴¹¹ which is guided by a common vision for a strong and economically developed continent, states that one of the main objectives of the Union is to promote sustainable development at the economic, social and cultural levels as well as the integration of African economies.⁴¹² The Act also establishes a council whose main function is *inter alia*, to coordinate with member countries on environmental protection, humanitarian action and disaster response and relief.⁴¹³

There have also been several resolutions and declarations at the regional level that call upon countries to adopt green economy for sustainable development. For example, at the 2009 African Ministerial Conference on Financing Development, African ministers of finance, economic planning, and environment recognized the importance of placing the

⁴⁰⁷ *Ibid*

⁴⁰⁸ <http://data.worldbank.org/indicator/SI.POV.GINI/countries/1W?display=default>

⁴⁰⁹ "A Green Economy in the Context of Sustainable Development and Poverty Eradication: What are the Implications for Africa?" Economic Commission for Africa 2012, capacity4dev.ec.europa.eu/system/files/file/06/12/.../o7aenc.pdf last accessed 24th April 2013

⁴¹⁰ For example the Ecological Footprint more than doubled between 1961 and 2008 because of population growth, as well as increased per capita consumption in some countries. While current consumption is within the limits of its own bio capacity, Africa's footprint as a whole is projected to exceed the bio capacity available within its borders, by 2015. "Africa Ecological Footprint Report: Green Infrastructure for Africa's Ecological Security" (2012) African Development Bank and WWF – the World Wide Fund for Nature. Available at http://awsassets.panda.org/downloads/africaEFR_english_low_res_1.pdf, last accessed on 24th April 2013

⁴¹¹ Constitutive Act of the African Union (2000, Lome, Togo) Available at http://www.au.int/en/sites/default/files/ConstitutiveAct_EN.pdf

⁴¹² *Ibid*. Art. 3

⁴¹³ *Ibid*. Art. 13

environment on center stage in Africa's development process.⁴¹⁴ Also, in June 2010, the 13th Session of the African Ministerial Conference on the Environment adopted the Bamako Declaration which stressed the need to "take advantage of the opportunities provided by a growth and development trajectory that embraces the green economy model."⁴¹⁵ In 2012, the Arusha Declaration⁴¹⁶ laid out Africa's post Rio+20 Strategy for sustainable development in furtherance of the outcome of the Rio+ 20.⁴¹⁷ Further, the African Development Bank (ADB) Green Growth Strategy⁴¹⁸ guides its operational engagement with its Regional Member Countries and provides targeted assistance to countries committed to developing their Green Growth development.

The African Union has also signed several treaties, and conventions to address specific issues which are pertinent to achieving a green economy for Africa. An example of these is the Convention on the Conservation of Nature and Natural Resources whose main objectives are: i) to enhance environmental protection; ii) to foster the conservation and sustainable use of natural resources; and iii) to harmonize and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes.⁴¹⁹ In addition the Treaty establishing the Africa Economic Community in 1991 requires member to cooperate promoting a healthy environment⁴²⁰ and to adhere to the provisions of the Protocol on Energy and Natural Resources⁴²¹ in the course of conducting economic activity.

There are also innovative green economy initiatives at the sub-regional level in Africa. For example, the ECOWAS Renewable Energy Policy was adopted in October 2012 with a vision to secure an increasing and comprehensive share of member states energy supplies and services from timely, reliable, sufficient, least cost and affordable uses of renewable energy. The ECOWAS Regional Bioenergy Strategy, also adopted in 2012 seeks to enable and promote domestic and foreign investments that help address energy poverty prevailing in the region both in rural and peri-urban populations, without compromising food security and environment. In addition, the Roadmap of the ECOWAS Solar Energy Initiative seeks to carry out the provision of sustainable energy services through implemented solar energy programs and projects. Similar initiatives will be developed for other renewable energy sources (wind, bioenergy, small hydro, amongst

414 Third edition of the African Ministerial Conference on Financing for Development – Climate Change: Financing Opportunities and Challenges to Achieve the MDGs in Africa, AfDB-UNECA, 2009, <http://www.afdb.org>.

415 African Ministers of the Environment (AMCEN). 'Bamako Declaration on the Environment for Sustainable Development', 13th Session of the African Ministerial Conference on the Environment, UNEP, 2010d, <http://www.unep.org>.

416 African Ministers of the Environment (AMCEN). Arusha Declaration on Africa's post Rio+20 strategy for sustainable development (2012)

417 United Nations Conference on Sustainable Development (Rio+20), Rio de Janeiro, Brazil, from 20 to 22 June 2012

418 African Development Bank. "Green Growth: Perspectives for Africa and the AfDb in the 21st Century"

<http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/FINAL%20Briefing%20Note%208%20Green%20Growth%20452012.pdf>, 7th March 2012

419 African Convention on the Conservation of Nature and Natural Resources (Revised Version) (2003) Available at http://www.au.int/en/sites/default/files/AFRICAN_CONVENTION_CONSERVATION_NATURE_NATURAL_RESOURCES.pdf

420 Art 58. Treaty establishing the Africa Economic community (1991)

421 *Ibid.* Art 57

others). The key issues of the roadmap to be addressed includes: - policies and standards; solar resources assessment versus existing and potential energy facilities; appropriate solar technology solutions; capacity building and education; financing mechanisms and fund mobilization; solar energy stakeholders and networks.

The ECOWAS Humanitarian Policy of 2012 seeks to standardize the practice of humanitarian action in ECOWAS Member States by fostering a balanced linkage between Humanitarian Action, Human Security and Human Development throughout the ECOWAS space based on the principle of regional solidarity. The vision behind the Policy is the creation of a borderless, prosperous and cohesive region with the capacity to effectively prevent, mitigate, prepare for and limit the impact of conflicts and disasters on the citizens and residents of the West African region with a view to achieving human-centered development. The Policy focuses on four priority areas, namely, Conflict; Natural Disasters; Human-made Disaster; and Mixed-Migration and Refugee Protection.

The ECOWAS Regional Agricultural Policy for West Africa sets out a vision of ‘a modern and sustainable agriculture based on effective and efficient family farms and the promotion of agricultural enterprises through the involvement of the private sector. Once productivity and competitiveness on the intra-community and international markets are achieved, the policy should be able to guarantee food security and secure decent incomes for agricultural workers’. Its general objective is to “contribute in a sustainable way to meeting the food needs of the population, to economic and social development, to the reduction of poverty in the Member States, and thus to reduce existing inequalities among territories, zones and nations.” This global objective is broken into seven specific objectives focusing on: - food security for people in the region; reducing food dependence and achieving food sovereignty; involving producers in markets; creating jobs with guaranteed incomes in order to improve living conditions and services in rural areas; intensifying producing systems in a sustainable manner; reducing the vulnerability of West African economies by limiting factors of instability and regional insecurity; and adopting appropriate funding mechanisms.

The 2008 ECOWAS Environmental Policy⁴²² covers all aspects of i) natural resources management; ii) environmental protection; iii) human settlements and particularly of the urban habitat. In their diversity they include ‘the whole of natural or artificial (physical, chemical and biological) and cultural (sociological) conditions in which living organisms, including man, animal and plant species develop’ and where natural processes and human activities of all kinds are combined. All nations forming the ECOWAS are covered by this environmental policy. Within the ECOWAS territory are zones of: shared trans-boundary ecosystems; critical watersheds, which sustain the continuous flow of big rivers; extensive wildlife and migratory wild birds; customary routes or borne out of recent development for the passage of herd, transhumance, corridors and grazing lands.

In East Africa, green growth and sustainable development have been encapsulated in the EAC Protocol on Environment and Natural Resources Management of 2006, which is the overarching instrument governing the rational utilization and conservation of the

⁴²²See ECOWAS Commission, Abuja, Nigeria (2008).

environment and natural resources in the Community. The Protocol's aim is to strengthen, improve coordination and regulatory frameworks for enhanced economic and trade relations among the Partner States as well as sustaining the expansion and integration of economic activities within the Community.⁴²³

In terms of establishing sub-regional standards, the EAC partner states, signed a protocol on Standards Development, Quality Management, Testing and Metrology (SQMT) in 2003 and currently 376 standards have been harmonized including the East African Organic Standard. The regionalization of organic regulation may also better address specific climatic or labour issues unique to the region in a way that a readymade standard could not. These standards might be prepared and approved through a supranational private-public task force setting up voluntary reference standards, as in the case of the East African Organic Products Standard (EAOPS), which was developed by a community of public and private stakeholders from Uganda, Tanzania, Kenya, Burundi and Rwanda.

In Southern African Development Community (SADC) the commitment to sustainable development is reflected in the SADC Treaty⁴²⁴ which establishes the organisation and calls for active participation in negotiation and ratification of Multilateral Environmental Agreements (MEAs). These MEAs largely aim at dealing with climate change, desertification, protection of biodiversity etc.⁴²⁵ Moreover, in order to address sustainable development, SADC has established three main environmental policy goals:

- a. Protect and improve the health, environment and livelihoods of the people of southern Africa with priority to the poor majority;
- b. Preserve the natural heritage, biodiversity and life supporting ecosystems in southern Africa; and
- c. Support regional economic development on an equitable and sustainable basis for the benefit of present and future generations.⁴²⁶

These environmental policy goals reinforce and support the objectives set in the 1992 SADC Regional Policy and Strategy for Food, Agriculture and Natural Resources whose objectives include: i) to ensure the efficient and sustainable utilization, effective management and conservation of natural resources; ii) to incorporate environmental considerations in all policies and programmes and to integrate the sustainable utilization of natural resources with development needs; iii) to improve the living conditions of rural populations in member States through increased income and employment derived from the efficient and sustainable utilization of agricultural and natural resources; and iv) to ensure the recognition of the value of natural resources so that they can contribute optimally to the welfare and development of all people of the region.⁴²⁷

⁴²³ EAC Protocol on Environment and Natural Resources Management , 2006

⁴²⁴ SADC Treaty 1992

⁴²⁵ Southern African Development Community, Towards a Common Future at <http://www.sadc.int/issues/environment-sustainable-development/> <accessed January 27, 2014

⁴²⁶ 1997, SADC Sub-regional Report: Implementation Of Agenda 21: Review Of Progress Made Since The United Nations Conference On Environment And Development, 1992

⁴²⁷ Art 5, 1992 SADC Regional Policy and Strategy for Food, Agriculture and Natural Resources

In 2008 SADC signed the Declaration on Poverty Eradication and Sustainable Development. This declaration, *inter alia* advises Member States to redouble their efforts in meeting Millennium Development Goals by highlighting areas of focus such as food insecurity, climate change, and underdevelopment of infrastructure. Its main thematic areas are: social & human development; orphans; vulnerable children & youth; poverty eradication & policy dialogue.⁴²⁸

This trend in declaration, policies, strategies, and resolutions, demonstrates that the importance of adopting a green economy model towards sustainable development is understood and considered of importance in the African Region.

4.3 Asia Pacific

Many Asia-Pacific countries are still facing challenges in eradicating poverty in their respective jurisdictions. There are 1.821 billion people who live under \$2 (PPP) a day, amounting to 71% of the world poor population. More than 566 million rural residents cannot access to clean water and 800 million residents in the region live without electricity.⁴²⁹ As a result, most of the Asia-Pacific countries still aim to promote rapid development to improve economic and social welfare. However, United Nation's Economic and Social Commission for Asia and the Pacific (UN-ESCAP) reported that "the Asian and Pacific region is vulnerable to multiple crises that cannot be addressed by the current development paradigm. While substantial emphasis was placed on the financial and economic crisis, the resource and ecological crises have not been properly addressed. If the region is to continue its rapid growth, it cannot simply focus on quantity of growth, maximizing GDP and production. It has to focus on improving the economic, social and ecological quality of growth."⁴³⁰ Asia-Pacific countries use more than three times the resources to produce \$1 of GDP, compared to the rest of the world.⁴³¹

Governments in the region realize the need for a new growth strategy to sustain growth and reduce poverty. Green growth offers a unique opportunity for leapfrogging to ecologically efficient, inclusive and sustainable growth without repeating the conventional unsustainable development path undertaken by already developed countries. There is a clear indication that policy makers in the region are increasingly interested in pursuing green growth. In fact, many Asia-Pacific countries are already taking actions to promote green growth. Table 10 lists the green growth initiative since 2005 in the Asia-Pacific region.

⁴²⁸ SADC, 2008, Declaration on Poverty Eradication and Sustainable Development (Mauritius April 20, 2008)

⁴²⁹ Division for Sustainable Development, UNDESA: A Guidebook to the Green Economy, Issue 1: Green Economy, Green Growth, and Low-Carbon Development-history, definitions and a guide to recent publications, page 17&18

⁴³⁰ ESCAP: Conceptual Framework for Green Growth, page 1

⁴³¹ Division for Sustainable Development, UNDESA: A Guidebook to the Green Economy, Issue 1: Green Economy, Green Growth, and Low-Carbon Development-history, definitions and a guide to recent publications, Page 22

Table 10: Green Growth Initiatives since 2005 in the Asia-Pacific Region⁴³²

Countries	Green Growth Initiatives
Australia	Clean Energy Future initiative and clean energy legislation
Cambodia	National Green Growth Roadmap
China	Circular Economy Law, Renewable Energy Development Plan, Resource Efficiency & Environment Performance Indicator(REEPI)
India	National Solar Mission, National Mission for a Green India
Indonesia	Climate Change Sectoral Roadmap and Climate Change Trust Fund
Kazakhstan	Green Development Strategy, Green Bridge Initiative
Republic of Korea	Basic Law for Low Carbon and Green Growth, National Strategy, Five Year Plan for Low Carbon Green Growth, Emission Trading Scheme
Malaysia	Green Technology Initiative
New Zealand	National Green Growth Council
Thailand	Green Government Procurement Program
Japan	Low Carbon Society

As the idea of green growth is relatively new and innovative, there are no established and pre-defined green growth blue prints or proved effective approaches available for policy makers. The promotion of green growth could take time and be carried out with various approaches based on respective priorities and circumstances. There is great need share knowledge, best practices and the understanding on how to pursue green growth system change.

4.4 North America

The US, Canada and Mexico have significant and multifaceted economic systems.⁴³³ In 2012, the US had an estimated per capita gross domestic product (PPP) of \$51, 704,⁴³⁴ and the most technologically developed economy in North America. Canada's economic trends are similar to that of the US, with significant growth in the sectors of services, mining and manufacturing.⁴³⁵ Canada's GDP (PPP) was estimated at \$42,317 in 2012.⁴³⁶ Mexico had a GDP (PPP) of \$15,363, and per capita income is estimated at approximately one-third of the United States. The country has both modern and outdated industrial and agricultural facilities and operations, and is modernizing in sectors such as energy production, telecommunications and airports.⁴³⁷

432 Division for Sustainable Development, UNDESA: A Guidebook to the Green Economy, Issue 1: Green Economy, Green Growth, and Low-Carbon Development-history, definitions and a guide to recent publications, page 60

433 "United States, Economy. U.S. Central Intelligence Agence. Accessed June 2011.

434 Data refer mostly to the year 2012. World Economic Outlook Database-October 2013, International Monetary Fund. Accessed on 9 October 2013

435 *Ibid.*

436 *Ibid.*

437 Mexico, Economy. U.S. Central Intelligence Agence. Accessed June 2011.

In the North American region, need for environmental conscience in economic development was recognized and engraved in the Agreement on Environmental Cooperation⁴³⁸ in which the three states recognized the importance of the conservation, protection and enhancement of the environment in their territories and the essential role of cooperation in these areas in achieving sustainable development.

As the main regional organization, the Organization of American states (OAS) through its department of sustainable development, spearheads green growth and green initiatives in the Americas. This department supports member States in the design and implementation of policies, programs and projects oriented to integrate environmental priorities with poverty alleviation, and socio-economic development goals, as to achieve sustainable development. Examples of these efforts include the Inter-American Meeting of Ministers and High-Level Authorities on Sustainable Development, and the selection of Energy for Development as the theme for the upcoming General Assembly of the Organization. The General Secretariat of the OAS has been actively engaged with Member States in initiatives in areas such as sustainable consumption and production, environmental goods and services, sustainable trade, water resource management, sustainable energy, sustainable forest management among other areas.⁴³⁹

Another initiative of the department is a conservation initiative with ten steps termed as ‘Commit to Green’⁴⁴⁰ to be followed by the “Greening the OAS Strategy” which will address areas of procurement, energy consumption, water, consumption of paper, recycling and transport.⁴⁴¹

In the US there is also a call for the formulation and implementation of the National Strategy for Sustainability, which was initially proposed in 1992 after the Rio Earth Summit. The US has also agreed to participate in the development of a Ten Year Framework on Sustainable Production and Consumption.⁴⁴² A network has been developed in North America to support the efforts of the federal government in this regards.⁴⁴³ The focus on Sustainable Production and Consumption will also be featured as a major component in the development and implementation of the National Strategy for a Sustainable America.

Sustainable development is also the focus of other major sectors of the economy such as the mining industry under the Mining, Minerals, and Sustainable Development (MMSD) which was driven by the following four goals: i) to assess global mining and minerals use in terms of the transition to sustainable development—its track record in the past and its current contribution to and detracton from economic prosperity, human well-being,

438 North American Agreement on Environmental Cooperation, 1993

439 “Greening the OAS Strategy” <http://www.oas.org/en/sedi/dsd/GeneralDocs/Greeningtheoasstrategy.pdf> <accessed January 27, 2014>

440 OAS, Environmental Law, Policy and Governance, Ten Steps, Available at <http://www.oas.org/en/sedi/dsd/ELPG/resources/greenInitiatives.asp>

441 “Greening the OAS Strategy” <http://www.oas.org/en/sedi/dsd/GeneralDocs/Greeningtheoasstrategy.pdf> <accessed January 27, 2014>

442 The Marrakech Process : Regions – North America , 2008 At <<http://esa.un.org/marrakechprocess/regionsnamerica.shtml>>accessed January 27, 2014

443 North American Sustainable Consumption Alliance (NASCA) At <http://nasca.icspac.net/>

ecosystem health and accountable decision-making; ii) to identify if and how the services provided by the minerals system can be delivered in accordance with sustainable development in the future; iii) to propose key elements of an action plan for improvement in the minerals system; and iv) to build a platform of analysis and engagement for ongoing cooperation and networking between all communities of interest.⁴⁴⁴

In Canada, as in most North America generally, the need for low-carbon growth plans and strategies has been established, as the world transitions to a green economy. As a result a lot of innovation has been observed at the state/province and federal/national level in these countries, which have presented a series of unique case studies for the introduction and entrenchment of green economy-based provisions to the other countries.

4.5 Latin America

Latin America and the Caribbean (LAC) states have taken several steps aimed at strengthening a regional strategy of sustainability based on a change in production and consumption patterns. In 2003 a Council of Government Experts on Sustainable Consumption and Production was established under the Forum of Ministers of Environment of Latin America and the Caribbean, in order to follow up on the issue in national environmental bodies, advise the Forum and expand participation to include the private sector, academia, NGOs and other civil society organizations. Based on a series of recommendations made by the Council, the environment ministers decided in 2008 to include the issue of sustainable consumption and production as a priority of the Latin American and Caribbean Initiative for Sustainable Development (ILAC) and its Regional Action Plan.⁴⁴⁵ In addition, the Council, based on decisions of the Forum of Ministers of Environment, defined five priority programmes for sustainable consumption and production common to the countries of the region. One of the programmes focuses on policies and national strategies for sustainable consumption and production with the following being the core measures to be undertaken:

- Integration and coordination of the issue of sustainable consumption and production in policies, programmes and development strategies;
- Strengthening the provision of information, education and training to the population in issues concerning sustainable consumption and production (review the language and means for transmitting concepts; expanding participation of other organizations and civil society actors; use of the Regional Information Network for sustainable consumption and production as an instrument for strengthening South-South cooperation);
- Quantifying of the costs and benefits associated with implementation of sustainable consumption and production in national and sub-regional initiatives;

⁴⁴⁴ Mining, Minerals, and Sustainable Development (MMSD) At <http://www.iisd.org/mmsd/>

⁴⁴⁵ ECLAC, “Sustainable Development in Latin America and the Caribbean: Trends, Progress, and Challenges in Sustainable Consumption and Production, Mining, Transport, Chemicals and Waste Management” (Report to the eighteenth Session of the Commission on Sustainable Development of the United Nations 2010)

- Promotion of corporate social responsibility and the incorporation of concepts of a producer's extended responsibility and analysis of the life cycle in businesses producing basic consumer goods, which create greater environmental and social impact.⁴⁴⁶

Sustainability has also been adopted by the sub-regional entities. In 2007, the countries of MERCOSUR⁴⁴⁷ adopted a common policy for cooperation and promotion of sustainable consumption and production, and the Andean Community adopted this issue as a transversal axis of its Andean environmental agenda 2006-2010. In addition the Central American Commission on Environment and Development (CCAD) adopted a decision calling for the drafting of a regional policy of sustainable public procurement.⁴⁴⁸

At the national level, most countries in the LAC have formulated development plans, policies, focal points and programmes to promote the sustainability of consumption and production. A study conducted by UNEP/CEGESTI in 2009 illustrated that out of 20 countries, 14 reported that they had some sort of mechanism for accelerating change toward sustainable consumption and production in their country or had created mechanisms in the form of policies (35%), programmes (20%), projects (10%) or plans (5%). Approximately 50% of those mechanisms have been formalized, either by a law, decree or other means, including ministerial agreements, resolutions or other types of administrative approval.⁴⁴⁹

446 Recommendation to the Forum of Ministers of Environment of Latin America and the Caribbean of the fifth meeting of Experts on Sustainable Consumption and Production, Colombia 2009. The complete version of the list of regional priorities, including the means for implementation, main parties concerned and successful measures, can be found in annex 1 of ECLAC, "Sustainable Development in Latin America and the Caribbean: Trends, Progress, and Challenges in Sustainable Consumption and Production, Mining, Transport, Chemicals and Waste Management" (Report to the eighteenth Session of the Commission on Sustainable Development of the United Nations 2010)

447 The Common Market of the Southern Cone(Argentina, Brazil, Paraguay, Uruguay, Venezuela and Bolivia)

448 ECLAC, "Sustainable Development in Latin America and the Caribbean: Trends, Progress, and Challenges in Sustainable Consumption and Production, Mining, Transport, Chemicals and Waste Management" (Report to the eighteenth Session of the Commission on Sustainable Development of the United Nations 2010)

449 *Ibid*

PART V: Global Trends

5.1 Emerging Global Trends

As described above, there are a number of emerging global trends relevant to the green economy that are demonstrated through innovative legislative and regulatory practices. These trends will become evident throughout the regional study reports generated for this project as well.

Perhaps the most basic emerging global trend is the embracing of the green economy, and concomitantly green growth, as a matter of law and societal goal within states in the North and the South. The green economy has been enshrined in numerous laws – from comprehensive framework laws to juridical findings to industry-specific laws and regulations – which demonstrate the resilience of the construct. Green growth and sustainable development are also essential aspects of legal and social regimes that have been discussed, and indeed the entrenchment of these concepts within a wide range of laws is another discernible trend. Indeed, principles of sustainable development are increasingly being incorporated in the laws of states throughout the world and have been used to strengthen the legitimacy of the green economy and the goals of green growth.

Innovation relevant to the green economy is present in a variety of sectors and laws. We have seen marked links between the environment – and environmental protection and conservation – and economic development within constitutional law, framework laws, regulatory tools, judicial decisions and many industry-specific laws. In addition to this general recognition, states have increasingly come to recognize that their citizens enjoy the right to a healthy environment and also have come to incorporate specific environmental rights into constitutional and legal parameters. While there are still issues of justiciability of these rights, their mere presence and recognition is a significant innovation. Further, the incorporation of the 3Rs into laws has given an idea which was formerly a slogan of environmental advocates a strong legal footing.

The protection of natural resources – be they below the ground, in forests or indeed the water itself – is another area of emerging trends. This protection in general seeks to balance the protection of the particular resources from pollution and overuse with the needs of the local and national economies, seeking to use state funds and financial incentives to assist those impacted by the regimes while also providing for significant regulatory systems. The recognition of indigenous community rights and interests in natural resource use is also another area of innovation that is becoming a global trend across the global North and South. This leads to a general understanding that concepts of social justice have become incorporated in law and society across the globe.

Another global trend is the incorporation of local governments in environmental and green economy related decision-making and policy due to the recognition of their special relationship with environmental concerns in an area. Indeed, this is essential in areas such as the United States and Canada, where state/provincial units have been far more

proactive in environmental laws and laws related to the green economy than their national governments.

The growth of administrative bodies and functions in order to implement laws essential to the green economy is a global trend that is seen for general and industry-specific requirements. While these bodies have different names and characters, they tend to serve the same functions, particularly in terms of providing and overseeing licenses and permits for restricted activities, reviewing environmental impact assessments/surveys and the like for proposed projects that would have environmental effects and issuing decisions based on them, and assisting business and industry in complying with the terms of applicable regulations.

In order to offset some of the burdens of these laws and regulations on business and industry, particularly small businesses, laws and regulations across the spectrum of industries allow the state to grant financial and tax incentives. These incentives include tax relief/exemptions, VAT exemptions for applicable items needed for research and development, subsidies, feed-in-tariffs, and credit sinks. This is an important trend in that it recognizes the importance of ensuring that domestic businesses are able to function economically while also functioning as responsible environmental actors. It is notable that this trend is as important in developed states as it is in developing states.

Nearly all energy and climate change related laws set targets for energy and/or emissions reductions, including target dates. While the success or failure of these target dates has yet to be seen, it is notable that this trend exists, meaning that there is some sense of cohesion between states as to ways in which to achieve reductions in energy use and emissions rates.

Safety and security have come to figure prominently in laws relating to environmental policy across the world. Typically, these concerns are most pressing in the areas of agriculture – where food safety and security are well established issues for states in the global North and South – as well as energy production and climate change related issues.

Within a sea of laws and rules, another key area of innovation for the green economy that forms a pronounced legal trend is the use of voluntary codes and good governance measurements. While there is no legal force to such measures, they have been adopted by many states and many industries and are increasingly necessary in order to assure savvy consumers – business consumers and lay consumers alike – that they products they are buying are responsibly and ethically produced. This is a fascinating trend in that it embraces an idea that has been used among industry groups themselves and gives it a sense of growing legitimacy in law as well as within an industry.

5.2 Emerging Principles

This study has demonstrated that there are a number of emerging domestic legal principles which can inform the development of new legislation for the green economy in the context of poverty eradication and sustainable development.

i. Reaffirmation of existing principles

In many countries, regions and sub-regions, it is clear that existing principles are being reflected in laws and court decisions. For instance, there is a trend toward the ever-greater incorporation of sustainable development as a matter of law, particularly with emphasis on the integration of environmental and social aspects of economic development decision-making, and respect for intergenerational equity, in constitutions, laws, regulations and standards. The polluter pays principle is also being accepted as a matter of law, in statutory law as well as in court decisions. There is continuing recognition of States and individual obligation to manage and conserve natural resources for the common good of all. Further, public participation requirements are being incorporated in many key areas of development and decision-making. The precautionary principle is increasingly accepted as a matter of law, particularly statutory law as well as court decisions.

In addition, many countries, regions and sub-regions are incorporating the right to healthy environment into their constitutions and legal frameworks, with measures to facilitate its realization. They are also securing incorporation and recognition of rights of indigenous communities, often as a matter of constitutional law and particularly in areas such as accessing and exploiting natural resources, or taking into account traditional knowledge, and respecting access to land by indigenous people, as well as participation and sometimes free prior and informed consent in decision making. Indeed, there is increased respect for legal options for citizens to sue for environmental rights violations in certain jurisdictions, securing access to justice in environmental cases. Many States have in place new mechanisms for access to justice, providing for expansive *locus standi* in environmental cases. Similarly, there is recognition that, consistent with the subsidiarity principle, there will be creation of state/local government based administrative entities charged with enforcement of specific environmental and other laws of relevance to the green economy for poverty reduction and sustainable development.

ii. Recognition of new and emerging principles

In many countries, regions and sub-regions there is also a growing use of new and emerging practical ‘operational principles’ in many innovative provisions of domestic legal systems, in order to strengthen implementation of legal frameworks for green economy for poverty reduction and sustainable development. Such new and emerging operational principles can be quite specific, and may include, for instance:

- Recognition and incorporation of the “3Rs” as a matter of law;
- Extension of *in dubio pro natura*;

- Extension of the principle of non-regression as a matter of law;
- Extension of producers' responsibility principles as a matter of law;
- Requirement of including dignity throughout many areas of industry as a matter of law;
- Incorporation of social justice as a matter of law;
- Creation of benchmarks for emissions and green energy targets as a matter of law;
- Extension of environmental impact assessment/study to strategic environmental assessments, with recognition of the need to incorporate both social and environmental aspects;
- Requirement for national development plans to assist in the protection of the environment and the encouragement of environmentally responsible economic development;
- Activation of economic instruments and financial incentives to support sustainable development and the green economy, including extension of financial and taxation incentives to assist small businesses with transition to the green economy and to assist with research and development for new technologies;
- Extension of voluntary methods for good governance and codes of conduct that allow the state to approve of the environmental practices of particular industries, a form of voluntary self-regulation;
- Extension of measures to encourage more sustainable consumption and production, including labeling, eco-labeling, voluntary/mandatory requirements, consumer protection regimes, industrial production standards and regulations of production processes;
- Considerations of food safety and security as a matter of law;
- Extension of mandatory and/or voluntary labeling requirements for products in order to allow the consumer to know their environmental and/or energy impacts;
- Extension of green procurement as a legal requirement for governmental procurement decisions, including regulations to encourage green products and a WTO Code on Green Procurement, with commitments to transparency and the use of social and green criteria;
- Creation of courts and other juridical entities that focus on environmental issues in certain jurisdictions; and
- Extension of sustainability concerns for science and technology policy, including transfer of technology regulation and adoption of intellectual property arrangements to support the green economy.

5.3 Conclusions and Future Directions

It is clear from the legal analysis in this compendium that many regions, sub-regions, countries and local governments are increasingly designing, adopting and implementing innovative legal practices in order to enable and incentivize a new global green economy for poverty eradication and sustainable development. As noted in the UNEP Report *Towards a Green Economy* (2011), transitioning to a green economy has sound economic and social justification. This Compendium, which is based on the tracking of emergent trends, research on five continents of the world, and substantive legal analysis, helps to

inspire governments, the private sector and stakeholders, in order to achieve the necessary economic transformations to a greener and more sustainable world.

This Compendium, adopting the lines of the leading publication in this field, analyzes the innovative legal instruments and provisions that countries have adopted to transition to a greener economy. It highlights the ten key sectors that are driving the defining trends of the transition to a green economy. Based on a comprehensive review of the findings of five regional surveys generated by UNEP, this compendium overview report uncovers the key trends, innovative provisions and emerging operational principles on green economy in the context of poverty eradication and sustainable development. By bringing together surveys of innovative laws in North America (Canada and the United States), Europe (with members and non-members of the European Union), Latin America and the Caribbean, the Asia-Pacific region and Africa, the report demonstrates the scope and scale of innovations being adopted across the world. By addressing both general constitutional and framework laws, and also industry sector specific laws, regulations, standards and enforcement mechanisms, the report also derives lessons on respect for existing principles of sustainable development law that are particularly relevant for the green economy and poverty eradication, and identifies emerging operational principles which are currently being tested.

As noted above, and in the UNEP study, the challenge has been to find ways of: “increasing human wellbeing and social equity, and reducing environmental risks and ecological scarcities. Across many of these sectors, greening the economy can generate consistent and positive outcomes for increased wealth, growth in economic output, decent employment and reduced poverty.”⁴⁵⁰ For governments, as this compendium has demonstrated, current efforts can include leveling the playing field for greener products by phasing out antiquated subsidies, reforming policies and providing new incentives, strengthening market infrastructure and market-based mechanisms, redirecting public investment, and greening public procurement. For the private sector, as has been shown, there is a need to understand and seize the opportunities represented by green economy transitions across a number of key sectors, responding to policy reforms and price signals through higher levels of financing and investment.⁴⁵¹

This Compendium report began by noting that the 2012 “*The Future We Want*” Declaration, which was adopted by the Rio+20 UN Conference on Sustainable Development, rather than deciding on a single universal definition of the green economy, affirms at paragraph 56 that “there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development in its three dimensions which is our overarching goal. In this regard, we consider green economy in the context of sustainable development and poverty eradication as one of the important tools available for achieving sustainable development and that it could provide options for policymaking but should not be a rigid set of rules.” They especially highlighted equity and poverty eradication, agreeing at

⁴⁵⁰Ibid. 24

⁴⁵¹ United Nations Environment Programme, *Towards a Green Economy: Pathways to sustainable development and poverty eradication*(Nairobi, UNEP 2011), 14.

paragraph 6to: “encourage each country to consider the implementation of green economy policies in the context of sustainable development and poverty eradication, in a manner that endeavors to drive sustained, inclusive and equitable economic growth and job creation, particularly for women, youth and the poor.” This Compendium, it is hoped, provides a first step in delivering on premise and the promise of the green economy, in order to meet these crucial commitments in the interests of current and future generations.

PART VI: Scorecards

Select Green Economy, Sustainable Consumption and Production and Resource Efficiency Laws and Regulatory Instruments

6.1 Sustainable Use of Natural Resources

6.1.1 AFRICA:

Title	The Constitution of Kenya 2010
Country	Kenya
Entry into Force	27 th August 2010
Type of Instrument	Constitution
Scope	National
Objective	
Main provisions	<p><u>Land</u></p> <p>Article 60. (1) states that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with <i>inter alia</i> the following principles: <i>equitable access to land; security of land rights; sustainable and productive management of land resources; transparent and cost effective administration of land and sound conservation and protection of ecologically sensitive areas;</i></p> <p>Article 67 establishes the National Land Commission to manage public land on behalf of the national and county governments in accordance with these principles.</p> <p>Article 69. (1)(b) mandates the State to work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya.</p>
Relevant Innovative instruments	Establishment of the Land Commission as a Constitutional body.
Reference	

Title	The Transitional Constitution of the Republic of South Sudan, 2011
Country	South Sudan
Entry into Force	July 9, 2011
Type of Instrument	Constitution
Scope	National
Objective	
Main Provisions	<p><u>Principles for Petroleum and Gas Development and Management</u></p> <p>Article 173(1) provides that ownership of petroleum and gas shall be vested in the people of South Sudan and shall be developed and managed by the National Government on behalf of and for the benefit of the people.</p> <p>Article 173 (2) states that petroleum and gas development and management shall be guided by the following principles:</p> <ul style="list-style-type: none"> (a) safeguarding National interests; (b) creating lasting benefits for society; (c) promoting efficient and sustainable resource management; (d) using oil revenues to develop other sectors of the economy, especially agriculture; (e) ensuring transparency and accountability; (f) promoting fair competition to increase productivity and efficiency in the petroleum and gas sector; (g) promoting balanced and equitable development; (h) creating a secure and healthy investment environment; (i) protecting the environment and biodiversity; (j) building the capacity of South Sudanese within the petroleum and gas sector; (k) establishing oil infrastructure within South Sudan, such as pipelines, refineries, storage, processing and transport facilities; (l) safeguarding interests of future generations; (m) ensuring accountability for violations of human rights and degradation to the environment caused by petroleum and gas-related operations; and (n) ensuring restoration of land and resources affected by development and management.
Relevant Innovative Provisions	Efficient and Sustainable use of Fossil Fuels
Reference	

Title	Fisheries and Marine Resources Act 1998.
Country	Mauritius
Entry into Force	24th December 1998
Type of Instrument	Sectoral
Scope	National
Objective	To provide for the management, conservation, protection of fisheries and marine resources, and protection of the marine ecosystems.
Main Provisions	<p><u>Conservation Measures</u></p> <p>Section 9(1) provides that the Minister may by regulations prescribe measures for the protection, conservation and management of fisheries and marine resources including -</p> <ul style="list-style-type: none"> (a) the prohibition of fishing by certain means, in certain areas and or during certain periods; (b) the prohibition of fishing of a specific species; size; or gender of fish; (c) conditions to be attached to possession, manufacture, purchase of any gear; (d) schemes for setting and allocating quotas and for limiting entry into all or specified fisheries; (e) the prohibition of an activity likely to disturb the marine ecosystems and habitats. <p><u>Control of Fishing Activities</u></p> <p>Section 16</p> <p>Prohibited fishing methods:</p> <ul style="list-style-type: none"> a) fish with a gunny bag, canvas or cloth, creeper, leaf or herb; b) fish with lime and poisonous substance, a spear gun or an explosive; c) have in his possession or control an article mentioned in paragraph (a) or (b) for the purposes of fishing; d) have in his possession any spear gun or part thereof except with the approval of the Permanent Secretary; e) land, sell or have in his possession any fish which he knows or has reason to believe has been caught by – <ul style="list-style-type: none"> (i) one of the means or methods set out in paragraphs (a) and (b); or (ii) any other illegal means. Section 17 states that the Permanent Secretary shall not authorize underwater fishing except for scientific purposes; the purpose of catching ornamental fish; and in accordance with such terms and conditions as may be determined by him. <p><u>Close Periods</u></p> <p>Section 18(1) No person shall fish with, or have in his possession at sea -</p>

- (a) a large net or a gill net from 1 October in a year to the last day of February of the following year;
- (b) a canard net from -
 - (i) 1 May to 31 July in a year;
 - (ii) 1 October in a year to the last day of February of the following year.

Section 18(2) Subject to subsection (1), no person shall fish with or have in his possession at sea-

- (a) a large net or canard net between 1800 hours and 0600 hours;
- (b) a gill net between 0600 hours and 1800 hours.

Section 18(3) Subject to subsection (4), no person shall -

- (a) fish oysters; or
- (b) have in his possession fresh oysters, from the 1 October in a year to the last day of March of the following year.
- (4) Subsection (3) does not apply to oysters which are -
 - (a) caught in a fish farm; or
 - (b) imported for sale.

Protection of Fish

Section 19(1) no person shall fish -

- (a) an undersized fish;
- (b) any crab or lobster in the berried state; or
- (c) a turtle, turtle egg or a marine mammal

Section 19(2) states that the Permanent Secretary may authorize the catching of such for scientific, reproductive, or any other purpose beneficial to the community; undersized fish by the owner or lessee of a barachois or fish farm for stocking the barachois or fish farm and undersized fish for use as bait.

Fishing with the Aid of Artificial Light

Section 21(1) provides that no person shall fish with the aid of any artificial light except with the approval of the Permanent Secretary.

Import of fishing vessel

Section 28 bans the import of a net or part of a net; an implement or part of an implement other than a basket trap, a fish spear, a hook, a line, a rod, a reel and a lure are prohibited except with the approval of the Permanent Secretary.

Section 29 states that no person shall import into Mauritius any fishing vessel or boat for purposes of fishing except with the approval of the Permanent Secretary on such terms and conditions as he may determine.

Relevant Innovative Provisions	Total Allowable Catches(Catch Limits) Fishing Effort
Reference	

Title	Fisheries Conservation and Management Act
Country	Malawi
Entry into Force	28 th November 1997
Type of Instrument	Sectoral
Scope	National
Objective	An Act to make provision for the regulation, conservation and management of the fisheries of Malawi and for matters incidental thereto or connected therewith. It relates to the regulation and control of fishing, and prohibits the use of explosives and poison. Fish Farming Licenses are issued in terms of this Act.
Main Provisions	<p><u>Fishing Licenses, Conditions and Controls</u></p> <p>Section 15.</p> <p>(1) Subject to subsection (2), the grant of fishing license shall be in the discretion of the Director and the license may authorize fishing generally or may confer limited authority by reference in particular to-</p> <ul style="list-style-type: none"> (a) the area in which fishing is authorized; (b) the period, times or particular voyages during which fishing is authorized; (c) the quantities, description and size of fish which may be taken; or (d) the method of fishing. <p>(2) Every fishing license-</p> <ul style="list-style-type: none"> (a) shall specify the fishing gear that is permitted to be used for fishing by or on behalf of the licensee; (b) shall not be transferable, except as may be prescribed; (c) may authorize fishing either unconditionally or subject to such conditions as may appear to the Director to be necessary or expedient for the regulation of fishing, the conservation or management of fisheries in the fishing waters or for the economic benefit of Malawi and, without prejudice to the generality of the foregoing, may contain conditions as to- <ul style="list-style-type: none"> (i) the landing of fish caught under the authority of the license; (ii) Grant of fishing licenses and conditions relating thereto <p><u>Aquaculture</u></p> <p>Section 21 (2) An aquaculture permit shall-</p> <ul style="list-style-type: none"> (a) not be transferred without the prior written consent of the Director;

- (b) confer on the permit holder exclusive rights to harvest the products of the aquaculture establishment within the area specified in the permit;
- (c) be subject to such conditions as appear to the Director to be necessary or expedient for the regulation of aquaculture, the management of fisheries or for the economic benefit of Malawi and, without prejudice to the generality of the foregoing, may contain conditions relating to-
- (i) the siting, design and materials used in the construction of the aquaculture establishment;
 - (ii) sanitary conditions of fish and fish products;
 - (iii) measures for the prevention of the escape of fish farmed for aquaculture;
 - (iv) measures for the prevention of fish diseases;
 - (v) the marketing of fish and fish products of the aquaculture establishment; and
 - (vi) measures to be taken to minimize the escape of waste products and the pollution of land and water.

Section 25 establishes a Fisheries Fund is established for the conservation, development, promotion, management and administration of fisheries and fish habitats and to start, operate and expand projects relating to management or conservation of fisheries and fish habitats; research and training which is calculated to promote proper management of fisheries.

Relevant Innovative Provisions	Total Allowable Catches (Catch Limits) Multi Annual Plans Fishing Effort Aquaculture
Reference	

Title	Draft Law N°/..... of...../...../..... Relating to Land Use and Development Planning in Rwanda
Country	Rwanda
Entry into Force	
Type of Instrument	Framework
Scope	National
Objective	Article 1 provides that this Law shall govern land use and development planning in Rwanda and has the following fourfold purpose: a) ensure the transparent co-ordination, supervision and enforcement of national land use and development planning at all levels of government in Rwanda towards sustainable and equitable social, economic and environment development for current and future generations in Rwanda; b) set up fundamental principles to ensure that national land use and development planning will provide for the natural resource base to be protected and to allow for ecological balance between

	<p>footprint of land use and development and Biodiversity;</p> <p>c) promote social welfare of the population considering equal opportunities of access to social, economic and environment opportunities affected by land use development planning;</p> <p>d) ensure access for all Rwandans to insight and participation in a transparent decision-making process on determining, processing, evaluation, revision and validation of national and local land use and development planning.</p>
<p>Main Provisions</p>	<p>Land is defined as a surface area with biodiversity like humans, animals and different plants and non-biodiversity like rocks, buildings, various infrastructure, rivers, lakes as well as the sub soil and its atmosphere;</p> <p><u>Fundamental Principles</u> Article 3 sets out <i>inter alia</i> these principles:</p> <ul style="list-style-type: none"> -The land use and development must be administered and managed so as to contribute to ensure sustainable social, economic and environmental development for current and future Rwandan generations; -Land use and development planning shall help to minimize need for land, energy or other natural resources consumed by development. -It shall prioritize higher density, multi-family, residential settlements irrespective of whether they are located in an urban or rural area and shall prevent urban sprawl, maximize mixed zoning and integrate land uses like residential, commercial, civic and community and light industrial in settlement areas in which people live and work to minimize physical distances. <p><u>Land Use and Development Master Plan</u></p> <p>Article 4 sets out the Rwanda Land Use and Development Master Plan and requires in Article 6 that all plans related to land use and development, physical planning, sectoral planning and other plans shall be prepared based on the Rwanda Land Use and Development Master Plan.</p> <p>Further, article 15 requires that within 2 years after the enactment of this Law, each district, City of Kigali and similarly entrusted entity shall prepare and adopt a land use plan, which is coordinated with the National Land Use and Development Master Plan.</p>
<p>Relevant Innovative Provisions</p>	<p>Sustainable Land Use</p>
<p>Reference</p>	

Title	National Forestry Reform Law
Country	Liberia
Entry into Force	2006
Type of Instrument	Sectoral
Scope	National
Objective	To assure sustainable management of the Republic's Forest Land, Conservation of the Republic's Forest Resources, protection of the Republic's Environment, and sustainable development of the Republic's economy, with the participation of and for the benefit of all Liberians, and to contribute to poverty alleviation in the Nation.
Main Provisions	<p>In granting Forest Management Contracts and Timber Sale Contracts, the Authority shall follow the requirements of the Public Procurement and Concessions Act and other applicable laws.</p> <p>The Authority shall conduct an annual audit of the activities occurring pursuant to each Forest Management Contract, Timber Sale Contract, single Forest Use Permit, and Private Use Permit to ensure that the Holder is in compliance with this Law, its Regulations, and the terms of the license.</p> <p>The Authority shall, by Regulation or otherwise, undertake measures to institutionalize the participation of communities in forest management. Such measures may include, but are not limited to:</p> <ul style="list-style-type: none"> (i) Recognition and protection of community land tenure rights; (ii) Formulation of a code of conduct to govern relationships between Holders and communities; (iii) Requirement to complete a social agreement between Holders and communities that defines the parties' respective rights, roles, obligations, and benefits with respect to one another; (iv) Provision for security of access by communities to non-timber Forest Products and other Forest Resources; and (v) Provision of technical assistance to community foresters. <p>Urban Forestry: The Authority in collaboration with municipal authorities and estate holders, and in consonance with municipal ordinances, shall plant trees or encourage the planting of trees in municipalities for recreational, aesthetic, and pollution control purposes. No Person shall destroy, trim, prune, or fell a tree on public land in a municipality without written consent of the Authority.</p> <p>National Tree Planting Day: To inform the people of Liberia about their Environment and to galvanize awareness, support, and action in this respect, the second Friday in May of every year is "National Tree Planting Day," and the Authority may plan and execute programs befitting the day.</p> <p>To manage natural resources based on principles of Conservation, Community, and Commercial Forestry, and to ensure that local communities</p>

	<p>are fully engaged in the sustainable management of the forests of Liberia, the Authority shall by Regulation grant to local communities user and management rights, transfer to them control of forest use, and build their capacity for sustainable forest management.</p> <p>The Authority may, by Regulation establish fees of the following types: (i) Stumpage fees, which are fees associated with the harvest of Forest Resources, including fees based on the kind and amount of Forest Resources harvested. (ii) Forest Product fees, which are fees associated with the production, registration, transport, transfer of ownership, use, or export of Forest Products.</p>
Relevant Innovative Provisions	Competitive Bidding Environmental Audits
Reference	

Title	Loi no 99-30 du 5 Avril 1999 relative à l'Agriculture biologique
Country	Tunisia
Entry into Force	5th April 1999
Type of Instrument	Sectoral
Scope	National
Objective	.
Main Provisions	The Ministry of Agriculture and Hydraulic Resources is the lead ministry, responsible for the development, implementation and reform of organic agriculture legislation. It also chairs the National Commission of Organic Agriculture. Within the Ministry also sits the National Bureau of Organic Agriculture, responsible for developing and monitoring organic certification. It manages a database on organic certifiers, certificates, product traceability, crops, volumes, markets, and exports. Organic certification bodies must be registered and approved by the National Commission of Organic Agriculture, Ministry of Agriculture.
Relevant Innovative Instruments	Organic Agriculture
Reference	

Title	Water Supply and Sanitation Act 2009
Country	United Republic of Tanzania
Entry into force	12th May 2005
Type of Instrument	Sectoral
Scope	National
Objective	An Act to provide for sustainable management and adequate operation and transparent regulation of water supply and sanitation services with a view to give effect to the National Water Policy, 2002; to provide for the establishment of water supply and sanitation authorities as well as community owned water supply organizations; to provide for appointment of service providers, repeal of the Waterworks Act and to provide for related matters.
Main provisions	<p><u>Community-owned Water Supply Organization</u> Section 31(1) provides that a community owned water supply organization may be established by the agreement of the majority of the members of a community.</p> <p>Section 32 (2) A community organization established pursuant to subsection (1) shall be a corporate body for the purposes of this Act as may be prescribed in any law including-</p> <ul style="list-style-type: none"> (a) a Water Consumer Association; (b) a Water Trust; (c) a Cooperative Society; (d) a Non-government Organization; (e) a Company; or . (f) any other body as may be approved by the Minister. <p><u>Powers of a Community Water Association</u> Section 32 provides that a community organization established under section 31 shall subject to the terms of this Act, have the powers and functions in its area of jurisdiction to-</p> <ul style="list-style-type: none"> (a) own movable and immovable properties including public taps and waterworks; (b) manage, operate and maintain public taps and or waterworks and provide an adequate and safe supply of water to its consumers; (c) make rules for the use of public taps and or waterworks by consumers; (d) install water meters for the purpose of measuring the amount of water supplied to a public tap or a consumer; (e) charge consumers for the water supplied from public taps and or waterworks;

- (f) limit the access of any persons from the water source, public taps or from supplies from the waterworks who are not complying with the rules, regulations or the constitution of the community organization;
- (g) consult and cooperate with the village council or any other institution responsible for land to plan and control the use of land in the immediate vicinity of the water points and or waterworks; and
- (h) do such other thing or enter into any transaction which, in the opinion of the Board or Committee is necessary and proper in carrying out obligations under this Act.

Financial Provisions for Community Owned Water Supply Organizations

Section 36 states that the sources of funds for community owned water supply organizations shall be-

- (a) the water levies or water charges payable to it by each consumer using the water scheme;
- (b) any contributions by its members and financial support from the communities;
- (c) any moneys that may be payable by members under its constitution;
- (d) any moneys that the community organization may obtain with the approval of the Minister responsible for local government from donations, loans or other financial assistance;
- (e) any such sums as may be set aside by local government authority as a percentage of their revenue for community organizations on projects; and
- (f) any moneys that may be contributed by the respective local government authority to finance construction of new schemes, rehabilitation and expansion of existing schemes.

Section 37

- (1) Subject to subsection (3), local government authorities may give assistance to community organizations to enable them to discharge their functions under this Act;
- (2) The assistance may be in the form of grants, loans or subsidies necessary subject to such conditions as the Minister responsible for local government determines.
- (3) Prior to giving any financial assistance, the local government authorities must take into account all relevant considerations including-
 - (a) the need for equity;
 - (b) the need for transparency;
 - (c) the purpose of the financial assistance; and
 - (d) the financial position of the recipient.
- (4) Any community organization shall be required to meet the costs of operation and maintenance of its water supply system or systems from its own resources and make a contribution, in cash or kind, to its capital costs.

- (5) The community organizations requesting financial support shall be required to demonstrate-
- (a) ability to sustain water schemes; and
 - (b) willingness to pay a portion of the capital costs of the water schemes both in cash and in kind.

Duties of Local Government Authorities in respect of Community Organizations

Section 39 states that the district councils in the designated areas of their jurisdiction shall, in relation to water works executed by community organizations make payment for purposes of-

- (a) compensating all parties claiming interest in the land for all damage sustained by them as a consequences of execution, expansion or rehabilitation of waterworks carried out by or on behalf of the community organization through or on their land; and
- (b) meeting part of the costs incurred by community owned water supply organizations in the major rehabilitation and expansions of water schemes and payment for costs of service rendered.

Section 40 provides that the district councils shall cooperate with other local government authorities in exercising any of the following duties-

- (a) facilitating the acquisition by all water organizations developing water schemes of certificates of title prior to the commencement of the schemes;
- (b) mobilizing rural communities and provide technical and financial support in the implementation of water development programmes;
- (c) implementing defined regulatory roles and approve by-laws to protect water sources, community organization's and service providers;
- (d) mobilizing revenue for the purpose of supporting the development, operation and maintenance of water schemes in the district;
- (e) facilitating and encouraging the communities to construct, maintain and control of water points, and sanitation facilities in any household or within the community organization's area;
- (f) promoting efficient water use, pollution control and taking measures for the conservation and the protection of water sources, waterworks, streams, rivers, springs and other water sources within its area; and
- (g) promoting registration of community organization's in order to facilitate ownership of water schemes to them.

The National Water Investment Fund

Section 44.-

- (1) There is established a Fund which shall be known as the National Water Investment Fund.

	<p>(2) The objectives of the National Water Investment Fund shall be to provide investment support for water service provision, and the management of catchments areas serving water supply abstractions, in areas of Mainland Tanzania which are without adequate water services.</p> <p>(3) The sources of funding for the National Water Investment Fund shall consist of-</p> <ul style="list-style-type: none"> (a) such moneys as may be appropriated by Parliament for the purposes of the Fund; (b) such moneys as may be received by the Fund from donations, grants and bequests from whatever source; and (c) such other moneys as may, by or under any Act, be payable to the Fund. <p>(4) The Fund shall allocate loans on favorable terms to water authorities and community organizations.</p> <p>(5) The Minister shall make regulations prescribing procedures for the performance of the functions and the use of the funds for the operations of the Fund.</p>
Relevant Innovative Provisions	Community Water Associations(Poverty Eradication)
Reference	

6.1.2 ASIA-PACIFIC

Title	Clean Production Promotion Law (Amended in 2012)
Country	People's Republic of China
Entry into force	1 January 2003
Type of Instrument	Framework Law
Scope	National
Objective	<p>Promoting cleaner production, increasing the efficiency of the utilization rate of resources, reducing and avoiding the generation of pollutants, protecting and improving environments, ensuring the health of human beings and promoting the sustainable development of the economy and society.</p> <p><i>Cleaner production: the continuous application of measures for design improvement, utilization of clean energy and raw materials, the implementation of advanced processes, technologies and equipment, improvement of management and comprehensive utilization of resources to reduce pollution at source, enhance the rates of resource utilization efficiency,</i></p>

reduce or avoid pollution generation and discharge in the course of production, provision of services and product use, so as to decrease harm to the health of human beings and the environment.

Main provisions

This law primarily regulated the national and corporate obligations and responsibilities in the promotion of clean production.

National obligation: The Nation is committed to promoting and encouraging cleaner production.

- 1) The State Council and local governments should integrate the promotion of clean production into the national economic and social development plans, annual plans, resource utilization and environmental protection, industrial development and regional development planning.
- 2) The State Council Finance and taxation policies in favor of cleaner production should be developed. The Nation implementation deadline elimination system about outdated production technologies, processes, equipment and products which are unfriendly to the environment.
- 3) The Nation shall establish a system of Inducement Measures for cleaner production .For example, expenses incurred for cleaner production auditing and training may be booked as enterprise operating costs.

Corporate obligations are regulated in chapter 3, the Implementation of Cleaner Production, as follows:

- 1)Enterprises should package the products in a reasonable manner; Agricultural producers shall use chemical fertilizers, pesticides, agricultural films and feed additive compounds in accordance with scientific principles.
 - 2)Enterprises purveying services, such as restaurants, places of entertainment, hotels, etc., shall adopt measures for energy and water conservation and other environmentally-friendly technologies.
 - 3) Construction projects shall adopt the design options, construction and decoration materials, construction structures, fixtures and equipment resulting in energy and water conservation and other environmentally-friendly and resource-conserving construction planning options.
- Etc.

Legal responsibilities: administrative sanctions, administrative, civil and criminal liability.

Relevant innovative instruments

1) Incentives:

The Nation establishes *a system of commendation and reward* for cleaner production. The people's governments shall give commendations and rewards to those units and individuals that have made conspicuous achievements in the work of realizing cleaner production.

Funding from the Small- and Medium-Sized Enterprise Development Fund established in accordance with national regulations shall be set aside to support cleaner production for small- and medium-sized enterprises in accordance with

their needs.

With respect to products produced from wastes and materials reclaimed from wastes, the taxation authorities shall ***reduce or exempt these from Value-Added Tax*** in accordance with relevant national regulations.

Expenses incurred for cleaner production auditing and training ***may be booked as enterprise operating costs***.

2) financial support:

The central budget for capital investment in promoting cleaner production shall be strengthened, including special funds for cleaner production in the central budget and other funds for cleaner production in Central budgetary arrangements. The funds are used to identify the promotion of cleaner production and the research of engineering technology in key areas and key industries, as well as the implementation of cleaner production projects in ecologically fragile areas.

3) Compulsory cleaning production audit system:

Enterprises on the following conditions should implement a mandatory audit of clean production:

- i) the discharge of pollutants exceeding the national or local standards, or the total discharge of major pollutants control indicators;
- ii) exceeding the norm of energy consumption for per product standards and becoming a high energy consumption enterprise;
- iii) the use of toxic and hazardous raw materials for production or emission of toxic or harmful substances in the production.

Reference

Title	Circular Economic Promotion Law
Country	People's Republic of China
Entry into force	1 January 2009
Type of Instrument	Framework Law
Scope	National
Objective	Facilitating circular economy, raising resources utilization rate, protecting and improving environment and realizing sustained development. Circular economy: general term for the activities of decrement, recycling and resource recovery in production, circulation and consumption

Decrement: the reduction of the resource consumption and waste generation in production, circulation and consumption.

Recycling: the direct use of wastes as products, or the use of wastes as products after repair, renovation or reproduction of them, or the use of wastes, wholly or partly, as parts of other products.

Resource recovery: the direct use of wastes as raw material, or waste regeneration

Main provisions

The promotion of circular economy is an important strategy for the national economic and social development, and shall be adhered to comprehensive planning, reasonable layout, taking measures according to local conditions, emphasis on actual effects, government promotion, market orientation, enterprise implementation and public participation.

Institutional aspects: all levels of the administration are responsible for promoting circular economy.

Mainstreaming into national policies: Industrial policies formulated by the State shall meet the requirements for promoting circular economy.

Private Sector: Enterprises and institutions shall establish a sound management system and take measures to reduce resource consumption and the generation and discharge of wastes, and improve their recycling and resource recovery level.

Education, Access to Information and public participation: Citizens shall have a better sense of resource saving and environmental protection, consume reasonably and save resources. The State encourages and guides citizens to use products and recycle products featured by energy saving, water saving, material saving and environmental protection, and reduce the generation and discharge of wastes.

The State encourages and supports trade associations to exert functions as technical guidance and services in promoting circular economy, and intermediary institutions, academies and other social organizations to conduct the publicity, technical promotion and consulting services concerning circular economy, so as to facilitate circular economy.

Basic Administrative System: National circular economy development plan approved by the State Council, including objectives, applicable scopes, main contents, major tasks and safeguard measures, as well as indexes for the rates of resource production, recycle and resource recovery, etc.

Mandatory recovery: An enterprise which produces products or packing materials under the catalogue of mandatory recovery shall recover its waste products or packing materials, recycle those waste articles if possible, or make bio-safety disposals if those waste articles cannot be reused due to economic or technical restrictions.

Monitoring: The State shall establish a sound circular economy statistics system, strengthen statistical administration of resource consumption, comprehensive utilization and waste generation, and disclose major statistical indicators to the public regularly.

Decrement: Any entity or individual engaging in the design of process,

equipment product and packing material shall, in accordance with the requirements for reducing resource consumption and waste generation, make a prior choose of materials that are easy to recovery, dismounting and degradation and nontoxic and harmless or with low toxic or harm and design plans using the said materials, and shall comply with the mandatory requirements of relevant national standards.

It contains specific provisions on electric and electronic products, toxic and harmful substances, product packing standard to avoid wasting resources and polluting environment due to over-packing, water-saving management, oil-saving products, exploitation of mineral resource, architecture design, building and construction, agriculture,

Recycling and Resource Recovery: plan of the regional economic layout, reasonably regulate the industrial structure, promote the cooperation of enterprises on the comprehensive use of resources, and realize the high efficient use and cycle use resources. Enterprises shall use advanced technologies, processes and equipment to recycle waste water generated in production.

Tax preferences: where any enterprise uses or produce any technology, process, equipment or product under the catalogue in which the clean production and resource comprehensive utilization are encouraged by the State, it may share tax preferences in accordance with relevant provisions of the State.

Etc.

Relevant innovative instruments

1) Access to Information and Public participation:

The promotion of circular economy is an important strategy for the national economic and social development, and shall be adhered to and public participation.

2) Incentives

The State Council and the people's governments of provinces, autonomous regions and municipalities directly under the Central Government shall set up relevant special funds for developing circular economy to support scientific and technological research and development regarding circular economy, demonstration and promotion of technologies and products regarding circular economy, implementation of major circular economic projects and information services for developing circular economy.

Any entity that uses fiscal capital to introduce main technologies and equipment relevant to circular economy shall make a plan for digestion, absorption and innovation, submit the plan to competent departments for approval and implement it under the supervision of such departments. Competent departments shall establish a coordination system according to actual needs to make a comprehensive coordination of the introduction, digestion, absorption and innovation of such main technologies and equipment and give a financial support.

The state shall give tax preferences for industrial activities conducive to promoting circular economy, and encourage the import of technologies, equipment and products that may save energy, water and materials through

measures including taxation, and restrict export of products with high energy-consumption and heavy pollution during production. Specific measures shall be formulated by the administrations of finance and taxation under the State Council.

Where any project meets national industrial policies that may save energy, water, land and materials and use resources comprehensively, financial institutions shall give them credit support such as preferential loans and provide relevant financial services actively.

The state shall implement a price policy conducive to resource conservation and reasonable utilization and guide entities and individuals to save and reasonably use water, power, gas and other resource products.

The state shall implement a government procurement policy conducive to developing circular economy. Where any procurement uses fiscal capital, products and reproduced products that may save energy, water and materials and be conducive to environment protection shall be purchased preferentially. The people's governments at or above county level and their relevant departments shall commend and reward entities and individuals that make outstanding contributions to circular economic management, scientific and technological research as well as product development, demonstration and promotion.

Etc.

Reference

Title	Act on Preservation and Control of Living Marine Resources
Country	Japan
Entry into force	14 June 1996 (Amended in 2007)
Type of Instrument	Sectoral Law
Scope	National
Objective	Article 1 The purpose of this Act shall be to preserve and control the living marine resources in Japan's exclusive economic zone, etc. in coordination with the measures, etc. taken under the Fishery Act (Act No. 267 of 1949) and the Marine Resources Protection Act (Act No. 313 of 1951), as well as to ensure the appropriate implementation of the United Nations Convention on the Law of the Sea, for thereby contributing to the development of fisheries and the stable supply of aquatic products, by establishing a plan for the preservation and control of living marine resources in Japan's Exclusive Economic Zone, etc. and by taking the required measures to control the fish catch and the fishing effort.
Main provisions	Article 3 (1) The Minister of Agriculture, Forestry and Fisheries shall establish a basic plan on the preservation and control of living marine resources (hereinafter referred to as "the Basic Plan") for preserving and controlling

	<p>living marine resources in the exclusive economic zone, etc.</p> <p>Article 4 (1) The governor of each prefecture shall formulate a Prefectural Plan..... in conformity with the Basic Plan</p> <p>Article 5 (Preservation and Control of Designated Living Marine Resources)</p> <p>Article 7 to 9 provides the measures for achieving the Basic Plan.</p> <p>Article 10 and 11 authorizes the Minister of Agriculture, Forestry and Fisheries and governor of any prefecture to issue necessary suspension order to persons carrying out the quantity of gathering or catching subject to quantity control by the Minister has exceeded or is very likely to exceeded, or the governor can make allotment of gathering or catching limits set by the Minister or quantity control set by the governor.</p> <p>Article 12 authorizes the Minister of Agriculture, Forestry and Fisheries to order the person carrying out the gathering or catching that is in violation of the catching limit to anchor the ship, and may specify the port and the period for anchorage.</p>
Relevant innovative instruments	The act authorizes the Minister of Agriculture, Forestry and Fisheries to establish a basic plan to set the catching limit and control the performance of gathering and catching of marine resources, which promotes the sustainable consumption and production of the fishery in Japan.
Reference	

Title	Basic Act on Biodiversity
Country	Japan
Entry into force	6 June 2008
Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Act is to set fundamental principles for conservation and sustainable use of biodiversity in line with the basic principle of the Environment Basic Act (1993), to clarify the responsibility of the government,

local governments, businesses, citizens and private bodies, and to promote policies for conservation and sustainable use of biodiversity in a comprehensive and planned manner by developing the National Biodiversity Strategy and prescribing other matters that serve as a basis of policies for conservation and sustainable use of biodiversity, thereby conserving rich biodiversity, and to aim at realizing a society in coexistence with nature where human beings can continue enjoying benefits therefrom in the future and to contribute to conserving the global environment.

Main provisions

Chapter I General Provisions:

Article 3: (Fundamental Principles)

(1) Conservation of biodiversity shall be carried out for the purpose of ensuring that conservation of endangered wildlife species, etc. is aimed at and that the diversified natural environment is conserved according to the natural and social conditions of the region, taking into consideration that maintenance of sound and bountiful nature is indispensable for conservation of biodiversity.

(2) Use of biodiversity shall be carried out for the purpose of using national land and natural resources by a sustainable method to ensure that impacts on biodiversity are avoided or minimized, taking into consideration that biodiversity has been damaged along with changes in socioeconomic activities and that use of natural resources is likely to have an impact on biodiversity in Japan and abroad.

(3) Conservation and sustainable use of biodiversity shall be carried out for the purpose of making responses by a preventive method in which biodiversity is conserved while endeavoring to enrich scientific knowledge and by an adaptive method in which the state of biodiversity is monitored even after project, etc. is started, scientific evaluations are made on the monitoring results and the evaluation results are reflected on said project, etc., taking into consideration that biodiversity is based on a subtle balance and involves many phenomena that have yet to be scientifically explained and that it is difficult to regenerate biodiversity once it is damaged.

(4) Conservation and sustainable use of biodiversity shall be carried out for the purpose of endeavoring for conservation and regeneration of ecosystems, etc. from a long-term standpoint, taking into consideration that biodiversity continuously brings many benefits over the long term.

(5) Conservation and sustainable use of biodiversity shall be carried out based on the understanding that global warming is likely to have a serious impact on biodiversity and that conservation and sustainable use of biodiversity contributes to prevention of global warming, etc.

Article 4 to 7 provide the responsibilities of the government, business, citizens, and private bodies

Article 9: (Considerations to Organic Coordination of Policies)

When implementing policies for conservation and sustainable use of

biodiversity, necessary considerations shall be given so as to ensure the mutual organic coordination of prevention of global warming, creation of a sound material-cycle society and other policies for conservation of the environment, taking into consideration matters such as that global warming is likely to have a serious impact on biodiversity.

Chapter II Biodiversity Strategy:

Article 11 to 13 illustrate the Formulation and the items of the National Biodiversity Strategy, and the relationship between the National Biodiversity Strategy and other national plans; The National Biodiversity Strategy shall be formulated based on the Basic Environment Plan; national plans other than the Basic Environment Plan and the National Biodiversity Strategy shall be based on the National Biodiversity Strategy with regard to conservation and sustainable use of biodiversity.

Chapter III Basic Policies:

Section 1 Policies of the National Government:

Article 14 to 26 provide instrumental policies and measures for the national government to secure the conservation of biodiversity, including:

- Establishing mechanism to conserve regions that are found to be important in terms of conservation of biodiversity
- Taking measures to prevent damages by alien species
- Promoting appropriate use of national land, natural resources, and biological resources
- Promoting biodiversity-friendly business activities and policies that contributes to prevention of global warming
- Promoting technology and public understanding
- Promoting environmental impact assessment pertaining to biodiversity at the stage of planning project plan

Section 2 Policies of Local Governments:

Article 27 requires the local government shall implement policies pursuant to the previous sections and other policies for conservation and sustainable use of biodiversity according to the natural and social conditions of their areas, aiming at comprehensive and planned promotion of these policies.

Relevant innovative instruments

As a basic law regarding the conservation of biodiversity, this act establishes the fundamental principles to secure biodiversity. At the same time, the Act also requires the use of environmental impact assessment pertaining to biodiversity at the stage of planning project plan to reduce potential

environmental risk.

The Act combines the conservation of biodiversity with the prevention of global warming by means of conserving wetland, grassland, etc. which absorb and fix much carbon dioxide.

Title	Law on Water Resources Management of the Kingdom of Cambodia
Country	Cambodia
Entry into force	29 June 2007
Type of Instrument	Legislation
Scope	National
Objective	This Law provides for rights and obligations of water users, for fundamental principles of water resources management and for the sustainable development of water resources.
Main provisions	This Law provides for rights and obligations of water users, for fundamental principles of water resources management and for the sustainable development of water resources. The Ministry of Water Resources and Meteorology (MOWRAM) shall be responsible for managing and supervising the implementation of this Law, and shall develop the policy on the water resources management, conservation and development. The Law specifies functions and duties of the Ministry which shall include: keep a centralized inventory of the water resources of the Kingdom of Cambodia; prepare a national water resources plan; manage river basins, groundwater, aquifers, etc.; and grant water use licenses. Licenses shall be granted for the following purposes: diversion, abstraction and use of water resources other than for vital human need; extraction of sand, soil, gravel, etc. from the beds and banks of watercourses, lakes, canals and reservoirs; utilization of groundwater and aquifers for commercial purposes; and discharge, disposal or deposit of polluting substances. The Ministry shall further create Farmers' Water User Communities in order to ensure an effective and sustainable management and operation of the irrigation system. The remaining part of the Law contains provisions on flood retention areas, international rivers, servitudes and on incentives and penalties.
Relevant innovative instruments	Keep a centralized inventory of the water resources Create Farmers' Water User Communities
References	

Title	Fisheries Order, 2009
Country	Brunei Darussalam
Entry into force	30 May 2009

Type of Instrument	Sectoral
Scope	National
Objective	Provides for the management and conservation of fisheries resources in Brunei Darussalam
Main provisions	This Order provides for the management and conservation of fisheries resources in Brunei Darussalam. A Director of Fisheries and a Deputy Director of Fisheries shall be appointed to carry out the provisions of this Order. The Director has to prepare fisheries plans designed to ensure the optimum utilization of fishery resources. The Order sets out requirements for the application of licenses. Licenses are required in order to: operate or possess fishing appliances; operate or establish marine culture systems; use fishing vessels; hold or organize sports fishing events; using foreign fishing vessels for fishing; etc. Conditions, validity and cancellation of licenses are provided for in the text. In addition, the Order provides for the establishment of lobster fishing areas, marine reserves and marine parks and for restrictions related to these areas. The Order further provides for: development and management of inland fisheries; offences and penalties; powers of enforcement officers; jurisdiction and evidence; etc.
Relevant innovative instruments	Director of Fisheries Fishing Licenses Marine reserves and marine parks Etc.
References	http://www.ecolex.org/ecolex/ledge/view/RecordDetails;DIDPFDSIjsessionid=C30B9BA87372938A8E4805829AF2234B?id=LEX-FAOC082947&index=documents

Title	Decree Regulating the Exploitation and Conservation of Living Aquatic Resources
Country	Saudi Arabia
Entry into force	This Decree shall be effective on the date of its publication in the official Gazette.
Type of Instrument	Sectoral Law
Scope	national
Objective	Protect the living aquatic resources.
Main provisions	1. Management: 1) the Ministry of Agriculture and Water: regulate ,develop, provide their rational management and promote their activities; specify the marine zones suitable for fish culture schemes, etc. 2) in each fishing zone there shall be a head of fishermen who shall be elected, and his powers and stipend shall be determined by the Minister of Agriculture

	<p>and Water.</p> <p>3) a local committee: examine any dispute</p> <p>2. Conservation of Living Aquatic Resources:</p> <p>1) Export of living aquatic products fished in the territorial waters shall not be permitted without previous approval of the Ministry of Commerce.</p> <p>2) The companies and institutions engaged in fishing extracting, processing or marketing living aquatic products should maintain books to record their production according to their weight, species and quantities exported or marketed in the Kingdom, and they should furnish the Ministry of Agriculture and water and the Ministry of Commerce with copy of these particulars, and municipalities should secure the necessary scale.</p> <p>3. Offences and penalties</p>
Relevant innovative instruments	<p>1. <u>a head of fishermen:</u> In each fishing zone there shall be a head of fishermen who shall be elected, and his powers and stipend shall be determined by the Minister of Agriculture and Water.</p> <p>2. <u>record system:</u> The companies and institutions engaged in fishing extracting, processing or marketing living aquatic products should maintain books to record their production according to their weight, species and quantities exported or marketed in the Kingdom, and they should furnish the Ministry of Agriculture and water and the Ministry of Commerce with copy of these particulars, and municipalities should secure the necessary scale.</p>
Reference	

Title	Water Code of the Republic of Tajikistan
Country	Tajikistan
Entry into force	The law enters into force from the date of its official publication.
Type of Instrument	Sectoral Law
Scope	National
Objective	The Purpose of the Water Code of the Republic of Tajikistan is aimed at regulating water relations in order to ensure rational use of water for the needs of the population, branches of economy and the natural environment, protection of water from pollution, damage and exhaustion, preventing and

liquidating adverse impact of water, improvement of condition and protection of water bodies, strengthening of lawfulness and protecting the rights of individuals and legal entities in the field of water relations.

Main provisions

The Law consists of V Sections, containing 24 Chapters that comprehend 146 Articles. Water resources represent the totality of groundwater and surface water. Water is the exclusive property of the state. Water use shall be classified as general water use that is carried out without waterworks and technical equipment that can have impact on the state of water and special water use that is carried out with the utilization of waterworks and technical equipment. Special water use is charged. Section I lays down the general provisions; it consists of 3 Chapters. Chapter I lays down the general provisions. Chapter II regards distribution, designing, construction and putting into operation factories, constructions and other objectives that can have impact on the state of water. Chapter 3 regards execution of work at water objectives and water conservation zones, modalities of execution of work at water basins and water conservation zones. Chapter 4 classifies the types of water use. It deals with general and special water use. Chapter 5 concerns water users and the objects of water use. Chapter 6 determines the modalities and conditions of the concession of bodies of water for use. Chapter 7 determines the rights and the duties of water users and water management bodies. Chapter 8 regards cessation of the rights of water use. Chapter 9 deals with use of bodies of water for drinking, domestic and other needs of the population. Chapter 10 regards use of bodies of water for care of health, recreational and sanitary purposes. Chapter 11 regards use of bodies of water for agriculture. Chapter 12 deals with industrial and hydroelectric purposes. Chapter 13 regards use of bodies of water for the needs of water and air transport. Chapter 14 regards use of the bodies of water for fisheries. Chapter 15 regards use of bodies of water for hunting. Chapter 16 regards the use of bodies of water for the needs of protected areas. Chapter 17 regards use of bodies of water for waste water discharge. Chapter 18 regards water use for fire-prevention and liquidation of emergency and other similar situations. Chapter 19 regards running water reservoirs. Chapter 20 deals with water dispute settlement. Section III regards water protection and prevention of its hazardous impact. Chapter 21 regards water protections. Chapter 22 regards prevention and liquidation of hazardous impact of water. Section IV regards state control, registration and planning of water use. Chapter 23 regards state control, registration and planning of water use. Section V establishes liability for the infringement of water legislation. Chapter 24 establishes liability for the infringement of water legislation.

Relevant innovative instruments	<p>WATER USE PLANNING</p> <p>Water use planning shall have to provide scientifically justified distribution of water between water users taking into account primary satisfaction of drinking and social needs of the population, water protection and prevention of their harmful influence.</p> <p>While planning water use state water cadastre data, water balances, schemes of complex use and protection water, as well as limits on water taking from the state water fund sources shall be used.</p> <p>STATE WATER CADASTRE</p> <p>The state water cadastre of the Republic of Tajikistan shall be an aggregate of systematized official data on the condition, use and protection of water bodies. Conducting of the State water cadaster shall be executed by special authorized state agencies.</p> <p>WATER BALANCES</p> <p>Water balances, which statistically evaluate the availability and degree of water use, shall be made for rivers, large canals, economic districts and regions of the Republic of Tajikistan.</p> <p>SCHEMES OF COMPLEX USE AND WATER USE</p> <p>General and pool schemes of complex use and protection of water shall identify main water and other measures subject to implementation for satisfaction of perspective water demand of population and economics of the government, as well as water protection and prevention from harmful influence.</p>
Reference	

6.1.3 LATIN AMERICA AND THE CARIBBEAN

Title	General Legislation N° 217 on the Environment and Natural Resources
Country	Nicaragua
Became	

Effective	6 th June 1996
Type of Instrument	Law
Scope	National
Objective	<p>Establish integrated standards for the conservation, protection, improvement and restoration of the environment and natural resources which ensure the rational and sustainable use of the same, in accordance to what is stated in the Constitution.</p> <p>Article 3.- Particular objectives of this Act:</p> <ol style="list-style-type: none"> 1) Prevention, regulation and control of any of the causes or activities that create environmental degradation and contaminate ecosystems. 2) Establish means, ways and opportunities for the rational exploitation of the natural resources within a national plan based on sustainable development, equity and social justice and taking into account the country's cultural diversity and respecting the rights of our autonomous regions of the Atlantic Coast and the municipal governments. 3) Correct use of the physical space through land use planning that considers the protection of the environment and natural resources as the basis for developing human activities. 4) Strengthen the national system of protected areas, to guarantee biodiversity and other resources. 5) Guarantee the use and rational management of watersheds and water systems, thus ensuring the sustainability of the same. 6) Stimulate and promote environmental education as a means of encouraging a society in harmony with nature. 7) Promote a healthy environment which best contributes to the promotion of health and prevention of disease in the Nicaraguan people. (...)
Main Forecasts	<p>The right to property has a social environmental function which conditions and limits its absolute, abusive and arbitrary exercise, in conformity with the provisions of this Act and special current environmental laws or those to be sanctioned in the future.</p> <p>The freedom of the inhabitants in the realm of the economic and social activities is limited and constrained by social interest in conformity with the provisions of the Constitution, the current Act and special environmental laws in force or those to be enacted in the future.</p> <p>Principles: 1) The balance of ecosystems depends on the life and the productive possibilities of the country. 7) The exploitation of natural renewable resources needs to be undertaken in a way that ensures the maintenance of its biodiversity and</p>

renewability. 8) Optimal exploitation of the natural non renewable resources prevents the generation of adverse ecological effects.

Article 39. – The state will establish and implement a policy of economic benefits and incentives aimed at those who contribute through their investment in the protection, improvement and restoration of the environment.

Article 40. – The State shall guarantee facilities to companies that once depleted feasible and viable options and alternatives to solve pollution and its effect on health and raise concern for public security, should be relocated elsewhere to less risky areas.

Article 41. – Natural or legal persons engaged in research development and environmental conservation activities, should have a reduction as expenses, on income tax, all the amounts invested for this purpose, upon certification by the Ministry of Environment and Natural Resources in consultation with the ministry of finance.

In the case of indigenous peoples and ethnic communities contributing genetic resources, the state shall ensure that the use of such shall be granted under certain conditions determined in consultation with them.

**Relevant
Innovative
Instruments**

Economic incentive and benefits for investment which have environmental protection actions.

Certification of environmental research and conservation, for later deduction of tax income.

Privileges for indigenous communities which contribute energy resources

Reference

www.planetaverde.org.ar/legislacion.php

Title

Legislation 20.283 Native Forest Recovery and Forest Development

Country

Chile

**Became
Effective**

30th July 2008

**Type of
Instrument**

Law

Scope	National
Objective	This law aims at the protection, recovery, and improvement of native forests, in order to ensure forest sustainability and environmental policy.
Main Forecasts	<p>The corporation will maintain a permanent forest land, in which it will identify and establish, at least cartographically forest types in each region of the country, their state and areas where ecosystems exist with presence of native forests of special interest for conservation and preservation. (Art. 4)</p> <p>All activities in native forests, regardless of the type of land on which it is located, shall be undertaken with a prior approved management plan by the Corporation. (Art.5)</p> <p>The forest management plan provisions of article 5 will require besides, for all cuts of native forests conservation and protection, an established technical justification for harvesting methods to be used as well as measures to be adopted with the objective of protecting soils, the quality and quantity of flow of watercourses and the conservation of biodiversity and measures to prevent and combat forest fires. (Art.16)</p> <p>Ban the cutting, removal, destruction or individuals grabbing of native classified plant species, (...) in the categories of “endangered”, “vulnerable”, “rare”, “insufficiently known” or “out of danger”, forming part of a native forest, as well as alteration of its habitat. (Art. 19)</p> <p>There will be a competitive fund for the conservation, restoration and sustainable management of native forests, (...) through which a bonus will be awarded to contribute toward settling the cost of the activities included in each of the following subparagraphs: a) Activities that promote the regeneration, recovery or protection of xerophytic formations of high ecological value or preservation of native forests, with the aim of maintaining biological diversity, with exception to those belonging to the National System of Protected Areas of the State. This bonus will reach up to 5 monthly tax units per hectare, b) forestry activities aimed at obtaining non wood products. This bonus will reach up to 5 monthly tax units per hectare, c) forest activities designed to manage and restore native forests for timber production. This bonus will reach up to 10 monthly tax units per hectare. (Art.22)</p> <p>The resources from the Fund will be allocated through two competitions, one of which shall be used exclusively for small forest owners. (Art.25)</p> <p>The Budget Act will take into account an annual research fund for native forests, whose purpose is to promote and increase knowledge in matters relating to native</p>

	forest ecosystems, their management, preservation, protection, enhancement and recovery. (Art. 42)
Relevant Innovative Instruments	<p>Granting subsidies for forestry activities that incorporate sustainable variables in the use of natural resources with special reference to small scale producers.</p> <p>Determine the specific allocation of funds for research related to the preservation, enhancement, restoration and the management of native forests.</p> <p>Creation of national cartographic registries of native forests and the establishment of approved management plans prior to the execution of any lumbering task or sustainable use of forests.</p>
Reference	www.planetaverde.org.ar/legislacion.php

Title	Resolution N° 160/2011. Regulations for the Control and the Protection of Species of Special Importance for Biological Diversity in the Country
Country	Cuba
Became Effective	28 th September 2011
Type of Instrument	Resolution on Minerals
Scope	National
Objective	<p>Identify the species with special significance for national biodiversity (...)</p> <p>Control the sustainable use of wild life species of flora and fauna with special significance for the country, as well as the exportation of these by any means (...)</p>
Main Forecasts	The control of the uses, as well as the conservation and management activities of the species earmarked under this regulation will be carried out by granting an environmental license. (...). (Art. 19)

The hunting, capture, collection, breeding, rearing, harvesting, transport, trade and any other use, or any other management activity or use of the species of special significance, their parts and derivatives are subject to control, by first obtaining an environmental license. (Art. 20)

In order to issue environmental permits in accordance to this resolution, the responsible authority will consider:

- a) The existence of scientific information, expert criteria, which will demonstrate that the requested use does not endanger the survival of the species and the functionality of the ecosystems.
- b) The existence of previous opinions of scientific authority, that allow for the establishment of the rates non detrimental to wildlife species, or quota systems and other conditions for the authorization of the use of species listed in the only Annex of Species of the current resolution.
- c) Those that demonstrate that the intended purposes of use benefit (or generate incentives) for taxation in one way or another, for the conservation of the species.
- d) That has shown in appropriate cases, the legal origin of the specimens. (Art.21)

**Relevant
Innovative
Instruments**

Environmental licensing following an analysis considering the criteria for sustainability and rational use of activities.

Compliance with international instruments in the same body of law.

Flexible Upgrade Procedure.

Reference www.planetaverde.org.ar/legislacion.php

Title	Legislation on the Conservation and Sustainable Use of Biodiversity
Country	Nicaragua
Became Effective	2012
Type of Instrument	Law
Scope	National

Objective

Regulate the conservation and sustainable use of biological diversity in the country, ensuring a fair and equitable distribution of benefits accruing from the use of the same with special attention to indigenous communities, as well as the respect and recognition of the rights to intellectual property, traditional and customary forms of use of the local communities.

Specifically:

1. Regulate the conservation, preservation, recovery and regeneration of biological, domestic and wildlife diversity, considering the species, breeds, and traditional local varieties,
2. Establish mechanisms for the sustainable use of the components of biological diversity,
3. Establish the guidelines for access and use of genetic resources
4. Promote fair and just sharing of benefits derived from biological diversity use.
5. Encourage and prioritize research programmes of ecosystems, species, breeds and local Creole or creolized varieties.

**Main
Forecasts**

Meritorious Principle: The elements for bio diversity are merit goods because of their decisive and strategic importance for the development of the country and are essential for domestic, economic, social, cultural and aesthetic use of its inhabitants.

These are tools for managing biodiversity and traditional knowledge and practices, set of policies, guidelines, technical and legal standards, activities, programmes, projects and institutions that allow the application of the general principles for the conservation and sustainable use of biodiversity and the achievement of sustainable development and environmental objectives for the country, among which are the following: 1. Planning; 2. Information subsystem; 3. Environmental Permit for operating; 4. Promotion of incentives; 5. An Account for Biological Diversity of the National Environmental Fund. (Art. 16)

The conservation of biodiversity in its natural conditions and the environmental services accruing from these will have compensatory duties to natural or legal persons, public and private entities. (...) (Art. 27)

An account for Biological Diversity will be created to form part of the National Environmental Fund with the aim of financing plans, programmes, strategies and necessary projects to achieve the objectives. (...) (Art. 29)

In granting authorization, the competent authority will take into account the provisions of other related legislations for the preservation and maintenance of knowledge, innovations and practices of indigenous peoples, indigenous communities, ethnic groups and local communities embodying traditional ways of

life for the conservation and sustainable use of biodiversity. (Art. 42)

The competent authority will establish a National System of Licenses and Permits for access and use of genetic resources for biodiversity, its components and derivatives with their respective values. (Art. 56)

Any bio-prospecting activity and access to genetic resources of biodiversity undertaken in the country require the submission of an application and approval of a license or permit besides signing a contract, registration and publication by the applicant of the relevant resolution. (Art. 57)

The knowledge, innovations and practices of men and women from indigenous peoples; local ethnic communities associated with biodiversity are a cultural heritage of the same. These may only be used with prior consent in each case with the relevant authority with powers to grant them, in accordance with the provisions of this Act. (Art.82)

The state will establish the necessary coordination with the private sector in order to facilitate access to technology, joint development and transfer in favour of the implementation of this current Act. (Art. 89)

Relevant Innovative Instruments

Sustainable use of biodiversity resources.

Protection of traditional knowledge

Incentives for research

Specific budget allocations to achieve the purposes of this law.

Reference

www.planetaverde.org.ar/legislacion.php

Title

Legislative Decree N° 1100 Regulates the Interdiction of Illegal Mining in the Republic and Establishes Complementary Measures

Country

Peru

Became Effective

19th February 2012

Type of Instrument

Legislative Decree

Scope	National
Objective	<p>Interdiction of illegal mining; That it is necessary to take immediate action to correct this situation that collaterally impacts other economic activities and livelihoods, as well as in soils and water ways, with the aim of safeguarding the general interest; as well as adapt to the legal framework of the current policy regulating mining activities to effect these measures.</p> <p>The ban refers to specific actions for identifying, suppressing, prohibiting or immediately vetoing in practice and in the context of this norm and thus implies performing the following actions:</p> <p>Identification of illegal miners by the Ministry of Energy, Mines and Hydrocarbons and by the regional governments.</p> <p>Confiscation of property, machinery, equipment and prohibited supplies, as well as prohibit the undertaking of illegal activities in accordance to the legislative decree. Those conducting these activities will be liable to the state with the aim of formulating a penal complaint and applying legislative Decree No. 1102. In this way, they will incorporate illegal mining offenses in the penal code.</p> <p>Destruction or demolition of property, machines or equipment cited in Article 5 which by their characteristics or situation are not feasible for confiscation.</p>
Main Forecasts	<p>Article 1. Important to Declare of public necessity, national interest and priority implementation, the actions of interdiction relating to illegal mining, aimed at guaranteeing the health of the population, safety of the people, conservation of the natural heritage and fragile ecosystems, tax collection and development of sustainable economic activities.</p> <p>In this same way, it states that the state shall promote the organization and formalization with inclusion of small scale mining.</p> <p>Article 8. Statement from the Ministry of Women and Vulnerable Populations. In cases where as a consequence of the interdiction actions carried out in the identified areas, they identify victims for human trafficking, child and forced labour, the representative of the Public Ministry will immediately send the respective communication to the Ministry of Women and Vulnerable Populations, to the effect of undertaking the relevant actions for its attention and recovery.</p> <p>Article 11. Activities of the State for environmental remediation. The state will promote the participation of state-owned enterprise Mining Assets S.A.C. to remediate environmental mining liabilities caused by illegal mining activities. SAC Mining Assets may also participate in the remediation of the liabilities referred to in</p>

Article 20 of the Regulations of Liabilities for Environmental Mining Activities, approved by the Supreme Decree No. 059-2005-EM, as amended, assuming, as appropriate, the right of recourse referred to in Article 22 of the same regulation. To this effect, constitute an Environmental Remediation Fund by SAC Mining Assets.

The law is also clear and prohibits the use of dredges and other artefacts and similar equipment for all water streams, rivers, lakes, water bodies, wetlands and marshes. As well as prohibit goods, machinery, equipment and supplies used for the development of illegal mining. Additionally, it is important to note that according to the typology of illegal mining crimes, in an aggravated form considers anyone using dredges and similar equipment, and therefore these are prohibited in the development of mining activities (article 5 of the Legislative Decree No 1100 and article 307-B, as extreme forms in the Legislative Decree 1102)

Relevant Innovative Instruments

It is important to note that this law has its antecedent in the Emergency Decree No. 012-2010 which declared of national interest, the regulation of mining in the department of Madre de Dios, issued in February 2010 and subsequently extended by Emergency Decree No. 004-2011 and modified by Emergency Decree 007-2011, which was later permanently replaced with Legislative Decree 1100, this emergency decree, facilitated the creation of what today is by virtue the legislative decrees figure for interdiction of illegal mining.

Sustainable use of natural resources

Acknowledgement of the importance of small scale mining in relation to local development of communities in a state of vulnerability

Ban on areas where small scale or artisan mining can take place and also ban certain machinery or appliances for the development of alluvial mining.

Reference <http://www.planetaverde.org.ar/legislacion.php>

Title	Legislation N° 8591 Development, Advancement and Promotion of Organic Farming
Country	Costa Rica
Became Effective	14 th August 2007
Type of Instrument	Law

Scope	National
Objective	<p>Ensure compliance with the objectives of development, promotion, training and management of organic farming activities, strengthen the mechanisms for control and promotion of products derived from organic farming and ensure the competitiveness and profitability of these products.</p> <p>Regulation, development, promotion and training in organic farming activities. Should be taken as a priority for special benefit to micro, small and medium scale producers and their families, promotion of gender equality, respect for cultural diversity and the adequate distribution of wealth, as well as the protection of the of the environment and the health of all human beings.</p>
Main Forecasts	<p>Streamlining of procedures relating to the development of productive and industrial processes and public administration institutions through their various specialized agencies, generate the opening to develop institutional and industrial production processes in accordance with the conditions, dimensions and benefits for organic farming, in order to comply with the regulations related to healthcare and the environment. (Art. 7)</p> <p>Educational processes in organic farming. The State through the Ministry of Public Education, MAG and the Ministry of Energy and Environment, will develop training programmes, comprehensive education and training which promotes knowledge and organic farming practices. (Art.11)</p> <p>Support experimental farmers and agricultural organizations. Individuals or organizations involved in agricultural activities, as well as experimental organic farmers, will have the support of the state to undertake applied research in organic farming. Priority will be given to applied research to solve problems in regional strategic planning processes, from the reality of the production systems that manage experimental farmers or organizations. (Art. 12)</p> <p>Participatory certification of organic products. The organic producer will decide on whether to certify their products for domestic consumption. If the product is to be commercialized in international markets, it is an essential requirement for third party certification under the terms of this Act. (...)</p> <p>Scheme for agricultural environmental benefits. The state recognizes organic farming as a provider of environmental services and, therefore subject to payment under this concept.</p> <p>The MAG, through the National Agricultural Extension Programme for Promoting Sustainable Agricultural Production for the Recognition of Agricultural Environmental Benefits, establishes mechanisms for such awards, which will</p>

primarily be aimed at individuals and organizations of persons defined as micro, small and medium organic farmers. With the aim of financing studies that provide the basis for economic recognition of environmental benefits in the organic farming sector, the MAG will use the resources provided for by this Act, as well as those available through the Training Programme for Sustainable Development of Agriculture.

Access to native seeds. The state through the authorities will promote, encourage and protect the right of individuals and farmers organizations to access, use, exchange, multiplication and preservation of native seeds, in order to preserve the genetic heritage of the Creole to benefit present and future generations of organic farmers and producers. The MAG shall ensure compliance with this provision in respect to the Convention on Biological Diversity, adopted by (...)

Ban the production; use and testing of genetically modified organisms GMOs in organic farming.

Promotion in international markets. The Foreign Trade Cooperation of Costa Rica (*Procomer*) will design a specific programme to promote national organic agricultural production in international markets, specifically geared toward micro, small and medium scale organic producers and GPO. This programme will focus on among other things, to promote the securing on part of the producers, incorporating prices, equitable retribution, social and environmental benefits of this type of production (...)

Relevant Innovative Instruments	<p>Recognition of organic farming as a provider of organic services.</p> <p>Promotion, training and tax exemption for organic agricultural production.</p> <p>Special protection of traditional knowledge and the Creole genetic heritage.</p> <p>Prohibition of the use of Genetically Modified Organisms.</p>
Reference	http://www.planetaverde.org.ar/legislacion.php
Title	General Legislation N° 620 on Waters
Country	Nicaragua
Became Effective	6 th September 2010
Type of Instrument	Law
Scope	

National

Objective

This Act is to establish the legal and institutional framework for the management, conservation, development, use, sustainable exploitation, equitable and preserving the quantity and quality of all water resources in the country, whether surface, ground, residual and of any other nature, while guaranteeing the protection of other natural resources, ecosystems and the environment.

**Main
Forecasts**

Article 4: The service of clean drinking water will not be subject to privatization either directly or indirectly, and will always be considered a public good. Its administration, supervision and control is under the responsibility of the state through the respective institutions created to this effect or to be created in the future.

Article 5: It is the duty and unwavering priority of the state to promote, facilitate and adequately regulate safe drinking water supply in quantity and quality to the Nicaraguan people, at different costs and in favour of the less affluent sectors.

Article 14: Instruments for the management of water resources:

- a) The National Policy of Water Resources (NPRH) is the master instrument in the integrated management of water resources. This policy provides guidelines to other instruments for water management;
- b) The legal regime. Are all the legal provisions such as laws, regulations, standards, technical norms and administrative provisions governing water resources;
- c) The regime of concessions, licenses and authorizations. Its objective is to ensure quantitative and quality control of water use and the effective exercise of rights of access to water;
- d) The payment of charges for the use, development, disposal and protection of water resources. In order to give the user and society clear indications of the true value of water and the ways that their costs affect price, provision of water and its conservation, as well as, incentives under the relevant processes and pertinent mechanisms for the rationalization, use and reuse of water and to obtain financial resources to finance water planning;
- e) Payment for environmental services of water resources. This aims at developing the economic, technical, legal and environmental basis necessary for implementing a system for consistent and widespread payments for environmental services accruing from the watersheds in the country;
- f) Social instruments. Used to ensure access to water resources for the benefit of agrarian and urban communities located in marginalized areas;
- g) The National Information System of Water Resources. Mainly composed of geographical, meteorological, hydrological, hydro geological and includes the management of data bases, the operation and maintenance of networks and the dissemination of obtained information;

- h) Economic and fiscal incentives. Intended to support the development and implementation of plans, public and private programmes and projects which contribute to the preservation, use and exploitation of the national water resources, as well as, improving the water quality and its recirculation and reuse including the promotion of research and the technological development of the sector, and;
- i) Social support. Grant access to water resources for the benefit of agricultural and urban communities, located in the marginalized areas.

Establishes the identification of ENVIRONMENTAL WATER SERVICES that should be given special attention in the regions, basins sub-basins, and aquifers that experience higher environmental degradation or face a high risk of extinction and which can or are having occasional changes in vegetation cover, damage to fauna and risks to the population due to climate change of the micro ecosystems and other calamities.

The environmental services of water in character, must be designed to ensure the good performance of watersheds and aquifers so that payment may be established for these services in:

- a) Recharge areas, including forests and jungles;
- b) Springs;
- c) Contaminated receptor bodies;
- d) Over exploited aquifers;
- e) Wetlands;
- f) Natural and artificial reservoirs and estuaries;
- g) Some lakes, lagoons, estuaries and rivers for touristic, recreational and productive use, with quantity and quality problems.

It further provides that, for purposes of the provisions in this chapter with the aim of financing the payments for the environmental water services in a sustainable way, the ANA will implement the appropriate mechanisms for the collection and payment for these services, for which it will request the participation and support from institutions and organizations.

Relevant Innovative Instruments

Ensure the provision of clean drinking water to the sectors with fewer resources.

Establishment of water environmental services foreseeing the establishment of mechanisms for the billing and payment of these.

Reference www.planetaverde.org.ar/legislacion.php

6.2 Social Equity and Poverty Alleviation

6.2.1 AFRICA

Title	Constitution of the Arabic Republic of Egypt
Country	Egypt
Entry into Force	29 th November 2012
Type of Instrument	Constitution
Scope	National
Objective	
Main provisions	<p><u>Poverty Alleviation</u></p> <p>Article 30 provides that the national economy shall be organized in accordance with a comprehensive, constant development plan, ensuring the increase of national income, enhancement of standard of living, elimination of poverty and unemployment, increase of work opportunities, and increase of production. The development plan shall establish social justice and solidarity, ensure equitable distribution, protect consumer rights, and safeguard the rights of workers, dividing development costs between capital and labor and sharing the revenues justly. Wages shall be linked to production, bridging income gaps and establishing a minimum wage that would guarantee decent living standards for all citizens and a maximum wage in civil service positions with exemptions regulated by law.</p> <p><u>Social Equity and Justice</u></p> <p>Article 33 provides that workers shall have a share of the management and profits of enterprises. They shall be committed in turn to the development of production, to protecting its means and to the implementation of plans in their production units, in accordance with the law. Workers shall be represented on the boards of directors of public sector units within the limit of 50 percent of the number of members of these boards. The law shall guarantee for small farmers and small craftsmen 80 percent of membership on the boards of directors of</p>

	<p>agricultural and industrial cooperatives.</p> <p>Article 34 provides that Agriculture is an essential asset of the national economy. The State shall protect and increase farmland, work on the development of crop and plant varieties, develop and protect animal breeds and fisheries, achieve food security, provide the requirements of agricultural production, its good management and marketing, and support agricultural industries. The law regulates the use of land, in such a way as to achieve social justice, and protect farmers and agricultural laborer from exploitation. The State is committed to the development of the countryside and the desert, working to raise the standard of living of the farmers and the people of the desert.</p>
Relevant innovative instruments	<p>Social equity and justice</p> <p>Poverty alleviation</p>
Reference	

Title	The Transitional Constitution of the Republic of South Sudan, 2011
Country	South Sudan
Entry into Force	July 9, 2011
Type of Instrument	Constitution
Scope	National
Main provisions	<p>Economy</p> <p>Article 37(1) states that the principal objective of the economic development strategy shall be the eradication of poverty; attainment of the Millennium Development Goals; guaranteeing the equitable distribution of wealth; redressing imbalances of income; and achieving a decent standard of life for the people of South Sudan.</p> <p>National Oil Revenue and Future Generations Fund:</p> <p>Article 178(2) and (3) establishes an Oil Revenue Stabilization Account from government oil net revenue derived from actual export sales above an agreed benchmark price. The benchmark price will be established annually as part of the national budget and the National Government shall</p>

	establish a Future Generation Fund from its share of net oil revenue.
References	http://www.unhcr.org/refworld/type,LEGISLATION

Title	East Africa Organic Standards under East Africa Organic Standard Protocol on Standards Development, Quality Management, Testing and Metrology (SQMT) in 2003
Country	Kenya, Uganda, Tanzania, Rwanda, Burundi
Entry into Force	2007
Type of Instrument	Voluntary Standard
Scope	Regional
Objective	The East African organic products standard can be used for self-assessment by producers, declarations of conformity in the marketplace, certification by certification bodies in the region, or other kinds of verification. If the standard is used for the purposes of third-party certification, inspection and certification should be carried out in accordance to international norms, such as ISO Guide 65 or the IFOAM Accreditation Criteria.
Main Provisions	<u>Social justice</u> Employees and workers shall be guaranteed basic human rights and fair working conditions in accordance with national and international conventions and laws. The operator shall not use forced or involuntary labour. Employees, casual workers and contractors of organic operations shall have the freedom to associate, the right to organize, and the right to bargain collectively. Employees shall have equal opportunities and equal wages when performing the same level of work, regardless of colour, creed, ethnicity or gender. The operator shall not hire child labour. Children may work on their family's farm or a neighbouring farm provided that such work is not dangerous to their health and safety and does not jeopardize their educational, moral, social and physical development. Such work shall be supervised by adults and authorized by a legal guardian. The operator shall provide adequate health and safety measures for employees, casual workers and contractors.
Relevant Innovative Provisions	Social Equity
Reference	

6.2.2 ASIA- PACIFIC

Title	Food, Agriculture and Rural Areas Basic Act
Country	Japan
Entry into force	16 July 1999 (Amended in 2005)
Type of Instrument	Sectorial Law
Scope	National
Objective	Article1: The purpose of this Act is to stabilize and improve the life of the citizens and to develop the national economy through comprehensive and systematic implementation of the policies on food, agriculture and rural areas by means of establishing basic principles and basic matters for their realization and clarifying the responsibilities of the national and local governments.
Main provisions	<p>Chapter1 General Provisions:</p> <p>Article 3: (Fulfillment of Multifunctional Role) In consideration of the importance of maintaining the stable life of the citizens and the national economy, multiple roles that agriculture plays through stable production in rural areas including conservation of national land, water resources, natural environment, formation of good landscape and respect for the cultural tradition in addition to its conventional role as a primary food supplier (hereinafter referred to as 'multifunctional role'), shall be fully fulfilled for the future.</p> <p>Article 4: (Sustainable Agricultural Development) In consideration of importance of its conventional role as a primary food supplier and its multifunctional role, sustainable development of agriculture shall be promoted by securing agricultural facilities including necessary farmlands, water for agricultural use, other agricultural resources and workforce; establishing a desirable agricultural structure with an effective combination of aforementioned elements based on regional characteristics; maintaining and improving natural cyclical function of agriculture. (This term means the function of agriculture in stimulating biological and physical cycle in nature while being strongly influenced by the cycle. This definition shall be referred to hereinafter.)</p> <p>Article 7: (Responsibility of the National Government) (1) The national government is responsible for formulating and implementing comprehensive policies for food, agriculture and rural areas, pursuant to the basic principles of the policies for food, agriculture and rural areas prescribed in Articles 2 to 5 (hereinafter referred to as the "basic principles".) (2) The national government shall endeavor to enhance the citizens' better</p>

understanding of the basic principles by providing relevant information on food, agriculture and rural areas.

Article 8: (Responsibility of Local Governments)

Local governments are responsible, pursuant to the basic principles, and based on an appropriate sharing of roles with the national government, for formulating and implementing policies for food, agriculture and rural areas that suit their natural and socioeconomic characteristics of the area.

Chapter2 Basic Policies:

Section III (Article 21~33) Policy on Sustainable Agricultural Development:

In order to develop efficient and stable farm management and to establish agricultural structure that can play considerable part in the agricultural production, the state shall take necessary measures for the promotion of improvement of agricultural production base according to the type of management and regional characteristics.

The state shall take necessary measures for the revitalization of family farming by means of improving conditions for the rational management and smooth business succession, and the promotion of incorporation of farm management.

To secure human resources, the state shall take necessary measures such as improving technical and management skills of farmers, and promote agricultural education. To secure **equal opportunities** in participating all kinds of activities as members of the society, the state shall also promote women's participation in agriculture, and create an environment in which elderly farmers can be satisfied with their activities relevant to farming.

Relevant innovative instruments

This Act provides general guidelines for the national and local government to promote a sustainable agricultural development scheme. Besides routine measures, the Act also requires the government to secure all potential members **equal opportunities** in participating in the development of sustainable agriculture that is in accordance with the **demand of poverty eradication**.

Reference

6.2.3 LATIN AMERICA AND THE CARIBBEAN

Title

Legislation N° 300 Framework for Mother Nature and Integral Development

For Descent Living	
Country	Bolivia
Became effective	15th October 2012
Type of Instrument	Legal Framework
Scope	National
Objective	<p>Article 1. (OBJECT). This Act establishes a vision and overall fundamentals for integral development in a balanced and harmonious way with Mother Nature in order to decently live, by guaranteeing the capacity for continuity and regeneration of the life systems and components of Mother Nature, recovering and strengthening local and ancestral knowledge, in the frame work of shared rights, obligations and duties as well as the objectives of comprehensive development as a means to achieve descent living, on the basis of planning, public management of investments and the strategic institutional framework for their implementation.</p>
Main Forecasts	<p>Article 11. (DUTIES OF THE PEOPLE AND SOCIETY). People individually or collectively have the duty to: Take responsibility for individual and collective behaviour in compliance with the principles and objectives of comprehensive development in harmony and balance with Mother Nature (...) Participate in the prioritization of their needs in order to create conditions necessary for descent living, (...) Promote de-commercialization processes in the relationship between humans and nature in a permanent and sustainable way.</p> <p>All natural or legal persons, public or private, at the time of obtaining approval, the right or permission to use the components of Mother Nature, in the case of high risk activities for Mother Nature and areas of life, should take responsibility through the economic instruments governing the environment in conformity to the specific norm.</p> <p>Article 14. The Plurinational State of Bolivia will encourage gradual reforms towards the establishment of sustainable consumption habits of the Bolivian people through the following principle aspects:</p> <p>Actions to promote sustainable consumption habits which are based on a complementary relationship between humans and Mother Nature and are limited to the regeneration capacity of these components and life systems.</p>

Actions to promote the use of goods and services that tend to the satisfaction of the basic needs and services of the Bolivian people to minimize the excessive use of the components of Mother Nature, point in case toxic materials and emission of pollutants and waste.

Promoting and strengthening collective and individual behaviors which value the consumption of national organic foods, rational use of energy, water conservation, reduction in consumerism, solid waste treatment and recycling.

Development of informative and educative actions to strengthen values, decision making and behavior of the Bolivian people toward informed and responsible consumption which evaluates the cultural, environmental, social and economic benefits of the productive activities and the sustainable utilization of the components of Mother Nature.

Promote scientific research on the interrelation between food and health.

Article 18. (GUIDE INVESTMENT AND DISTRIBUTION OF WEALTH OF THE STATE WITH SOCIAL JUSTICE). The Plurinational State of Bolivia will create conditions for the distribution of wealth created from the strategic sectors of the economy, basing on the exploitation and transformation of both renewable and non renewable natural resources, to have a direct bearing on the creation of solidarity, a more just and equal society, without material, social and spiritual poverty, through the following principle criteria:

Boosting production in the different forms, a plural economy with emphasis laid on the small scale producers and the communal economy.

Establishment of a balance in the distribution of wealth in accordance to the regional needs and the reduction of regional socioeconomic inequalities. (...)

Reduction in regional vulnerabilities which are a direct result of climate change in the Bolivian population and in other areas of life of the country.

Relevant

**Innovative
Instruments**

Promotion of sustainable consumption habits through actions that tend to promote the use of goods and services that satisfy the basic necessities of the Bolivian people minimizing the excessive exploitation of the components of Mother Nature, the use of toxic materials and emission of pollutants and waste.

Incentives for the de commercialization of the relationship between humans and nature.

Reference

Title	Decree N° 517/2011, Social Responsibility and Social Environmental Balance in the Province of Salta
Country	Argentina
Became Effective	25 th January 2011
Type of Instrument	Provincial Decree
Scope	Provincial
Objective	<p>Promote the development of socially responsible behaviour in business, public and private organizations in general; in the design development and implementation of their policies, plans, programmes, projects and operations in ways that emphasizes the objective assessment and evaluation of the social, environmental, economic and financial sustainability.</p> <p>Add value to the products and services from companies located in the Province, allowing access to new markets, improving the social image of the company, optimizing its environmental development and promoting its improvement and permanent growth.</p> <p>Promote the active participation of the private sector in sustainable development projects and facilitate the implementation of socially responsible programmes.</p> <p>Integrate sustainability parameters in the procedures for public procurement.</p>
Main Forecasts	<p>Companies that certify Social Environmental Balance in the Council for Economic Sciences will be beneficiaries of the Preference Regime established by “law of labour purchase and hire in Salta”. The same determines those industries included, will have preference in government purchases in light of a technical draw with an uncertified product which is equivalent or exceeds the price up to 5%. (Art.12)</p> <p>As a stimulus to marketing at the local, national and international level of the companies that certify the Social Balance, the Province of Salta performs promotional and advertising events in which they will participate. (Art. 2)</p> <p>Definition of the Environmental Social Corporate Responsibility: It is the commitment of organizations to sustainable development of society and the</p>

preservation of the environment, from its social composition and responsible behaviour towards people and social groups with whom they directly or indirectly interact.

Organizations are socially responsible when their activities are geared toward the needs and expectations of their members, society and those who benefit from their activities, as well as the preservation and care of the environment without compromising the right of future generations. It also indicates the responsiveness of a company or an institution in regard to the impacts of their actions on the different groups with which they interact.

Definition of Socio-Environmental Balance: It is the tool to inform, measure, and evaluate in a clear, precise, methodical, and systemic to mainly quantify the results of the social and environmental policies of the organization. This document reflects the quantitative and qualitative results of the exercise of socio environmental responsibility, objectively evaluating the conditions for equity and social sustainability, environmental, economic and financial undertaken by companies and their behaviour.

Relevant Innovative Instruments

Take steps to help facilitate the marketing and distribution in the national and international spectrum of the certified products.

Incorporating environmental social responsibility instruments in businesses.

Development of variables for sustainable public procurement

Reference

www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 27811 System for the Protection of the Collective Knowledge of the Indigenous Peoples on the Biological Resources
Country	Peru
Became Effective	11 th August 2002
Type of	

Instrument	National Law
Scope	National
Objective	<p>RECOGNITION OF INDIGENOUS PEOPLES RIGHTS AND THEIR COLLECTIVE KNOWLEDGE</p> <p>Article 5.- Objectives of the regime</p> <p>Objectives of this regime are:</p> <ol style="list-style-type: none"> a) Promote respect, protection, preservation, wider application and development of the collective knowledge of the indigenous peoples b) Promote the fair and equitable distribution of the benefits arising from the use of that knowledge. c) Promote the use of this knowledge for the benefit of indigenous people and humanity d) Ensure that the use of this collective knowledge takes place with the prior consent of indigenous peoples. e) Promote the strengthening and development of indigenous people's capabilities and their traditionally employed mechanisms to share and distribute collectively generated benefits under the present regime. f) Prevent the granting of patents on inventions made or developed from the collective knowledge of the indigenous peoples of Peru, without taking into account this knowledge as prior art in the examination of novelty and inventiveness of the mentioned inventions.
Main Forecasts	<p>Recognition of rights. The Peruvian State recognizes the right and authority of the indigenous peoples and communities to decide on their collective knowledge. (Art. 1)</p> <p>TITLE IX OF THE FUND FOR DEVELOPMENT OF INDIGENOUS COMMUNITIES</p> <p>Objective of the Fund for the Development of Indigenous Communities.</p> <p>Create the Fund for the Development of Indigenous Communities with the objective of contributing to the integral development of indigenous communities through the financing of projects and other activities. This fund shall enjoy technical, economic, administrative and financial autonomy. (Article 37)</p> <p>Access to the resources of the Fund for the Development of Indigenous communities and peoples. Indigenous communities have the right to access the resources from the Fund for the Development of Indigenous Communities through their representative organizations and through development projects, prior to the evaluation and approval of the Administrative Committee. (Article 38)</p>
Relevant	

Innovative Instruments	<p>Protection and Promotion of the development of knowledge from indigenous peoples</p> <p>Creation of registers for the collective knowledge of indigenous peoples in the national patent agency in charge of the Institute for Defence of Competition and Intellectual Property (INDECOPI), one for public access, some reserved and the other for use within the native or indigenous communities.</p>
Reference	www.planetaverde.org.ar/legislacion.php

6.3 Reducing Environmental Risks

6.3.1 AFRICA

Title	Environmental Protection Act, No. 11/009
Country	Democratic Republic of Congo
Entry into Force	2009
Type of Instrument	Framework
Scope	.National
Main Provisions	<p>The EPA contains several new requirements, notably the obligation to undertake an ESIS; environmental audits; environmental evaluation of policies, plans and programmes; the creation of new institutional structures; and an Environmental Fund for research, conservation, clean-up operations, rehabilitation and pollution prevention.</p> <p>An Environmental and Social Impact Study (ESIS) is defined as ‘a systematic process to identify, predict, evaluate and mitigate the physical, ecological, aesthetic and social impacts prior to the implementation of projects relating to the construction, manufacture, commissioning, installation or establishment of industrial units, agriculture, etc., in order to obtain an appreciation of the direct and indirect consequences on the environment’.</p> <p>All policies, plans and programmes drafted by the state, province, other decentralised government structure or a public enterprise, which may have a significant impact on the environment, must be subject to an environmental evaluation. While it does not use the term ‘strategic environmental assessment’, the intent of the Article is the same. Furthermore, the strategic approach to mainstreaming environmental management into development planning is articulated as it requires the state, province or other decentralised government structure to consider, before the formulation of land use management and</p>

	zoning plans, the imperatives of environmental protection and the wellbeing of the local population. Makes provision for decree on the Council for the Environment and Sustainable Development
Relevant Innovative Instruments	Council for the Environment and Sustainable Development Strategic Environment Assessment Environmental and Social Impact Study Assessment
Reference	http://www.dbsa.org/eJournal/Documents/SADC Handbook.pdf

6.3.2 ASIA-PACIFIC

Title	Australian National Registry of Emissions Units Act 2011
Country	Australia
Entry into force	15 September 2011; 8 December 2011
Type of Instrument	Sectoral Law
Scope	National
Objective	An Act about the Australian National Registry of Emissions Units, and for other purposes.
Main provisions	<ul style="list-style-type: none"> • The Australian National Registry of Emissions Units is continued in existence. • The Regulator may, in accordance with the regulations, open a Registry account in the name of a person. • Entries may be made in Registry accounts for: <ul style="list-style-type: none"> (a) carbon units; and (b) Australian carbon credit units; and (c) Kyoto units; and (d) prescribed international units. • This Act sets out rules about dealings with: <ul style="list-style-type: none"> (a) Kyoto units; and (b) prescribed international units.
Relevant innovative instruments	<p>Australian National Registry of Emissions Units</p> <ul style="list-style-type: none"> • The Australian National Registry of Emissions Units is continued in existence. • The Regulator may, in accordance with the regulations, open a Registry account in the name of a person. • A person may, in accordance with the regulations, request the Regulator to close the person's Registry account.

- The Regulator is empowered to make corrections to the Registry.
- A person may apply to the Federal Court for the rectification of the Registry.

Kyoto units

- This Part sets out rules about dealings with Kyoto units.

Prescribed international units

- The Regulator may issue Australian-issued international units.
- This Part sets out rules about dealings with prescribed international units.

Publication of information

- The Regulator must publish certain information about:

(a) the holders of Registry accounts; and

(b) carbon units; and

(c) Kyoto units; and

(d) prescribed international units.

Voluntary cancellation of emissions units

- If a person is the registered holder of one or more carbon units, the person may request the Regulator to cancel any or all of those units. However, this rule does not apply to a unit that was issued for a fixed charge and has a vintage year that is a fixed charge year.
- If a person is the registered holder of one or more Australian carbon credit units, the person may request the Regulator to cancel any or all of those units.
- If a person is the registered holder of one or more Kyoto units, the person may request the Regulator to transfer to a voluntary cancellation account any or all of those units.

- If a person is the registered holder of one or more prescribed international units, the person may request the Regulator to cancel any or all of those units.

Relinquishment of Australian-issued international units

- If a person is convicted of an offence relating to fraudulent conduct, and the issue of Australian-issued international units is attributable to the commission of the offence, a court may order the person to relinquish a specified number of Australian-issued international units.

- If a person is the registered holder of one or more Australian-issued international units, the person may, by electronic notice transmitted to the Regulator, relinquish any or all of those units.

- An administrative penalty is payable for non-compliance with a relinquishment requirement under this Act.

Civil penalty orders

- Pecuniary penalties are payable for contraventions of civil penalty provisions.

Review of decisions

- Certain decisions of delegates of the Regulator may be reviewed by the Administrative Appeals Tribunal following a process of internal reconsideration by the Regulator.

- Certain decisions of the Regulator may be reviewed by the Administrative Appeals Tribunal.

Reference

Title	National Greenhouse and Energy Reporting Act 2007
Country	Australia
Entry into force	28 September 2007, 29 September 2007
Type of Instrument	Sectoral Law
Scope	National
Objective	<p>The first object of this Act is to introduce a single national reporting framework for the reporting and dissemination of information related to greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production of corporations to:</p> <p>(b) inform government policy formulation and the Australian public; and (c) meet Australia's international reporting obligations; and (d) assist Commonwealth, State and Territory government programs and activities; and (e) avoid the duplication of similar reporting requirements in the States and Territories.</p> <p>(2) The second object of this Act is to underpin the Clean Energy Act 2011 by imposing various registration, reporting and record-keeping requirements.</p>
Main provisions	<p>This Act introduces a single national reporting framework for the reporting and dissemination of information related to greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production of corporations. The Act defines corporate entities for purposes of identification and quantification of greenhouse gas emissions of such entities. Corporations shall register in the National Greenhouse and Energy Register. A registered corporation must annually provide a report to the Greenhouse and Energy Data Officer relating to: (a) greenhouse gas emissions; (b) energy production; and (c) energy consumption; from the operation of facilities and may report on greenhouse gas reductions. It shall also keep records on activities of members of its group. The Act also provides for disclosure of information, enforcement and monitoring, defines civil liability and offences and prescribes (civil) penalties.</p>
Relevant innovative instruments	<p>Reporting obligations of registered corporations, Reporting obligations of liable entities, Reporting obligations of holders of liability transfer certificates, Reporting obligations of holders of reporting transfer certificates, Reporting obligations transferred to member of corporate group.</p>
Reference	

Title	Framework Act on Low Carbon, Green Growth
Country	Korea
Entry into force	13 January 2010

Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Act is to promote the development of the national economy by laying down the foundation necessary for low carbon, green growth and by utilizing green technology and green industries as new engines for growth, so as to pursue the harmonized development of the economy and environment and to contribute to the improvement of the quality of life of every citizen and the take-off to a mature, top-class, advanced country that shall fulfill its responsibility in international society through the realization of a low-carbon society
Main provisions	<p>This Act aims to promote the development of the national economy by laying down the foundation necessary for low carbon, green growth and by utilizing green technology and green industries which shall minimize the emission of greenhouse gases and the discharge of pollutants. The Government shall establish the National Strategy for Low Carbon, Green Growth, including the resolution of problems of climate change, energy and resources, the expansion of growth engines, the efficient utilization of national land, and the development of a comfortable environment. The Act provides for responsibilities of the State, local governments, business entities and citizens in implementing these strategies. The Act provides for the establishment of the Presidential Committee on Green growth and defines its composition and operation. The Government shall prepare measures to foster and support the green economy and green industries, the recycling of resources, enterprises' green management, the research, development and commercialization of green technology, etc. The Government shall further establish and implement a policy for coping with climate change and a basic plan for energy as provided for in the Act. The Act further provides for: establishment and implementation of basic plans for realizing green life and sustainable development; the development of production technology of environment-friendly agricultural products which accommodate climate change and expand the production, distribution, and consumption of environmentally friendly and organic agricultural produce, fishery products, and wooden products.</p> <p>National Strategy for Low Carbon, Green Growth (Article 9) The government shall establish and enforce the national strategy for low carbon, green growth, which shall include the targets of the State's policies for low carbon, green growth, the strategy for promotion, and main tasks of promotion, after bringing a proposed bill to the Presidential Committee on Green Growth and then to the State Council for deliberation. The following items should be included in the national strategy for low carbon, green growth:</p> <ul style="list-style-type: none"> - Matters concerning the realization of the green economic system (Article 22); - Matters concerning green technology and green industries; - Policies for coping with climate change, policies on energy, and

policies on sustainable development;

- Matters concerning the green life, the green homeland (Article 51) and the low-carbon traffic system (Article 53);
- Matters concerning international negotiations and cooperation in relation to low carbon, green growth, including climate change;
- Other matters necessary for low carbon, green growth, including procurement of financial resources, taxation, financing, training of human resources, education, and public relations activities.

Basic Principles for Materialization of Green Economy and Green Industries

The government shall strengthen the national economy and materialize the economy pursuing sustainable development by reducing the use of fossil fuels step by step and fostering green technology and green industries.

The Government shall, whenever it establishes and enforces a national policy on green economy, facilitate harmonious development between the economy and the environment and give balanced consideration to various areas, such as finance, industries, science and technology, environment, national land, and culture, from a comprehensive perspective.

The government shall endeavor to enable the industrial structure of large consumption of energy and resources to be converted into the low carbon, green industrial structure step by step through creation of new green industries, conversion of existing industries into green industries, and connection between related industries.

The government shall seek for balanced development between regions in promoting low carbon, green growth and shall provide low-income groups with support and care to protect them from being neglected.

Fostering of and Support for Green Economy and Green Industries

The Government shall enhance the soundness and competitiveness of the national economy, search for and foster new green industries with high growth potential, and prepare measures for fostering and supporting a green economy and green industries.

Measures for fostering and supporting a green economy and green industries shall include the following matters:

- Matters concerning the gradual conversion of the conventional, industrial structure into a green industrial structure;
- Targets for the medium- and long-term and for each phase for facilitating green industries and the strategy for the facilitation;
- Matters concerning the fostering of, and support for, green industries for new growth engines;
- Matters concerning the conversion of existing, national infrastructure, including electricity, information and telecommunications, and traffic facilities, into an environmentally friendly structure;

- Matters concerning the fostering of the industry of advisory services for green management;
- Matters concerning the training of human resources for green industries and the creation of job opportunities.

Establishment of and Support for Companies for Investment in Green Industries

A green industries investment company for the purpose of distributing earnings therefrom to investors may be established by investing its assets in green industries, etc., to boost technological development related to green industries and facilitate the development of green industry businesses.

The government may, if a public institution intends to invest in a green industries investment company, provide all or some of the funds therefore.

Basic Plan for Coping with Climate Change

The Government shall establish and implement a basic plan every five years for coping with climate change for a planning period of 20 years, after bringing a proposed bill to the Presidential Committee on Green Growth and then to the State Council for deliberation.

The basic plan for coping with climate change shall include the following matters:

- Tendency and forecast of domestic and overseas climate changes and changes in concentration of greenhouse gases in the atmosphere;
- Current status and outlook of the emission and absorption of greenhouse gases;
- Establishment of medium- and long-term targets for the reduction of emission of greenhouse gases and countermeasures for each area by phase;
- International cooperation in coping with climate change;
- Cooperation between the State and local governments in coping with climate change;
- Research and development for coping with climate change;
- Training of human resources for coping with climate change;
- Measures for adaptation, such as monitoring, forecasts, and evaluation of impacts of climate change, evaluation of weakness therefore, and prevention of disasters;
- Education and public relations activities for coping with climate change;

Basic Plans for Energy

The government shall establish and enforce a basic plan for energy every five years for a planning period of 20 years, after presenting a proposed plan to the Energy Committee under Article 9 of the Energy Act and then to the Presidential Committee on Green Growth and the State Council consecutively for deliberation.

The basic energy plan shall including the following matters:

- Trends and prospects of domestic and overseas demand and supply of energy;
- Measures for stable securing, import, supply, and management of energy;
- Matters concerning the targets of demand for energy, the composition of energy sources, the saving of energy, and the improvement of the efficiency in

the use of energy;

- Measures for the supply and use of environmentally friendly energy, such as new and renewable energy;

Measures for the safety control of energy;

- Matters concerning the development and diffusion of technology related to energy, the training of professional human resources, international cooperation, the development and use of natural resources of energy, and welfare in energy.

Reporting on Quantity of Emitted Greenhouse Gases and Quantity of Consumed Energy

The government shall establish medium- and long-term targets and the goals attached to each particular phase, in order to cut greenhouse gas emissions, save energy, improve energy efficiency, and expand the dissemination of new and renewable energy.

Each entity that emits greenhouse gases or consumes energy above a certain level shall report the quantity of greenhouse gases emitted and the quantity of energy consumed to the government every year.

Establishment of Integrated Information Management System for Greenhouse Gases

The government shall establish an integrated information management system for greenhouse gases with which it shall develop, verify, and manage the State's quantity of greenhouse gases emitted and absorbed, the emission and absorption factors, and various information and statistics related to greenhouse gases.

The government shall, when it prepares and manages various information and statistics and establish the integrated information management system, reflect international standards therein to the fullest extent possible to improve expertise, transparency, and reliability.

The government shall analyze and verify various information and statistics and announce the results thereof to the public every year.

Cap and Trade System

The government may operate a system for trading emissions of greenhouse gases by utilizing market functions in order to accomplish the State's target of reduction of greenhouse gases; the method of allocation of the allowable quantity of emission, the methods of registration and management, and the establishment and operation of an exchange shall be provided by another Act separately.

Management of Greenhouse Gases in Traffic Sector

The government shall establish standards for average energy consumption efficiency of automobiles and standards for allowable emission of greenhouse gases from automobiles respectively to promote energy saving by improving average energy consumption efficiency of automobiles and to maintain a pleasant and appropriate

atmospheric environment by reducing greenhouse gases in exhaust gases from automobiles, but shall allow auto makers (including importers) to choose one of such standards to avoid double regulation and shall ensure that measuring methods do not overlap.

Diffusion of Culture in Production and Consumption for Green Growth
 The Government shall establish and implement appropriate measures for saving and utilizing energy and resources efficiently and reducing greenhouse gases and pollutants throughout the entire course of production, consumption, transportation, and disuse of goods.

The government shall ensure that the pricing of goods and services shall be linked to and reflected in the consumption of energy and the emission of carbon and that correct information thereon shall be disclosed and communicated to consumers.

The government may establish and operate an information management system with which the consumption of energy and resources and emission of greenhouse gases and pollutants in the entire course of production, consumption, transportation, and disuse of goods and disposal of goods can be analyzed and evaluated and the information on results thereof can be stored and used.

The government may establish and implement measures to require manufacturers and distributors of goods to indicate and disclose information on the quantity or grade of greenhouse gases and pollutants generated in the entire course of production, consumption, transportation, and disuse of goods and disposal of such goods so that consumers can easily ascertain such information, in order to facilitate the use and consumption of green products, and dissemination thereof.

Education and Public Relations Activities for Practice of Green Life

The government shall ensure that industrial entities and citizens can participate voluntarily in policies and activities for low carbon, green growth and that they can practice green life culture in their daily living by expanding education and public relations activities for low carbon, green growth.

The Government shall strengthen school education of low carbon, green growth by developing textbooks and teaching materials and training teaching staff members so that citizens can get used to practice of green life from the time when they are young and also strengthen educational courses integrated with and linked to general education programs, occupational education programs, basic continuing education programs.

Relevant innovative instruments

Reference

Title	Enforcement Decree of the Framework Act on Low Carbon, Green Growth
Country	Korea
Entry into force	13 April 2010

Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Decree is to provide for matters delegated by the Framework Act on Low Carbon, Green Growth as well as matters necessary for enforcement thereof.
Main provisions	<p>Matters prescribed in this Decree include: establishment of the National Strategy for Low Carbon, Green Growth and establishment of local action plans; composition and operation of the Presidential Committee on Green growth; establishment, financial assistance and operation of green industries investment companies; establishment and management of national targets for greenhouse gas reduction; establishment and management of national integrated information management system for greenhouse gases; realization of green life and sustainable development; and penalties.</p> <p>Establishment of a five-year plan for the national strategy for green growth The government may formulate a five-year plan for the national strategy for green growth every five years so as to efficiently and systematically implement the national strategy.</p> <p>Composition of the Presidential Committee on Green Growth Ex officio members of the Presidential Committee on Green Growth shall be the Minister of Strategy and Finance, Minister of Education, Science and Technology, Minister of Foreign Affairs and Trade, Minister of Public Administration and Security, Minister of Culture, Sports and Tourism, Minister for Food, Agriculture, Forestry and Fisheries, Minister of Knowledge Economy, Minister of Environment, Minister of Gender Equality and Family, Minister of Land, Transport and Maritime Affairs, Chairman of the Korea Communications Commission, Chairman of the Financial Services Commission and the Minister of the Prime Minister's Office, while the Minister of the Prime Minister's Office shall serve as the secretary thereof.</p> <p>The Presidential Committee on Green Growth shall have sub committees in charge of green growth and industries, climate change and energy, and green life and sustainable development, etc.</p> <p>Establishment, etc. of green industries investment companies A green industries investment company shall be required to invest no less than sixty-hundredths of its total shareholdings in other companies, total amount in trust, or capital stock in green technology and green industries. In consideration of conformity of its business, etc., public institutions may render support therefore.</p> <p>Certification of conformity of green technology and green projects, and accreditation of specialized green enterprises Any person, who seeks certification of conformity of green technology and green projects or accreditation of specialized green enterprises, shall make an application therefor to the head of the central administrative agency concerned. In addition, the procedures, etc. thereof are provided for.</p>

Establishment and management of national targets for greenhouse gas reduction

The target for greenhouse gas reduction shall be a reduction in total national greenhouse gas emissions in 2020 by thirty-hundredths from the business-as-usual projection for 2020.

Principles and role of control of targets for greenhouse gases and energy

The Minister of Environment shall oversee and coordinate the establishment and control of targets for greenhouse gas reduction as well as necessary measures. In consideration of integration and connection of the control of targets for greenhouse gases and energy, conditions of domestic industries, advancement of applicable regulations, etc., comprehensive standards and guidelines regarding establishment and control of such targets shall be formulated and publicly announced.

Competent agencies by area (Ministry for Food, Agriculture, Forestry and Fisheries: agriculture and livestock farming; Ministry of Knowledge Economy: industries and power generation;

Ministry of Environment: wastes; and Ministry of Land, Transport and Maritime Affairs: buildings and transport) shall oversee establishment and control of targets as well as necessary measures for each area of jurisdiction.

Establishment and attainment, etc. of greenhouse gas reduction and energy saving targets by central administrative agencies, etc.

The heads of central administrative agencies, local governments, and public institutions shall establish and carry out a performance plan to accomplish their targets regarding greenhouse gas reduction and energy saving. The Prime Minister may take necessary measures, depending on the findings of performance assessment.

Designation and management, etc. of controlled entities regarding greenhouse gas emission and energy consumption

Standards for designation of entities which must be subject to governmental control concerning emission of greenhouse gases and consumption of energy shall be determined as follows:

- Entity of which the total annual average quantity of greenhouse gases emitted, and energy consumed, at all its places of business for the past three years meets the standards of no less than 125,000 tons and 500 terajoules in 2011 respectively; the scope of application is to be widened annually; and
- Entity's place of business of which the total annual average quantity of greenhouse gases emitted and energy consumed for the past three years meets the standards of no less than 25,000 tons and 100 terajoules in 2011 respectively; The scope of application is to be widened annually.

Competent agencies by area shall establish and control the targets of controlled entities concerning greenhouse gas reduction, energy saving, and energy efficiency. The Greenhouse Gas Information Center which receives performance reports shall manage the register, etc.

Establishment and management of the national integrated information management system for greenhouse gases

The Greenhouse Gas Information Center shall be set up under the Minister of

	<p>Environment in order to establish and manage the national integrated information management system for greenhouse gases. The Minister of Environment shall verify the information and statistics on greenhouse gases, and externally maintain the status as a national integrated information manager on greenhouse gases.</p> <p>Management of the standards for average energy consumption efficiency of automobiles and allowable exhaust emissions of greenhouse gases from automobiles</p> <p>The Minister of Knowledge Economy and the Minister of Environment shall respectively determine the standards for average energy consumption efficiency of automobiles and the standards for allowable exhaust emissions of greenhouse gases from automobiles. In consideration of measurement methods and procedures, unification of applicable sanctions, etc., the Minister of Environment shall formulate the standards, etc. whereby automakers may selectively comply with the standards for efficiency of average energy consumption of automobiles and the standards for allowable exhaust emissions of greenhouse gases from automobiles, based on consultation with the Minister of Knowledge Economy.</p> <p>Standards, etc. for green buildings</p> <p>In order to establish and control the targets for reduction of the quantity of energy consumed, and greenhouse gases emitted, by buildings, the Minister of Land, Transport and Maritime Affairs may establish implementation plans therefore, and formulate detailed standards for reduction of energy consumption and greenhouse gas emissions when necessary.</p>
Relevant innovative instruments	
Reference	

Title	Development of and Support for Environmental Technology Act
Country	Korea
Entry into force	13 January 2010
Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Act is to contribute to the environmental conservation and the sustainable development of the national economy by promoting the development, support, and spread of environmental technologies and by fostering the environmental industry.

Main provisions**Formulation of Comprehensive Plan for Development of Environmental Technologies**

(1)The Minister of Environment shall put the plans for development of environmental Technologies of the relevant central administrative agencies together and make a comprehensive plan for development of environmental technolog is (here in after referred to as “development plan”)every five years through the deliberation of the National Science and Technology Council under Article 9 of the Framework Act on Science and Technology (hereafter referred to as the “National Science and Technology Council” in this Article).

(2)The development plan shall include the matters concerning the following subparagraphs:

1.Present status and a long-term prospect of the level of environmental control based on the long-term comprehensive plan for environmental conservation at the national level under Article1 2 of the Framework Act on Environmental Policy;

2.Objective of development of environmental technologies by stages and measures to reach the objective;

3.Promotion of advancement of the environmental industry, such as strengthening the competitiveness of environmental technologies, etc.;

4.Promotion of the spread and practical use of environmental technologies;

5.Investment and promotion plans for the projects by year concerning the development of environmental technologies promoted by the Government;

6.Introduction and transfer of environmental technologies;

7.Support for research of environmental technologies for schools, scientific organizations, research institutions, etc.;

8.Collection,classification,processing,and diffusion of the information on environmental technologies; and

9. Other matters relating to development of environmental technologies and fosterage of the environmental industry.

(3)For the purpose of formulation of the development plan, the Minister of Environment May request the head of the relevant central administrative agency to submit necessary data as prescribed by Presidential Decree.

(4)When formulating the development plan, the Minister of Environment shall take necessary measures for the promotion of joint research by industry, academia and research labs and international collaboration in environmental technologies.

(5)The Minister of Environment shall, after being submitted by the promotion results of the development plan by year classified by competent fields of the heads of the relevant central administrative agencies, report them to the National Science and Technology Council by putting them together.

Promotion of Environmental Technology Development Projects

(1)For the purposes of the environmental conservation and the sustainable development Of the national economy, the Government may have institutions, organizations, or business operators(hereafter referred to as “research institutions, etc.” in this Article)falling under technology development projects (hereinafter referred to as “development projects”)as prescribed by Presidential

Decree:

1. National research institutions and public research institutions;
2. Research institutions governed by the Support of Specific Research Institutes Act;
3. Government-invested research institutions established under the Act on the Establishment, Operation and Fostering of Government-Invested Research Institutions Or government-invested research institutions of science and technology established under the Act on the Establishment, Operation and Fostering of Government-Invested Research Institutions of Science and Technology;
4. Schools under Article 2 of the Higher Education Act;
5. Adjunct laboratories to enterprises meeting the standards prescribed by Presidential Decree;
6. Industrial technology research cooperatives under the Act on the Support of the Industrial Technology Research Cooperatives;
7. Environmental technology development centers under Article 10;
8. Business operators managing the environmental industry (hereinafter referred to as “environmental industrial enterprises”);
9. Foreign research institutions meeting the standards prescribed by Presidential Decree:

Provided, That they shall be limited to those conducting joint research and development with domestic institutions, organizations or business operators; and

10. Other institutions, organizations or business operators prescribed by Presidential Decree.

(2) Expenses necessary for development projects shall be appropriated by contributions from the Government or contributions from persons other than the Government and other research and development expenses of enterprises.

(3) The Government may disburse contributions to research institutions, etc. performing Development projects under paragraph (1) for the promotion of development projects.

(4) The head of a research institution, etc. performing development projects with the contributions under paragraph(3) may collect technical royalties through the conclusion of a technology license agreement with a person who intends to use, transfer, lend or export The outcome of research and development after completion of the development project.

(5) Technical royalties collected under paragraph (4) shall be used for the purposes prescribed by Presidential Decree, such as development projects, etc., and the amount of money equivalent to affixed rate as prescribed by Presidential Decree shall be paid to the Korea Institute of Environmental Industry and Technology under Article 5-2.

(6) Matters necessary for disbursement, use and management of the contributions under paragraph(3), and collection and use, etc. of technical royalties under paragraphs(4) and (5) shall be prescribed by Presidential Decree.

Practical Use of Environmental Technologies

(1)The Government shall take necessary measures to foster business operators, etc. of The following subparagraphs: Provided, That it shall take supporting measures for persons

Falling under subparagraph4:

- 1.A business operator who develops environmental technologies or put them to practical use;
- 2.A person who makes a principal business of investment in development of environmental technologies;
- 3.A person who has obtained authentication of environmental mark under Article17;
- 4.A person who has obtained authentication of environmental grade mark under Article18;
- 5.A business operator opening up overseas markets of the environmental industry; and
6. Environmental industrial enterprises.

Promotion of International Joint Researches

(1)The Government shall take measures for promotion of international joint researches on environmental technologies and the environmental industry for the sustainable and balanced development of the national economy.

(2)The Government may promote the projects of the following subparagraphs to facilitate

International joint researches under paragraph (1):

- 1.Research and study for international collaboration on environmental technologies and the environmental industry;
- 2.International exchange of human resources and information on environmental technologies and the environmental industry;
- 3.Holding exhibitions and scientific conferences on environmental technologies and the environmental industry;
- 4.Opening up overseas markets for environmental technologies and the environmental industry;
- 5.Promotion of technical development for the global environmental conservation; and
6. Other projects recognized necessary for the promotion of international joint researches.

Spread, etc. of Environmental Technologies and Information

(1)The Government shall take specific measures for the spread of excellent environmental

Technologies and the collection and spread of information on environmental technologies.

(2)The Government may manage environmental technologies and information by computerizing them

For the spread of environmental technologies and the collection and spread of information on environmental technologies under paragraph (1).

(3)The Minister of Environment may request the heads of related agencies to furnish

The data necessary for the computerization of environmental technologies and

information Under paragraph (2).

(4)The Government may advise business operators and environmental industrial enterprises, etc. discharging environmental pollutants to develop environmental technologies, import excellent environmental technologies and exchange information on environmental technologies, etc.

(5)In cases where it is recognized as necessary to meet the environmental standards Under Article 10 of the Framework Act on Environmental Policy, the Minister of Environment may advise the heads of the relevant central administrative agencies or local governments to use and spread excellent environmental technologies

Designation, Operation, Appraisal and Cancellation of Designation of Environmental Technology Development Centers

(1)The Minister of Environment may designate and operate environmental technology

Development centers for promotion and support of the development of environmental technologies and collection and spread, etc. of the information on environmental technologies as prescribed by Presidential Decree.

Support for Environmental Technologies

(1)The Government may provide technical support for the purpose of prior prevention or

Reduction of environmental pollution arising from the process of manufacturing activities

Of enterprises and effective operation and management of environmental pollution control

Facilities (referring to air pollution control facilities under subparagraph12 of Article2

Of the Clean Air Conservation Act, noise and vibration control facilities under subparagraph 4 of Article 2 of the Noise and Vibration Control Act, and water pollution control facilities

Under subparagraph 12 of Article 2 of the Water Quality and Ecosystem Conservation

Act; herein after the same shall apply).

(2)In cases where improvement of facilities is recognized necessary as a result of the

Technical support under paragraph(1),the Government may subsidize part of expenses

Required or improvement of such facilities.

(3)Matters necessary for facilities subject to technical support under paragraph(1),and

Method of support and expenses for support, etc. Under paragraph(2) shall be prescribed

By Presidential Decree.

Support to Environment Consulting Firm

The Minister of Environment may provide the support under the following subparagraphs

To the registered environment consulting firms:

	<p>1.Provision of information related to the environmental consulting; and 2.Education for human resources engaged in the environmental consulting Authentication of Environmental Mark (1)The Minister of Environment may grant authentication of environmental mark for The products which may cause less environmental pollution or save resources compared With other products for the same use(including apparatus, materials and services affecting The environment; herein after the same shall apply). (2)A person who intends to obtain authentication under paragraph (1) shall make an application to the Minister of Environment as prescribed by Presidential Decree. (3)Matters necessary for selection and cancellation of the products subject to authentication Of environmental mark under paragraph(1) shall be prescribed by Presidential Decree, And the standards for authentication by products shall be determined and announced by the Minister of Environment.</p>
Relevant innovative instruments	
Reference	

Title	Royal Decree on the Establishment of Greenhouse Gas Management Organization (Public Organization) (2007)
Country	Kingdom of Thailand
Entry into force	This Act enters into force on the day after being published in the Government Gazette.
Type of Instrument	Framework Law
Scope	National
Objective	<p>Establish an organization in connection with the greenhouse gas emission and climate change.</p> <p><i>Greenhouse gas: all gases being the atmospheric constituent—both occurred by the nature and by human, which absorb and reflect the infrared radiation;</i> <i>Climate change: means the change of climatic state caused by human activities which change the composition of the global weather through direct and indirect means, and which manifestly and simultaneously eventuated by the</i></p>

	<i>extreme weather for additional cause;</i>
Main provisions	<p>This Royal Decree provides for the establishment of the Thailand Greenhouse Gas Management Organization (Public Organization) , called “TGO” in brief, which shall have power and duties in connection with the greenhouse gas emission in Thailand.</p> <ol style="list-style-type: none"> 1)Chief office; objectives; powers and duties; 2)Funds, earnings and proprieties; 3)Administration and performance of affairs; 4)Functionary of the organization; 5)Audit, securitization and appraisal of the organization’s outgrowths 6) Supervision. <p>...</p>
Relevant innovative instruments	the establishment of the “TGO”
Reference	

Title	Product Eco-Responsibility Ordinance
Country	Hong Kong, People’s Republic of China
Entry into force	30 April 2009,7 July 2009
Type of Instrument	Sectoral Law
Scope	Regional
Objective	<p>The purposes of this Ordinance are—</p> <p>(a) to minimize the environmental impact of various types of products, which may include plastic shopping bags, vehicle tyres, electrical and electronic equipment, packaging materials, beverage containers and rechargeable batteries; and</p> <p>(b) to that end, to introduce producer responsibility schemes, schemes based on the “polluter pays” principle, or other measures, which may require manufacturers, importers, wholesalers, retailers, consumers or any other parties to share the responsibility for the reduction in the use, or the recovery, recycling or proper disposal, of those products.</p>
Main provisions	<p>Such schemes or measures may include (but are not limited to) the following—</p> <p>(a) <u>a product take-back scheme</u> under which a manufacturer, importer,</p>

	<p>wholesaler or retailer is required to collect certain products for proper waste management;</p> <p>(b) <u>a deposit-refund scheme</u> under which a consumer is required to pay a deposit to be refunded on the return of certain products to a specified collection point;</p> <p>(c) <u>the imposition of a recycling fee</u> to finance the proper waste management of certain products;</p> <p>(d) <u>the imposition of an environmental levy</u> to discourage the use of certain products; and</p> <p>(e) <u>the restriction on the disposal of certain products at any designated waste disposal facility as defined in section 2 of the Waste Disposal (Designated Waste Disposal Facility) Regulation (Cap 354 sub. leg.L).</u></p> <p>Powers to obtain information, enter places for routine inspection, etc. An authorized officer may, in relation to any record or document required to be kept by a person under this Ordinance, do all or any of the following—</p> <p>(a) require the person to produce the record or document for inspection;</p> <p>(b) require the person to provide all reasonable assistance, information or explanations in connection with the record or document;</p> <p>(c) remove and retain the record or document for such period as may be reasonably necessary for further examination or reproduction, or until the relevant proceedings under this Ordinance have been heard and finally determined.</p> <p>Offences ,including providing false information and obstructing authorized officers.</p> <p>Appeal procedure and the establishment of the appeal board.</p> <p>Levy on plastic shopping bags and registration of prescribed retailers</p>
Relevant innovative instruments	<p>A deposit-refund scheme under which a consumer is required to pay a deposit to be refunded on the return of certain products to a specified collection point;</p> <p>Levy on plastic shopping bags and registration of prescribed retailers;</p> <p>Duty of registered retailers to charge for plastic shopping bags.</p>

Title	Environmental Protection and Management Act
Country	Singapore
Entry into force	31 December 2002
Type of Instrument	Framework Law
Scope	National
Objective	This is an Act to consolidate the laws relating to environmental pollution control, to provide for the protection and management of the environment and resource conservation, and for purposes connected therewith.
Main provisions	Prohibition of dark smoke from chimney: (1) Any owner or occupier of any

	<p>industrial or trade premises who causes, permits or allows the emission of dark smoke from a chimney of, or used in connection with, those premises shall be guilty of an offence.(2) This section shall not apply to the emission of dark smoke from any chimney lasting for not longer than such periods as may be prescribed and subject to any prescribed limitations.</p> <p>Pollution of land: The Agency may, with the approval of the Minister, make regulations to control the pollution of land whereby the condition of the land is so changed as to make or be likely to make the land or the produce of the land obnoxious, noxious or poisonous. General prohibition with respect to importation, manufacture and sale of hazardous substances: (1) No person shall import, manufacture, possess for sale, sell or offer for sale any hazardous substance unless he holds a license granted by the Director-General for such purpose. (2) Every license granted to any person under this section shall not be transferable to any other person and no license shall authorize the import, manufacture, possession for sale, sale or offer for sale of any hazardous substance by any individual other than the individual named therein. 3) Any person who contravenes subsection (1) shall be guilty of an offence.</p> <p>Energy Conservation: The Minister may, after consultation with the Agency, by order published in the Gazette, declare any class, description or type of goods to be registrable goods for the purposes of this Part from the date specified in the order.</p> <p>Restriction on supply of registrable goods: (1) No person shall, in the course of any trade or business, supply any registrable goods in Singapore on or after the effective date unless the registrable goods — (a) are registered under section 40D(3); (b) are labeled in the prescribed manner; and(c) meet such minimum energy efficiency standards as may be prescribed.</p> <p>Register of registered suppliers and registered goods: The Director-General shall keep and maintain a register in which shall be entered such particulars of the registered suppliers and the registered goods as the Director-General may determine.</p>
<p>Relevant innovative instruments</p>	<p>The Act regulates registrable goods as a method for energy conservation. No person shall supply any registrable goods in Singapore on or after the effective date unless the registrable goods — (a) are registered under section 40D (3); (b) are labeled in the prescribed manner; and(c) meet such minimum energy efficiency standards as may be prescribed.</p>
<p>Reference</p>	

<p>Title</p>	<p>Philippine Environment Code</p>
<p>Country</p>	<p>Philippines</p>
<p>Entry into force</p>	<p>6 June 1988</p>
<p>Type of Instrument</p>	<p>Framework Law</p>

Scope	National
Objective	<p>This Act makes provision for the protection of the environment of a broad sense. Its provisions are divided into Titles, the major part of them dealing with specific aspects of environment protection.</p> <p>Title I makes provision with respect to air and noise pollution. Purpose Title II to prescribe management guidelines aimed to protect and improve the quality of Philippine water resources. Title III makes provision with respect to land management. The purpose of Title IV is to provide the basics on the management and conservation of the country's natural resources to obtain the optimum benefits therefrom and to preserve the same for the future generations. Remaining provisions deal with waste management and provide for miscellaneous matters including public hearings, environmental monitoring and incentives.</p>
Main provisions	<p>Ambient Air Quality Standards. There shall be established ambient air quality standards which shall prescribe the maximum concentration of air pollutants permissible in the atmosphere consistent with public health, safety and general welfare.</p> <p>National Emission Standards. There shall be established national emission standards for new and existing stationary and mobile sources of pollution which shall consider among others such factors as type of industry, practicable control technology available, location and land use, and the nature of pollutants emitted.</p> <p>Community Noise Standards. Appropriate standards for community noise levels shall be established considering, among others, location, zoning and land use classification</p> <p>Clean-up Operations. It shall be the responsibility of the polluter to contain, remove and clean-up water pollution incidents at his own expense. In case of his failure to do so, the government agencies concerned shall undertake containment, removal and clean-up operations and expenses incurred in said operations shall be charged against the persons and/or entities responsible for such pollution.</p> <p>Location of Industries. In the location of industries, factories, plants, depots and similar industrial establishments, the regulating or enforcing agencies of the government shall take into consideration the social, economic, geographic and significant environmental impact of said establishments.</p> <p>Incineration and Composting Plants. The installation and establishment of incineration or composting plants, or the alteration/modification of any part thereof shall be regulated by the local governments concerned in coordination with the National Pollution Control Commission.</p> <p>Population Environment Balance. In the assessment of development projects, the National Environmental Protection Council, hereinafter referred to in this Title as the Council, shall take into consideration their effect on population with a view to achieving a rational and orderly balance between man and his environment.</p> <p>Environment Education. The Department of Education and Culture shall integrate subjects on environmental education in its school curricula at all</p>

	levels. It shall also endeavor to conduct special community education emphasizing the relationship of man and nature as well as environmental sanitation and practices.
Relevant innovative instruments	<p>Clean-up Operations: In case of the failure of polluters' actions, the government agencies shall undertake containment, removal and clean-up operations and expenses.</p> <p>Population Environment Balance: The Council shall take into consideration their effect on population with a view to achieving a rational and orderly balance between man and his environment.</p> <p>Environment Education: The Department of Education and Culture shall integrate subjects on environmental education in its school curricula at all levels.</p> <p>Etc.</p>
Reference	

6.3.3 LATIN AMERICA AND THE CARIBBEAN

Title	General Legislation N°25675 on the Environment
Country	Argentina
Became effective	22 nd November 2002
Type of instrument	General Legislation on Minimum Budgets.
Scope	National, Federal, Minimum Budgets
Objective	<ul style="list-style-type: none"> a) Ensure the preservation, conservation, recovery and improvement of the quality of environmental resources both the natural and cultural while carrying out the different human activities. b) Promote improvement in the quality of life of the present and future generations as a priority. c) Promote social participation in decision making processes d) Promote the conscious and sustainable use of natural resources e) Maintain the balance and dynamism of ecological systems f) Ensure the conservation of biodiversity

- g) Prevent the harmful or dangerous effects generated by human activity on the environment to guarantee ecological sustainability, economic and social development.
- h) Promote changes in social values and behaviors which allow for sustainable development through environmental education in both the formal and informal systems.
- i) Organize and integrate environmental information and ensure free access of the same to the population.
- j) Establish a federal inter-jurisdictional coordination system for the implementation of environmental policies at the national and regional levels.
- k) Establish adequate mechanisms and procedures for environmental risk reduction, prevention and mitigation of environmental emergencies and for the rectification of damages caused by environmental contamination.

**Main
Forecasts**

The interpretation and application of the present law and all the other norms through which the environmental policy is enacted, will be subject to compliance with the following principles (...) Principle of sustainability: The economic, social development and exploitation of natural resources should be carried out through the proper management of the environment, in a way that does not compromise the potential of the present and future generations. (Art. 4)

The environmental management process takes into account the political, physical, social, technological, cultural, economic, legal and ecological aspects of the local, regional and national realities, ensuring the proper use of the environment, to allow for the maximum production and utilization of the different ecosystems, guaranteeing minimum degradation and waste, and promoting social participation in the major decisions for sustainable development (...) (Art.10)

Environmental education constitutes the basic instrument for generating values, behaviours and attitudes among citizens which are consistent with a balanced environment, geared at the preservation and sustainable use of natural resources, and improving the lives of the population. (Art. 14)

Any natural or legal person, public or private, who undertake risky activities that affect the environment, ecosystems and their constituent elements, must purchase insurance coverage sufficient enough to cover the financing of the reconstruction of the damage which it produces, in the same way depending on the case and the possibilities, can integrate an environmental restoration fund which permits the implementation of reparation actions. (Art.22)

Competent authorities will establish measures aimed at:

- a) Implementing protection systems for the quality of the environment which will be prepared for those carrying out risky production activities;
- b) Implementation of voluntary and self regulated commitments implemented through environmental management policies and programmes;

c) Adoption of promotional and incentive measures. Besides, should take into account the certification mechanisms carried out by independent organizations that are duly accredited and authorized. (Art.26)

Relevant innovative instruments

Incorporation of sustainability as a principle of environmental law.

Promote the implementation of self-regulatory systems and certification programmes carried out by independent organizations.

In the same way it is interesting to witness the obligations established by article 22 on the purchase of an environmental insurance coverage or the integration of restoration funds.

Stressing the importance of environmental education with the aim of generating sustainable habits.

Title

Legislation N° 6938 National Policy on Environment

Country

Brazil

Became effective

31st August 1981

Type of Instrument

Law

Scope

National

Objective

The preservation, improvement and restoration of the environmental quality, promoting life with the aim of ensuring, the conditions for socioeconomic development, national security interests and the protection of the dignity for human life in the country are met.

Main Forecasts

The national environmental policy seeks to: Have joint socioeconomic development and environmental quality preservation and an ecological balance (...), IV Development of national research and technologies oriented toward the rational use of environmental resources. (Art.4)

These are the national environmental policy instruments: (...) Section V, the incentives for the production, installation of equipment, the creation or absorption of technology aimed at improving the quality of the environment Section XIII Economic instruments like the concession of forests, environmental services and others. (Art.9)

The owner or custodian of property, natural or legal person, can, either by the public or private instrument or administrative agreement signed before a constituent body of the National Environmental System, limit the total or partial use of the property in order to conserve, preserve or recover the existent environmental resources, instituting an environmental obligation. (Art.9.A)

The executive will promote activities dedicated to the environment, guaranteeing:

- I. The undertaking of research and technological processes aimed at reducing the degradation of the quality of the environment in the country.
- II. The manufacture of anti-contamination machinery.
- III. Other initiatives that promote the rational use of environmental resources.

(Art.13)

References

www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 19300 General Foundations on the Environment
Country	Chile
Became effective	13 th November 2010
Type of Instrument	National Law
Scope	National
Objective	Establish legislation on the right to live in an environment free of contamination, environmental protection and the conservation of nature.
Main	

Forecasts

The President of the Republic, following a proposal from the Council of Ministers, stated in Article 71 decided that a strategic environmental assessment of the policies and plans of general normative character, as well as the substantial modifications, which will have impact on the environment or its sustainability, should be carried out. In any case they should always undertake a strategic environmental assessment for the regional land use plans, inter communal regulatory plans, communal and sectional regulatory plans, regional urban development plans and zonification of the urban waterfronts, of the maritime territory and the integral management water basins or land use planning instruments to replace or systemize them. (Art.7 bis)

The state will administer a National System for Wildlife Protection Areas which will include parks and marine reserves, with the aim of ensuring biological diversity, guaranteeing the preservation and conservation of the environmental heritage. The administration and supervision of the National Wildlife Protection System of the state shall fall under the jurisdiction of the Biodiversity Service and Protected Areas. (Art.34)

The State will promote and encourage the creation of protected areas on private property, which will be affected by the same tax regime, rights, obligations and charges which belong to the National System of wildlife protected areas of the state. (Art.35)

Prevention or decontamination plans can be used, whichever is applicable, basing on the following instruments of regulation or economic character:

- a) Emission norms;
- b) Tradable emission permits;
- c) Taxes on emissions or user fees, which will take into account the implicit cost of production on the environment or the use of certain goods or services, and;
- d) Other instruments stimulating the actions of repair and improvement of the environment.

Create the Ministry of Environment, as a Secretary of State in charge of collaborating with the President of the Republic in the design and implementation of policies, plans and programmes on environmental matters, as well as in the protection and conservation of the biodiversity and of the natural renewable and water resources, promoting sustainable development, the integrity of the environmental policy and its normative regulation. (Art.69)

Create the Council of Ministers for Sustainability, presided over by the Minister of Environment and constituted by the Ministers of Agriculture; Treasury; Health; Economy Development and Reconstruction; Energy; Public Works; Housing and Urban Development; Transport and Telecommunications; Mining and Planning. (Art.71)

	Create the service of Environmental Assessment as a functionally decentralized public service, with its proper legal character, and under the direct supervision of the President. (Art.80)
Relevant Innovative Instruments	<p>Incentive for the creation of wild protected areas on private property with the same tax regime as that of the state.</p> <p>Use of prevention or decontamination plans with instruments of economic character such as transferrable emission permits, taxes on emissions or user fees and stimulus to actions for the repair and improvement of the environment.</p> <p>Strengthening environmental institutions.</p>
References	www.planetaverde.org.ar/legislacion.php

Title	General Legislation N° 99 on the Environment
Country	Colombia
Became effective	22 nd December 1993
Type of Instrument	Legal Framework
Scope	National
Objective	<p>Article 1° - General Environmental Principles. The Colombian Environmental Policy will pursue the following general principles:</p> <ol style="list-style-type: none"> 1. The social and economic development of the country will be guided by the universal principles of sustainable development spelled out from the June 1992 Rio de Janeiro Declaration on Development and the Environment. 2. The biodiversity of the country being a national heritage and of interest to humanity should be jealously protected and exploited in a sustainable way. 3. Population policies should take into account the right of people to a healthy and productive life in harmony with nature. 4. Wasteland, moorland areas, water sources and areas of aquifer boost are

subject to special protection.

5. In the use of water resources, human consumption should take precedence over any other use.
6. The design of environmental policies should take scientific research results into account. However, environmental authorities and individuals will apply the precautionary principle under which, in case of danger and grave irreversible damage, the lack of absolute scientific evidence will not be reason enough to prevent the adoption of efficient measures to impede environmental degradation.
7. The state will promote the incorporation of environmental costs and the use of economic instruments for the prevention, correction and restoration of the degraded environment and for the conservation of natural renewable resources.
8. The landscape being a national heritage should be protected.
9. The prevention of disasters is subject to collective interest and the measures taken to prevent or mitigate the effects of their occurrence shall be mandatory.
10. The actions for environmental protection and recovery in the country are a joint coordination effort between the State, community, nongovernmental organizations and the private sector. The state will support and encourage the formation of nongovernmental organizations for environmental protection and will delegate some of its functions to them.
11. Environmental impact assessments will act as the basic instrument for decision making in respect to infrastructure development and activities that adversely affect the environment either natural or artificial.
12. The environmental management of the country, conforming to the National Constitution, will be decentralized, participative and democratic.
13. A National Environmental System SINA was established in order to manage the environment in the country, whose components and interrelations define the mechanisms of action of the state and the civil society.
14. The environmental institutions of the state will be structured basing on the integral criteria of environmental management and its interrelation with the economic social and physical planning processes.

**Main
Forecasts**

Creation and the Objectives of the Ministry of Environment. Creating the Ministry of environment as the governing organ of the environment and natural renewable resources, in charge of inspiring respect and harmony in the relationship between man and nature and as defined in the terms of the present legislation, the policies and regulations subject to the recovery, conservation, protection, regulation, management, use and exploitation of the natural renewable resources and the environment of the country, with the aim of ensuring sustainable development. (Art.2)

The Concept of Sustainable Development. Sustainable development is that which drives economic growth, improves the quality of life and social wellbeing, without

depleting the base of the natural renewable resources which sustain it, nor deteriorate the environment or the right of future generations to use it for the satisfaction of their needs. (...) (Art.3)

Promotion and dissemination of environmental experience of the traditional cultures. The Ministry and the scientific Institutes will promote the development and dissemination of knowledge, values and technology on environmental management and natural resources, of indigenous cultures and other ethnic groups. (Art.22)

Compensatory and Retributive Rates. The direct or indirect use of the atmosphere, water and land, to introduce or dump agricultural, mineral or industrial waste, sewage or sewage water from any source, fumes, vapors and harmful substances resulting from human activity or caused by man, or economic activities or services, lucrative or not, are subject to payment or remuneration rates for the harmful consequences and activities specified. (Art.42)

Relevant Innovative Instruments	Retributive and compensatory rates for the direct or indirect utilization of the natural resources or for the dumping of waste, as well as compensatory rates for the maintenance costs of the natural resources.
Reference	www.planetaverde.org.ar/legislacion.php

Title	Organic Environmental Legislation N° 7554
Country	Costa Rica
Became effective	13 th November 1995
Type of Instrument	Law
Scope	National
Objective	This law seeks to provide, to the Costa Ricans and the State, the necessary instruments for obtaining a healthy and an ecologically balanced environment. The state through the application of this law will defend and preserve this right in search

for better welfare for all Costa Ricans. Define the environment as the system constituting of the different elements integrated in nature and their interaction and interrelation with the human beings. (Art.1)

The purpose of this act:

- a) Promote and achieve harmony between man and his environment.
- b) Satisfy basic human needs without limiting the options of future generations.
- c) Promote the necessary efforts to prevent and minimize the damage that can be caused to the environment.
- d) Regulate human activity, individual or collective, and the public or private activity in regard to the environment, as well as the relations and actions that accrue from the exploitation and conservation of the environment.
- e) Establish guiding principles for the activities of Public Administration in the environmental area, including coordination mechanisms for efficient and effective labor. (Art.4)

**Main
Forecasts**

Participation of the citizens. The State and the Municipalities will promote organized and active participation of the citizens of the Republic, in decision making and actions toward the protection and improvement of the environment. (Art.6)

Land use policies. It is the duty of the State, municipalities and other public entities, to define and implement national land use policies, to regulate and promote human settlements and the economic and social activities of the population, as well as the physical spatial development, with the aim of achieving greater harmony in most of the populations wellbeing, exploitation of natural resources and the conservation of the environment. (Art.28)

State sovereignty on biological diversity. The State will exercise sovereignty on the biological diversity, as part of its natural heritage. The activities geared toward the conservation, improvement and if possible to the recovery of biological diversity in the national territory are of public interest; also focused on ensuring their sustainable use. (...) (Art.46)

Ecological farming. Organic farming is that which employs compatible methods and systems with the protection and improvement of the ecology without the employment of synthetic supplies and chemical products. Organic or biological farming is synonym of ecological farming. (...) We will promote scientific research and the transfer of technology so that this sector can develop itself privately. This option will contribute to sustainable development, to thwart the consequences of misuse of agrochemicals, environmental contamination and the deterioration of environmental resources. (Art.73)

Certifications. In order to qualify a product as organic, it should have a certificate

granted by a national or international agency accredited in Costa Rica. (Art.74)

Environmental loan portfolio. The National Banking System will initiate an environmental loan portfolio designed to finance the costs of reducing contamination in productive processes, through credits at a given preferential interest rate which will be determined by the Central Bank of Costa Rica.

When the productive processes involve land use, in order to obtain financing, the National Banking System should require a plan for land use and management of the land in conformity to its capacity of use. (Art.113)

**Relevant
Innovative
Instruments**

The promotion of organic farming, which does not use inputs or chemical synthetic products;

Certification of products as organic

Creation of an environmental loan portfolio in the national banking system destined to the reduction of the costs of pollution in the production process.

Creation of an Administrative Environmental Tribunal

Reference

www.planetaverde.org.ar/legislacion.php

6.4 Resource Efficiency

6.4.1 ASIA-PACIFIC

Title	Act on the Promotion of Effective Utilization of Resources
Country	Japan
Entry into force	26 April 1991 (Amended in 2002)
Type of Instrument	Framework Law
Scope	National

Objective

Article 1 The purpose of this Act, in light of the circumstances in Japan, a country largely dependent on imports for major resources and where, along with the recent development of the national economy, the heavy use of resources generates an enormous amount of Used Products, etc. and By-products, a considerable part of which are disposed of while a considerable part of the Recyclable Resources and Reusable Parts are not utilized but also disposed of, is to ensure the effective utilization of resources and to take necessary measures to reduce the generation of Used Products, etc. and By-Products and promote the utilization of Recyclable Resources and Reusable Parts in order to contribute to waste reduction and environmental preservation, thereby contributing to the sound development of the national economy.

Main provisions

Chapter 1 and 2 cover General Provisions and Basic Policy

Chapter 3 and 4 cover the designated industries:

--Designated resource-saving industries

Business entities in the following category of business are required to reduce generation of by-products (by ensuring rational use of raw materials and promotion of use of by-products as recyclable resources).

Pulp and paper

Inorganic chemical manufacturing (excluding salt manufacturing) and organic chemical manufacturing

Iron-making and steel-making/rolling

Primary copper smelting and refining

Automobile manufacturing (including motorized bicycle manufacturing)

-- Designated resource-recycling industries

Business entities engaged in the following categories of business are encouraged to use recyclable resources and parts.

Paper manufacturing

Glass container manufacturing

Construction

Rigid PVC pipes and pipe fitting manufacturing

Copier manufacturing

Chapter 5 to 9 cover specified products:

--Specified reuse-promoted products

Manufacturers (manufacturers and repair businesses in automobile sector) of the following products are required to ensure rational use of raw material, prolong product life and reduce generation of other used products

Automobiles

Home appliances (television sets, air conditioners, refrigerators, washing machines, microwave ovens and clothes dryers)

Personal computers

Pachinko machines (including rotary type)
Metal furniture (metal cupboards, shelves, office desks and swivel chairs)
Gas and oil appliances (oil heaters, gas cookers with grills, switch-on gas water heaters, bath heaters with gas burners, oil-fired water heaters)

--Specified reuse-promoted products

Manufacturers (manufacturers and repair businesses in automobile sector) engaged in the following categories of products are required to promote the use of recyclable resources and recovered products (designing and manufacturing products that can be easily reused or recycled).

Automobiles

Home appliance (television sets, air conditioners, refrigerators, washing machines, microwave ovens and clothes dryers)

Personal computers

Pachinko machines (including rotary type)

Copiers

Metal furniture (metal cupboards, shelves, office desks and swivel chairs)

Gas and oil appliances (oil heaters, gas cookers with grills, switch-on gas water heaters, bath heaters with gas burners, oil fired water heaters)

Bathroom units and kitchen systems

Devices using compact rechargeable batteries (28 items including power tools and cordless phones)

-- Specified labeled products

Manufacturers and importers of the following categories of products are required to label these products to facilitate sorted collection.

Steel cans and aluminum cans

PET bottles

Compact rechargeable batteries (sealed nickel-cadmium batteries, sealed nickel-metal-hydride batteries, lithium batteries and compact sealed lead batteries)

PVC construction materials (rigid PVC pipes, spouts and window frames, PVC flooring and wallpaper)

Paper containers and packages and plastic containers and packages

--Specified resource-recycled products

Manufacturers and importers of the following categories of products are required to promote self-collection and recycling. As for compact rechargeable batteries, manufacturers and importers of devices in which sealed compact rechargeable batteries are used as parts are required to promote self-collection and recycling of sealed compact rechargeable batteries.

Personal computers (including cathode-ray tube display and liquid crystal display)

Compact rechargeable batteries (sealed nickel-cadmium batteries, sealed nickel-metal-hydride batteries, lithium batteries and compact sealed lead batteries)

-- Specified by-products

	<p>Business entities that deal the following by-products are required to promote the use of these by-products as recyclable resources.</p> <ul style="list-style-type: none"> Coal ash generated by the electricity industry Soil and sand, a slab of concrete-asphalt and lumber generated by construction industry
Relevant innovative instruments	<p>This Law aims at establishing a sound material-cycle economic system by; (i) enhancing measures for recycling goods and resources by implementing collection and recycling of used products by business entities, (ii) reducing waste generation by promoting resource saving and ensuring longer life of products, and (iii) newly implementing measures for reusing parts recovered from collected used products and, at the same time as measures to address reduction of industrial wastes by accelerating reduction of by-products and recycle. This is an epoch making law which requires to reduce, reuse and recycle (3Rs) as part of measures, covers from upstream part, including product design, measures against industrial wastes through downstream part such as collection and recycling of used products.</p>
Reference	
Title	Basic Act on Establishing a Sound Material-Cycle Society
Country	Japan
Entry into force	2 June 2000
Type of Instrument	Framework Law
Scope	National
Objective	<p>The purpose of this Act is to promote comprehensively and systematically the policies for the establishment of a sound material-cycle society and thereby help ensure healthy and cultured living for both the present and future generations of the nation</p> <p>To clarifying the responsibilities of the state, local governments, business operators and citizens through articulating the basic principles on the establishment of a sound material-cycle society</p> <p>Articulating fundamental matters for making policies for the formation of a sound material-cycle society, including those for establishing the fundamental plan for Establishing a sound material-cycle society.</p>
Main provisions	<p>Chapter I General Provisions:</p> <p>Article 5: (Preventing or Reducing Raw Materials, Products, etc. Becoming Wastes, etc.)</p> <p>Article 6: (Cyclical use and Disposal of Circulative Resources)</p>

Article 7: (Basic Principles of the Cyclical use and Disposal of Circulative Resources)

The cyclical use and disposal of circulative resources must be undertaken to the extent technologically and economically possible, taking it into full consideration that, for the reduction of environmental load, it is necessary to proceed under the provisions of the following items. However, consideration must be given to not proceeding under the provisions of the following items if it is deemed effective in reducing environmental load not to proceed under those provisions.

- (i) Regarding the entirety of, or one part of, circulative resources, that what can be reused must be reused.
- (ii) Regarding the entirety of, or one part of, circulative resources, that what are not reused under the preceding item (i) and can be reclaimed must be reclaimed.
- (iii) Regarding the entirety of, or one part of, circulative resources, that what is not reused under the above item (i) nor reclaimed under the preceding item (ii), and from which heat recovery is possible, heat recovery must be undertaken.
- (iv) Regarding the entirety of, or one part of, circulative resources, that what does not undergo cyclical use under the foregoing three items must be disposed of.

Article 9, 10, 11, 12 regards the Responsibilities of the State, the local governments, the business operators, and the citizens

Articles 13: (Legislative Measures, etc)

The Government shall take legislative or financial measures and other measures necessary to implement the policies and measures for establishing a Sound Material-Cycle Society.

Chapter II The Fundamental Plan for Establishing a Sound Material-Cycle Society:

Article 15: (Formulation, etc. of the Fundamental Plan for Establishing a Sound Material-Cycle Society)

Article 16: (The Relationship between the Fundamental Plan for Establishing a Sound Material-Cycle Society and Other National Plans)

- (1) The Fundamental Plan for Establishing a Sound Material-Cycle Society shall be established based on the Basic Environment Plan provided in the Article 15, paragraph (1), of the Environment Basic Act (hereinafter referred to as the "Basic Environment Plan").
- (2) With the exceptions of the Basic Environment Plan and the Fundamental Plan for Establishing a Sound Material-Cycle Society, the State's plans shall, with regard to establishing a Sound Material-Cycle Society, be based on the Fundamental Plan for Establishing a Sound Material-Cycle Society.

Chapter III The Basic Policies for Establishing a Sound Material-Cycle Society:

	<p>Section 1 Policies of the State:</p> <p>Article 17~31: Measures for the State and local governments to prevent or reduce the generation of wastes, from raw materials, and products; measures for promotion of proper recycling and disposal of circulative resources and the use of recycled articles; financial and economic measures prevent or reduce raw materials, etc. from becoming wastes, and implement policies for establishing a sound material-cycle society; measures to encourage voluntary activities by non-government organizations, and promote education and science development toward sound material-cycle society.</p>
Relevant innovative instruments	This act is a basic and fundamental legislation that outline the general principles to establish a sound material-cycle society. The act also mandates the state and local government to implement policies and instrument toward the establishment of sound-material-cycle society.
Reference	
Title	Water Efficiency Labeling and Standards Act 2005
Country	Australia
Entry into force	18 February 2005
Type of Instrument	Sectoral Law
Scope	National
Objective	<p>The objects of this Act are as follows:</p> <p>(a)to conserve water supplies by reducing water consumption;</p> <p>(b)to provide information for purchasers of water-use and water-saving products;</p> <p>(c)to promote the adoption of efficient and effective water-use and water-saving technologies.</p>
Main provisions	This Act provides for water efficiency labeling and the making of water efficiency standards. The objects of this Act are to conserve water supplies by reducing water consumption; to provide information for purchasers of water-use and water-saving products; and to promote the adoption of efficient and effective water-use and water-saving technologies. It is Parliament’s intention that this Act forms a part of a cooperative scheme between the Commonwealth and the States to provide for national water efficiency labeling and standards (WELS).
Relevant innovative instruments	<p>National WELS scheme</p> <p>It is the intention of the Parliament that this Act forms a part of a cooperative scheme between the Commonwealth and the States and Territories to provide for national water efficiency labeling and standards.</p> <p>WELS products</p> <p>(1)The Commonwealth Minister may, by writing and in accordance with subsection (4), determine that water-use or water-saving products of a specified kind are WELS products.</p>

(2)A determination under subsection (1) must set out, or incorporate by reference, the WELS standard for the products.

(3)A determination under subsection (1) is a legislative instrument for the purposes of the Legislative Instruments Act 2003 and, despite subsection 44(1) of that Act, section 42 of that Act applies to the determination. However, Part 6 of that Act does not apply to the determination.

(4)Before making a determination under subsection (1), the Commonwealth Minister must have agreement to the terms of the determination from a majority of the participating States and Territories.

(5)A State or Territory is a participating State or Territory if there is a corresponding State-Territory law for the State or Territory.

WELS standards

(1)The WELS standard must set out:

(a)criteria for rating the products in relation to either or both of the following:

(i)water efficiency;

(ii)general performance; and

(b) requirements in relation to communicating such ratings on product labels.

(2)The WELS standard may require the products to be registered for the purposes of specified supplies of the product.

(3)If the WELS standard requires the products to be registered, the WELS standard may also require either or both of the following:

(a)that the products comply with specified minimum water efficiency requirements for the purposes of specified supplies of the product;

(b) that the products comply with specified minimum general performance requirements for the purposes of specified supplies of the product.

(3A)If the WELS standard requires or permits the products to be registered, the WELS standard may require either or both of the following:

(a)that the products comply with requirements relating to plumbing that are contained in a specified document, as in force from time to time (including the Plumbing Code of Australia, or an Act or regulations made by a State or Territory, for example);

(b)that a specified type of person or body certifies that the products comply with requirements relating to plumbing that are contained in a specified document, as in force from time to time (including the Plumbing Code of Australia, or an Act or regulations made by a State or Territory, for example).

(4)The WELS standard may require products that are registered (whether required to be registered or not) to be WELS-labeled for the purposes of specified supplies of the product.

The WELS Regulator

The Regulator has the following functions:

(a)to administer the WELS scheme;

(b)to undertake or commission research in relation to water-use and water-saving products;

(c)to provide advice in relation to determining that water-use or water-saving products are WELS products;

(d)to undertake or commission research in relation to WELS standards;

(e)to assist in the development of WELS standards;
(f)to provide information and advice to the Commonwealth Minister about the operation of WELS standards;
(g)to provide information and advice to:
(i)the Commonwealth Minister; and
(ii)the States and Territories; and
(iii)the public;
about the operation of the WELS scheme;
(h)to undertake or commission research in relation to the effectiveness of WELS standards in relation to reducing water usage;
(i) such other functions as are conferred on the Regulator by this Act, the regulations or any other law.

Reference

Title	Act on the Promotion of Saving and Recycling of Resources
Country	Korea
Entry into force	04 February 2002
Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Act is to contribute to the preservation of the environment and sound development of the national economy by facilitating the use of recycled resources by means of controlling the generation of wastes and facilitating recycling.
Main provisions	This Act provides for the promotion of the recycling of resources, the proper treatment of wastes and the efficient use of resources. The Act consists of 5 Chapters divided into 42 articles: General provisions (I); Facilitation of recycling of resources, etc. (II); Recycling business mutual aid cooperatives (III); Establishment of foundation for facilitation of recycling of resources (IV); Supplementary provisions (V). Any person who manufactures, imports or sells goods shall observe matters described in article 9 to control the occurrence of packaging wastes and facilitate their recycling. The Minister of Environment may get any manufacturer or any importer of goods, materials and containers which contain specific harmful substances to pay costs necessary to treat wastes (art. 12). The Minister of Environment may establish guidelines for classifying, storing and collecting recyclable resources, etc. Any manufacturer or any importer of goods and packaging materials shall recycle wastes from such goods and packaging materials or pay allotted charges to the recycling business mutual aid cooperatives. The producers liable to recycle wastes may establish the recycling business mutual aid cooperative and shall file an application for authorising the establishment (arts. 27 and 28). The State or local governments may subsidize or loan funds to any person who undertakes any project listed in

article 31 in order to develop the recycling industry. The Minister of Commerce, Industry and Energy may set specifications and quality standards by item for the recycled goods in consultation with the Minister of Environment.

**Relevant
innovative
instruments**

Formulation of Basic Plans for Recycling of Resources

(1) The Minister of Environment shall formulate a basic plan for the recycling of resources (hereinafter referred to as a “basic plan”) every five years in consultation with the heads of central administrative organs concerned, the Special Metropolitan City Mayor, Metropolitan City Mayors, Do governors and the Special Self-governing Do Governor.

(2) A basic plan referred to in paragraph (1) shall include the matters in each of the following subparagraphs:

1. Basic directions and goals for the facilitation of recycling of resources;
2. Matters concerning the conditions of the recycling of resources, such as the generation and recycling of wastes and the state of recycling industries;
3. Matters concerning setting the goal of recycling of resources;
4. Plans for raising funds needed to achieve goals for the recycling of resources and investment plan; and
5. Other matters necessary for the facilitation of recycling of resources.

Saving of Resources

(1) The Government may recommend matters necessary for the saving of resources, control of generation of wastes and recycling of wastes to producers and consumers or guide them.

(2) The ministers of competent ministries may request the heads of the relevant central administrative organs for cooperation in the dissemination of equipment and technology for saving of resources and control of generation of wastes.

Control of Generation of Packing Wastes

(1) A manufacturer, etc. of goods determined by Presidential Decree shall observe matters falling under any of the following subparagraphs in order to restrict the generation of packing wastes and facilitate the recycling of packing wastes:

1. Standards for the quality of packing materials and methods of packaging (referring to the rate of packing space and the frequency of packing; hereinafter the same shall apply); or
2. Standards for the annual reduction of packing materials made of synthetic resin (excluding goods made of biodegradable resin; the same shall apply hereafter in this Article).

(2) The Minister of Environment shall establish detailed standards for the quality of packing materials of goods, method of packing and standards for the annual reduction of packing materials made of synthetic resin under paragraph (1) by Ordinance of Ministry of Environment in consultation with the ministers of competent ministries.

(3) The Special Metropolitan City Mayor or the head of Si/Gun/Gu may order a manufacturer, etc. who is deemed to violate the standards under paragraphs (1) and (2) as a result of conducting a measurement in the simplified measurement

method as announced by the Minister of Environment have the method of packing and quality of packing materials of goods inspected by a specialized institute determined by Ordinance of the Ministry of Environment under conditions prescribed by Ordinance of the Ministry of Environment, fixing a period of time.

(4) The Minister of Environment shall urge a manufacturer etc. to indicate the method of packing and quality of packing materials on the surface of packing under conditions prescribed by Ordinance of the Ministry of Environment

Consideration of Recyclability of Resources in Development Projects

(1) The government shall devise measures necessary to enable the performer of a development project (referring to projects determined by Presidential Decree such as urban development projects under Article 2 (1) 2 of the Urban Development Act; hereinafter the same shall apply) to facilitate the recycling of resources prior to the implementation of such project, taking into consideration the matters in each of the following subparagraphs:

1. Selection of structures and materials to facilitate the recycling of resources at the time of planning and designing a development project;
2. Use of recycled aggregates at the time of carrying out a development project; and
3. Recycling and proper treatment of wastes generated by development projects.

(2) The Special Metropolitan City Mayor or the head of Si/Gun/Gu may advise a business constructing apartment houses or accommodation facilities under Article 2 (2) 2 or 15 of the Building Act to furnish storage spaces, such as built-in closets, or furniture or fixtures of built-in type in order to restrict the generation of wastes.

Separate Storage by Waste Dischargers

(1) The owners, occupants or managers of land or buildings determined by Presidential Decree, who discharge wastes (hereinafter referred to as “waste dischargers”) shall recycle recyclable wastes discharged from the land or buildings in accordance with the criteria determined by Ordinance of the Ministry of Environment or store them separately by kind, character and condition to enable them to be recycled.

(2) The Special Metropolitan City Mayor and the head of Si/Gun/Gu may order a waste discharger who fails to observe the criteria under paragraph (1) to take necessary measures under conditions prescribed by Ordinance of the Ministry of Environment.

Separate Collection of Recyclable Resources

(1) The Minister of Environment may establish guidelines for classification, storage, collection, etc. for the separate collection of recyclable resources in consideration of the quantity of wastes generated and conditions of recycling in order to efficiently utilize recyclable resources. Article 13-2 (Establishment and Operation of Recycling Centers, etc.)

(1) The Special Self-governing Do governor and the head of Si/Gun/Gu shall

establish and operate facilities necessary to facilitate the exchange of second-hand goods and recycling of reusable bulky wastes (hereafter in this Article referred to as “recycling centers”).

(2) The Special Self-governing Do governor and the head of Si/Gun/Gu shall set up at least one recycling center in each Special Self-governing Do and Si/Gun/Gu (referring to the autonomous Gu; hereinafter the same shall apply), and one recycling center shall be installed and operated additionally wherever the population exceeds 200,000 persons.

(3) The Special Self-governing Do governor and the head of Si/Gun/Gu shall, when collecting, sorting and treating bulky wastes, utilize recycling centers preferentially.

6.4.1 LATIN AMERICA AND THE CARIBBEAN

Title	National Directive N° 1289. Federal Programme for Clean Production
Country	Argentina
Became Effective	15 th September 2010
Type of Instrument	National Programme Decree.
Scope	National
Objective	<p>Promote in a coordinated way initiatives to improve environmental performance and efficiency in the production processes, and cooperate in the adoption of sustainable production and consumption practices seeking to increase competitiveness and reduce risks to human health and the environment.</p> <p>Promote and cooperate in sustainable production and consumption practices in the productive sectors particularly in the micro, small and medium scale enterprises.</p> <p>Incorporate criteria aimed at achieving: a) adequate environmental strategy for improving competition and efficiency in the productive sectors; b) optimal use of natural resources, raw materials and inputs; c) substitution of material by others that are less contaminating, minimizing pollution and waste; d) implementation and application of preventive environmental methodologies and technologies, and; e)</p>

the development of products and services that create the least environmental impact, improve social equity and promote economic prosperity.

Main

Forecasts

Definition of the Cleaner Production (CP): is the continuous application of an integrated and preventive environmental strategy to the production processes, products and services, designed to improve efficiency, reduce risks to human health and the environment, through saving raw materials, water and energy, eliminating of hazardous inputs and reducing the quantity and toxicity of emissions and waste at the source.

Sustainable Consumption (SC): The use of goods and services that respond to human needs and provide a better quality of life, while minimizing the use of natural resources, hazardous materials and the generation of waste and pollutants, without compromising the needs of the future generations.

The application of these concepts is carried out by Undersecretary of Control and Pollution Prevention under the Office of the Federal Programme for Cleaner Production. It comprises:

- a) co-financing of cleaner production measures (CPM) always and when they form part of a General Action Plan defined by the SMEs participating in the Clean Production Programmes (CPP and CE) by ANR: up to US \$ 28,000 equivalent to 80% of the project, per company.
- b) Adhere P and MEs to PPL and CE, which have identified common environmental problems, may submit a specific request for the development and implementation on a pilot scale of technologically innovative projects of collective interest in clean production. Upon acceptance, universities, technology and research centers will be convened to submit technical proposals in respect to the call for applications. ANR: up to US \$61,000 for innovation projects. (aprox. \$280,000).
- c) Develop activities for the design and implementation of an information and communication system on clean production at the national level to register and keep track of activities, elaboration of sectoral thematic studies, user guides by sector, training materials and technical assistance for the development of indicators and proposed economic and non-economic incentives for clean production; design of a dissemination strategy, hiring of mass media, and conducting meetings and workshops for dissemination of cleaner production programmes and dissemination of results;

Relevant

**Innovative
Instruments**

Economic incentives for the implementation of cleaner production mechanisms in the industrial sector.

Nationwide incorporation of cleaner production and sustainable consumption concepts.

Development of communication techniques toward society in respect to internalization of businesses with environmental costs.

State support for search and development of cleaner production tools.

Reference

www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 29419 Regulating of the Activities of Recyclers
Country	Peru
Became Effective	08 th October 2009
Type of Instrument	National Law
Scope	National
Objective	Establish the normative framework for the regulation of activities of recycling workers, aimed at protecting, training and promotion of social and labour development, promotion of their formalization, association and contributing to the improvement in the efficient ecological management of solid waste in the country, within the framework objectives and principles of Law no. 28611, General environmental Law.
Main Forecasts	Scope of application: 2.1 For the purposes of this Act, recyclers are considered people who in a dependent or independent form, are engaged in activities of selective recollection for recycling, segregation and marketing on a small scale of non-hazardous solid waste in accordance with the provisions of Law no. 27314, General Solid Waste Act. 2.2. The state recognizes the activities of the recyclers, promotes their formalization and integration in the solid waste management systems of all the cities in the country through the General Directorate of Environmental Health (Digesa), of the Health Ministry and the provincial municipalities. (Art. 2)

Training of EPS-RS and EC-RS. Regional and local governments, in the framework of their legal powers, to promote the formation of recycling associations and small and micro enterprises EPS-RS and EC-RS specialized in recollection for recycling and marketing of solid waste; as well as spell out the provisions that facilitate the incorporation of independent recyclers within the existing ones. The regulations of this current law establish the requirements which should be adhered to by those seeking to use these promotional set of rules. (Art. 6)

Incentives for segregation of the source. Local governments implement incentive programmes for segregating at the source, which can include compensation to the tax payers through the reduction of fares or delivery of goods or services at lower costs or for free, or as part of the environmental certification programmes for companies or institutions in general. (Art. 7)

Fund to promote recycling. The National Environmental Fund (NEF), in coordination with private institutions, creates a special fund aimed at facilitating access to credit for recyclers for purposes related to their activities, formalization and association. (Art. 11)

Relevant Innovative Instruments

Promotion of activities, formalization and association of recyclers.

Reduction of waste generation.

Strengthening of the solid waste recovery system and necessary training in close collaboration with the Environment Ministry.

Mainstreaming decent work patterns.

Reference

www.planetaverde.org.ar/legislacion.php

6.5 Energy

6.5.1 AFRICA

Title	The Energy(Solar Water Heating Regulations) 2012
Country	Kenya
Entry into Force	4 th April 2012
Type of	Subsidiary Legislation

Instrument	
Scope	National
Objective	To require within 5 years of entry into force all existing premises with hot water requirements exceeding 100 liters of water per day to install and use solar water heating systems for example commercial buildings, educational institutions, health institutions,
Main provisions	<p>All premises shall have a minimal annual solar contribution of sixty percent to the premises hot water demand. The remainder energy may come from other traditional sources such as electricity or gas as back-up.</p> <p>Developers, architects, engineers, shall incorporate solar water heating systems in all new premises designs and extensions or alterations to existing premises.</p> <p>Contravention of regulations leads to conviction or fine of 1 Million Kenya Shillings.</p> <p>Institutional Aspect: The Energy Regulatory Commission, licenses, inspects whether all such premises have complied with the regulations and maintains a register of all solar water heating technicians, contractors and systems.</p> <p>The design, installation, repair and maintenance of a solar water heating system shall be in accordance with Solar Water Heating for Domestic Hot Water Kenya Standard KS 1860:2008</p>
Relevant innovative instruments	<p>Obligation and Mandate</p> <p>Renewable Portfolio Standards, Quotas</p>
References	www.erc.co.ke

Title	The Energy (Energy Management) Regulations, 2012
Country	Kenya
Entry into force	28 th September 2012
Type of Instrument	Subsidiary Legislation
Scope	National

Objective	
Main Provisions	<p>“energy audit” means an inspection, survey and analysis of energy flows for energy conservation in a building, process, or system to reduce the amount of energy input into the system without negatively affecting the output;</p> <p>“energy auditor” means a person who carries out inspection, survey and analysis of energy flows for energy conservation in a building, process, or system to reduce the amount of energy input into the system without negatively affecting the output, and includes a firm;</p> <p>“energy consumption rating” means the classification by the commission of premises based on the amount of energy consumed;</p> <p>“energy conservation” means efforts leading to a decrease in energy consumption;</p> <p>“energy investment plan” means the allocation of resources for the purpose of advancement, capacity growth, and improvement of energy efficiency and conservation measures;</p> <p>“energy savings” means the reduction of energy units consumed per unit of production or per square foot.</p> <p>"facility" includes factories, commercial buildings, and institutional buildings, local authorities;</p> <ul style="list-style-type: none"> • The Energy Regulatory Commission mandated to carry out energy consumption rating of facilities to be classified as low, medium or high consumers. • The owner or occupier of every facility shall develop an energy management policy in accordance with the minimum standards
Relevant Innovative Instruments	<p>Energy Consumption Rating</p> <p>Energy Audits</p>
Reference	

Title	Renewable Energy Bill 2011
Country	Ghana
Entry into force	Not applicable
Type of Instrument	Framework Law
Scope	National
Objective	<ul style="list-style-type: none"> • to provide for the utilization of renewable energy sources for electricity and heat generation in an efficient and sustainable manner. • to create an enabling environment to attract investment in renewable energy sources; • the promotion for the use of renewable energy; • the diversification of supplies to safeguard energy security; • improved access to electricity through the use of renewable energy sources; • the building of indigenous capacity in technology for renewable energy sources; • public education of renewable energy production and consumption; and • the regulation of the production and supply of woodfuel and bio-fuel.
Main Provisions	<ul style="list-style-type: none"> • Defines renewable energy as wind, solar, hydro, biomass, bio-fuel, landfill, sewage gas, municipal solid waste, industrial waste, geothermal energy, ocean energy and any other energy source designated in writing by the Minister. • Institutional Aspects: Energy Commission, Public Utilities Regulatory Commission, Ministry of Food and Agriculture and the Environment Protection Agency. • License is required for all commercial activities related to renewable energy and to be issued by the commission and may be rejected on grounds of technical data, national security, public safety, food security, health and environmental safety. • Establishes the feed-in-tariff scheme consisting of renewable energy

purchase obligation, the feed-in-tariff rate and a connection to transmission and distribution systems.

- The Public Utilities Regulatory Commission shall determine the feed-in-tariff rates by taking into account the technology, location of the generation facility, operating norms for the specific technology under consideration, costs associated with construction, commissioning, operation and maintenance of the plant, the reasonable rate of return and the balance between the interest of the consumer.
- The feed-in-tariff rate fixed for electricity from renewable energy sources shall be guaranteed for a period of ten years and subsequently be subject to review every two years.
- An electricity distribution utility shall procure a specified percentage of its total purchase of electricity from renewable energy sources which quota shall be determined by the Public Utilities Regulatory Commission in consultation with the Energy Commission and shall take into account the technology being used to generate electricity, assurance of the financial integrity of public utilities and the net effect of the cost of renewable energy on the end user tariff.
- A bulk customer permitted by the Commission, shall purchase a specified percentage of its total purchase of electricity from renewable sources or pay to the Commission a premium instead of the purchase of electricity.
- Establishes the Renewable Energy Fund for the **promotion** of grid interactive renewable electricity by means of financial incentives, feed-in-tariffs and capital subsidies; scientific and technological research into renewable energy; research into the establishment of standards for the utilisation of renewable energy; the production of equipment for the development and utilisation of renewable energy in the country; programmes to adopt international best practices; mini grid and off grid renewable power systems for remote areas and islands; and renewable energy projects for non-electricity purposes; the **development** of infrastructure for renewable energy, renewable energy projects and capacity building for the energy sector; the **provision** of production based subsidies for renewable generation and **equity participation(ownership)** in renewable energy projects.
- The sources of money for the Fund are moneys provided by Parliament, the premium payable by bulk customers as earlier stated, donations, grants and gifts received for renewable energy activities and money generated from the

	<p>provision of services for renewable energy.</p> <ul style="list-style-type: none"> • To produce bio-fuel from feedstock, permits shall be issued by the Ministry of Food and Agriculture and the Environmental Protection Agency. On commencement of the Act, the Minister shall designate bio-fuel as a petroleum product in accordance with the National Petroleum Authority Act and 2005 and the pricing shall be in accordance with the prescribed petroleum pricing formula by the National Petroleum Authority. • Provides for bio-fuel blend with petrol and proportions shall be determined from time to time by the National Petroleum Authority in consultation with the Energy Commission and any person who sells bio-fuel at the point of sale shall display conspicuously the proportion of the bio-fuel contained in the bio-fuel blend. • The bill also requires the Commission to consult the Forestry Commission, the Environmental Protection Agency and any other relevant institution to develop programmes to sustain wood fuel production.
Relevant innovative instruments	<p>Feed-in-Tariff</p> <p>Renewable Portfolio standards (Quotas)</p> <p>Obligation and Mandate</p>
References	

Title	Energy Efficiency Standards and Labeling (Non-ducted Air Conditioners and Self Ballasted Fluorescent Lamps) Regulations, 2005 (LI1815)
Country	Ghana
Entry into Force	2005
Type of Instrument	Subsidiary Legislation
Scope	National

Objective	<p>To ensure that only electrical appliances that meet minimum energy efficiency standards enter the Ghanaian market.</p> <p>Air Conditioners: The minimum energy efficiency standard for air conditioners to be acceptable in Ghana is an Energy Efficiency Ratio (EER) of 2.8 watts of cooling per watt of electricity input equivalent to 9.55BTU/Watt.</p>
Main Provisions	<p>Compact Fluorescent Lamps (CFLs) should have a minimum service life of 6,000 hours. The lamps should also have a minimum efficacy of 33 lumens per watt. This means the lamp should provide a minimum of 33 lumens of light per each watt of electricity consumed.</p> <p>The Energy Guide label affixed to the product provides important information on the model, manufacturer, and energy efficiency star rating (a one-star to five –star energy efficiency rating in which the ascending number of stars represents a higher energy efficiency ratio), estimated annual energy consumption, cooling output and type of refrigerant.</p> <p>It is an offence under to import, display for sale or sell Air Conditioners and Compact Fluorescent Lamps in Ghana unless they meet the minimum performance standards and are properly labeled.</p>
Relevant Innovative Instruments	<p>Energy efficiency</p> <p>Eco-labeling</p>
Reference	http://www.energycom.gov.gh

6.5.2 ASIA-PACIFIC

Title	Energy Conservation Law
Country	People’s Republic of China
Entry into force	1 April 2008
Type of Instrument	Framework Law
Scope	National
Objective	This Law is enacted with a view to promoting energy conservation in the whole society, enhancing energy utilization efficiency, protecting and

improving environment, and promoting comprehensive, coordinated and sustainable economic and social development.

Energy: coal, petroleum, natural gas, biomass energy, electric power, heat power and other resources from which useful energy can be derived directly or through processing or transformation.

Energy conservation: the strengthening of energy utilization administration, adoption of measures which are technologically feasible, economically rational and bearable to the environment and society, reduction in energy consumption, losses and waste discharge in all links from energy production to consumption, prevention of waste, and more efficient and rational utilization of *energy* resources.

Main provisions

Energy conservation is a basic national policy of China. The State implements an energy development strategy of giving consideration to conservation and development simultaneously, and placing top priority on conservation.

General Provisions :

1) The State Council and the people's governments at and above the county level shall incorporate energy conservation work into national economic and social development plans, annual plans, and organize the formulation and implementation of long and medium-term special plans and annual energy conservation plans.

2) The State implements the energy conservation target responsibility system and the energy conservation examination system, and takes the completion of energy conservation targets as an item to assess and evaluate the performance of the local people's government and the persons in charge thereof.

3) The State implements industrial policies good for energy conservation and environmental protection, restricts the development of high-energy-consumption and high-pollution industries, and develops energy-saving and environmentally friendly industries.

4) The State encourages and supports the research, development, demonstration and popularization of energy conservation science and technology, and promotes technological innovation and progress in energy conservation.

Administration of Energy Conservation :

1) The State Council and the local people's governments at and above the county level shall strengthen their leadership to energy conservation work in disposition, coordination, supervision, inspection and promotion of the energy conservation work.

2) The energy conservation administrative department and other departments concerned under the local people's government at or above the county level shall, within their respective functions, strengthen supervision and inspection of the implementation of laws, regulations and standards on energy conservation, and investigate and dispose of illegal energy consumption.

3) The standardization administrative department and other departments concerned under the State Council shall organize the formulation and real-time revision of relevant national standards and industrial standards for energy conservation, so as to establish and improve the energy conservation standard system.

4) National standards and industrial standards for construction energy conservation shall be set down by the construction administrative department under the State Council and be promulgated by following statutory procedures.

Rational Use of Energy and Energy Conservation :

An energy consuming entity shall, in accordance with the principle of rational use of energy, strengthen its management of energy conservation, formulate and implement energy conservation plans and technological measures, and reduce energy consumption.

1) *"The energy consuming entity" refers to the realm of construction, Transportation, Public Institutions, etc.*

2) The State strengthens energy conservation management of key energy consuming entities:

The following energy consuming entities shall be key energy consuming entities:

i) energy consuming entities having the annual energy consumption of more than 10,000 tons of standard coal; and

ii) energy consuming entities having the annual energy consumption between 5,000 and 10,000 tons of standard coal as designated by the department concerned under the State Council or the energy conservation administrative departments under the people's governments of provinces, autonomous regions and municipalities directly under the Central Government.

This law also refers to **Technological Progress in Energy Conservation, Incentive Measures** and **Legal Liabilities** which are very important.

Relevant innovative instruments

1) The State implements **the energy conservation target responsibility system and the energy conservation examination system**, and takes the completion of energy conservation targets as an item to assess and evaluate the performance of the local people's government and the persons in charge thereof.

2) **Energy Conservation by Public Institutions**

A public institution shall be very frugal, eliminate waste, take the lead in using energy saving products and equipment to enhance energy utilization efficiency.

"public institutions" all the state organs, public institutions, groups and organizations that wholly or partly use fiscal funds.

A public institution shall formulate its annual energy conservation targets and implementing schemes, strengthen energy consumption measuring and monitoring management, and submit energy consumption reports for the previous year to the public institutions administrative department under the people's government at the same level.

A public institution shall strengthen the management of its energy consuming systems, and ensure that the operation of its energy consuming systems comply with relevant national standards.

A public institution shall make energy statistics according to the provisions, and adopt measures for enhancing energy utilization efficiency according to energy statistical results.

3) **strengthened energy-saving management of key energy consuming entities:**

A key energy consuming entity shall submit reports on energy utilization situations for the previous year to the energy conservation administrative department every year. Energy utilization situations include energy consumption situation, energy utilization efficiency, completion of energy conservation targets, analysis of energy conservation benefits, and energy conservation measures, etc.

The energy conservation administrative department shall examine the reports on energy utilization situations submitted by key energy consuming entities. With respect to those key energy consuming entities whose energy

conservation management rules are not sound, energy conservation measures are not implemented or energy utilization efficiency is low, the energy conservation administrative department shall carry out on-site investigations, organize energy efficiency detection of energy consuming equipment, order to implement energy audit, put forward written rectification requirements, and order them to make rectification within a time limit.

A key energy consuming entity shall set up energy management posts, hire energy managerial personnel among those persons who have practical experiences and a medium or higher technical title, and report them to the energy conservation administrative department and the departments concerned for archival filing.

Energy managerial personnel shall be responsible for analyzing and evaluating the entity's energy consumption situations, organize the compilation of the entity's reports on energy utilization situations, put forward measures for improving the entity's energy conservation work, and organize the implementation of these measures.

4) **Incentives:**

The central finance and the provincial local finance shall arrange special energy conservation funds to support the research and development of energy conservation technologies, demonstration and popularization of energy conservation technologies and products, implementation of key energy conservation projects, publicity and training of energy conservation, information service, praises and awards, etc.

i)The State applies preferential taxes and other supportive policies to the energy conservation technologies and products that need support and are listed into the popularization catalogue prescribed in Article 58 of this Law.

ii)The State guides financial institutions to increase the credit support to energy conservation projects, and offer preferential loans to qualified projects for research and development of energy conservation technologies, production of energy conservation products and transformation of energy conservation technologies, etc.

iii)The State encourages and guides relevant social sectors to increase monetary investment into energy conservation and accelerate technological transformation of energy conservation.

iiii)The State implements the price policy good for energy conservation, and guides energy consuming entities and individuals to conserve energy.

The State implements the systems of peak-valley TOU power price, seasonal power price and interruptible load power price, encourages power users to

rationally adjust power load; and implements differential power price policies of elimination, restriction, permission and encouragement to the enterprises of iron and steel, non-ferrous metals, building materials, chemicals and other major energy-consuming industries.
Etc.

Reference

Title	Renewable Energy Law
Country	People's Republic of China
Entry into force	1 January 2006
Type of Instrument	Framework Law
Scope	National
Objective	<p>In order to promote the development and utilization of renewable energy, improve the energy structure, diversify energy supplies, safeguard energy security, protect the environment, and realize the sustainable development of the economy and society, this Law is hereby prepared.</p> <p><i>Renewable energy: non-fossil energy of wind energy, solar energy, water energy, biomass energy, geothermal energy, and ocean energy, etc.</i></p> <p><i>This Law does not apply to the direct burning of straw, firewood and dejecta, etc. on low-efficiency stove.</i></p>
Main provisions	<p>The Government lists the development of utilization of renewable energy as the preferential area for energy development and promotes the construction and development of the renewable energy market by establishing total volume for the development of renewable energy and taking corresponding measures.</p> <p>Basic Administrative System :</p> <p>Energy authorities of the State Council implement management for the development and utilization of renewable energy at the national level. Relevant departments of the State Council are responsible for the management of relevant development and utilization of renewable energy within their authorities.</p> <p>Energy authorities of local people's governments above the county level are responsible for the management of the development and utilization of renewable energy within their own jurisdiction. Relevant departments of local people's governments above the county level are responsible for the</p>

management of relevant development and utilization of renewable energy within their authorities.

Resource Survey and Development Plan:

Energy authorities of the State Council are responsible for organizing and coordinating national surveys; Relevant departments of the State Council, within their respective authorities, are responsible for related renewable energy resource surveys.

Energy authorities of the State Council sets middle and long-term target of the total volume for the development and utilization of renewable energy at the national level.

Industry Guidance and Technology Support :

Energy authorities in the State Council shall prepare and promulgate development guidance catalogs for renewable energy industries.

Price Management and Fee Sharing :

Grid power price of renewable energy power generation projects shall be determined by the price authorities of the State Council .The price for grid-connected power shall be publicized.

Incentives and legal responsibilities are also regulated in this law.

Relevant innovative instruments	<p>Incentives :</p> <ul style="list-style-type: none"> 1)special fund; 2)subsidized loans; 3)favorable tax policies; 4)Two forms of renewable energy pricing: a government-set price and a government-guided price
Reference	

Title	Act on the Promotion of New Energy Usage
Country	Japan
Entry into force	18 April 1997 (Amended in 2005)
Type of Instrument	Sectoral Law
Scope	National
Objective	Article 1: In order to contribute to the assurance of stable and suitable supplies of energy according to the domestic and international economic and social environment, the purpose of this Act is to promote national efforts with regard

to new energy utilization, etc., as well as to take measures necessary to facilitate the utilization, etc. of new energy, thereby contributing to the sound development of the national economy and stabilization of lives of the citizenry.

Main provisions Chapter II Basic Policy, etc.:

With consideration of the long-term outlook for energy supply and demand, the specific characteristics of the New Energy Utilization, etc., and the technical levels with respect to New Energy Utilization, etc., and giving due consideration to the preservation of the environment, the Minister of Economy, Trade and Industry shall prescribe and publicize the Basic Policy in regard to promoting New Energy Utilization, etc.

Chapter III Promoting New Energy Utilization, etc. as Carried out by Business Operators:

Article 8 (1) Business operators who intend to practice New Energy Utilization, etc. in their business activities (including those who intend to establish a juridical person in order to practice said New Energy Utilization, etc.) shall prepare a plan concerning said New Energy Utilization, etc. (hereinafter referred to as "Utilization Plan") and submit said plan to the competent minister and may receive an accreditation to the effect that said Utilization Plan is suitable.

(2) A Utilization Plan shall describe the matters listed in the following.

(i) Goals for New Energy Utilization, etc.

(ii) Content of New Energy Utilization, etc. and the implementation period thereof

(iii) The amount of funds necessary for New Energy Utilization, etc. and the procurement method thereof

(3) In case an accreditation set forth in paragraph (1) is applied for, when the competent minister finds that the Utilization Plan conforms to each item in the following, he/she shall provide an accreditation to that effect.

(i) The matters as listed in item (i) and item (ii) of the preceding paragraph are suitable in light of the Basic Policy, and also are particularly effective in disseminating the New Energy Utilization, etc. for our entire country.

(ii) The matters as listed in item (ii) and item (iii) of the preceding paragraph are suitable to carry out New Energy Utilization, etc. with certainty

	<p>Article 10 The New Energy and Industrial Technology Development Organization shall carry out the following business activity in order to promote New Energy Utilization, etc.</p> <p>(i) Guarantee debts pertaining to the funds required for New Energy Utilization, etc. which is done by a Certified Business Operator in accordance with a Certified Utilization Plan.</p> <p>(ii) Carry out businesses incidental to the business listed in the preceding item.</p> <p>Article 13 articulates a special provision for The Small and Medium Business Investment & Consultation Companies Act (1963) that provides a financial incentive to encourage small and medium business to invest in New Energy Utilization, etc.</p>
Relevant innovative instruments	This Act encourages the use of new energy and provides the economic incentives to invest in New Energy Utilization. It also requires The New Energy and Industrial Technology Development Organization to carry out necessary activity to promote New Energy Utilization, etc.
Reference	

Title	Clean Coal Administration Act 2008
Country	Australia
Entry into force	1 July 2008
Type of Instrument	Sectoral Law
Scope	National
Objective	An Act to establish the Clean Coal Fund to provide funding for clean coal technologies; and to establish the Clean Coal Council.
Main provisions	There is to be established in the Special Deposits Account a fund called the

	<p>Clean Coal Fund. The purposes of the Fund are as follows: to provide funding for research into, and development of, clean coal technologies, to provide funding to demonstrate clean coal technologies, to provide funding to increase public awareness and acceptance of the importance of reducing greenhouse gas emissions through the use of clean coal technologies, and to provide funding for the commercialisation of clean coal technologies.</p>
<p>Relevant innovative instruments</p>	<p>Clean Coal Fund</p> <p>Establishment of Fund</p> <p>(1) There is to be established in the Special Deposits Account a fund called the Clean Coal Fund.</p> <p>(2) The Fund is to be administered by the Minister.</p> <p>Purposes of Fund</p> <p>The purposes of the Fund are as follows:</p> <p>(a) to provide funding for research into, and development of, clean coal technologies,</p> <p>(b) to provide funding to demonstrate clean coal technologies,</p> <p>(c) to provide funding to increase public awareness and acceptance of the importance of reducing greenhouse gas emissions through the use of clean coal technologies,</p> <p>(d) to provide funding for the commercialisation of clean coal technologies.</p> <p>Payments into Fund</p> <p>(1) There is payable into the Fund:</p> <p>(a) all money advanced by the Treasurer for the Fund, and</p> <p>(b) all money appropriated by Parliament for the purposes of the Fund, and</p> <p>(c) the proceeds of the investment of money in the Fund, and</p> <p>(d) all money directed or authorised to be paid into the Fund by or under this or any other Act or law, and</p> <p>(e) all money received from voluntary contributions to the Fund made by any person or body.</p> <p>(2) A voluntary contribution to the Fund may be made on the condition that the contribution is to be used only for a specified purpose.</p> <p>Payments out of Fund</p> <p>(1) There is payable from the Fund:</p> <p>(a) payments approved by the Minister for the purposes of the Fund, and</p> <p>(b) administrative expenses incurred in relation to the Fund or the Council, and</p> <p>(c) payments directed or authorised to be paid from the Fund by or under this or any other Act or law.</p> <p>(2) Any money paid into the Fund on the condition that it is to be used only for</p>

a specified purpose, including any proceeds of the investment of that money in the Fund, is only payable from the Fund for the specified purpose and a proportionate share of the administrative expenses payable from the Fund.

(3) The Minister is to produce an annual report detailing fund allocations and the projects and other activities that received funding under this Act during the year.

(4) The annual report is to include an evaluation of the effectiveness of each of the projects and other activities that received funding under this Act.

(5) The annual report is to be tabled in each House of Parliament within 6 months after the end of the financial year to which it relates.

(6) The Minister is to publish each annual report, so as to promote clean coal technologies to the NSW public.

Reference

Title	Clean Energy Act 2008
Country	Australia
Entry into force	The provisions of the Act, other than the following provisions, commence on a day to be fixed by proclamation— (a) part 11, other than sections 40, 41 and 48; (b) part 14, other than sections 108, 109 and 116.
Type of Instrument	Sectoral Law
Scope	Regional
Objective	The main object of this Act is to improve the efficiency and management of the use of energy, and the conservation of energy, in relation to particular businesses and other activities.
Main provisions	
Relevant innovative instruments	Energy use information Energy provider must give regulator information about energy use Smart Energy Savings Register (1) The regulator must keep a register (the Smart Energy Savings Register) of each participating business that is, or may be, registered under section 11. (2) The register must include the following information for each participating business—

- (a) the name of the participating business;
- (b) the address of the principal place of business of the participating business;
- (c) a phone number for the participating business;
- (d) if the participating business is a corporation—
 - (i) the address of the corporation’s registered office;and
 - (ii) the Australian company number for the corporation;
- (e) the website, if any, of the participating business;
- (f) for a registered participating business—the total amount of energy used by the participating business in its most recently completed verification year.

Energy use audit

Participating business must carry out energy use audit.

(1) A registered participating business must carry out an energy audit no later than 12 months after the end of each verification year for the participating business.

Maximum penalty—100 penalty units.

Note—

Given the length of an energy savings plan under section 16, a verification year could be expected to be established approximately every 5 years under section 9.

(2) In this section—energy audit means an energy audit prescribed under a regulation, and if no energy audit is prescribed, an energy audit that complies with a level 2 energy audit under AS/NZS 3598:2000 (Energy Audits).

Reference

Title	Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy
Country	Korea
Entry into force	31 December 2004
Type of Instrument	Framework Law
Scope	National
Objective	The purpose of this Act is to contribute to the preservation of the environment,

	<p>the sound and sustainable development of the national economy, and the promotion of national welfare by diversifying energy sources through the promotion of technological development, use and distribution of new energy and renewable energy, and the activation of the new energy industry and the renewable energy industry, and by promoting the stable supply of energy, environment-friendly conversion of the energy structure, and the reduction of greenhouse gas emissions.</p>
<p>Main provisions</p>	<p>This Act provides for the preservation of the environment, and for the sound and sustainable development of the national economy by diversifying energy resources through the promotion of technological development, use and diffusion of new and renewable energy, by activating the new and renewable energy industry, and by promoting the stable supply of energy, environment-friendly conversion of the energy structure and the reduction of greenhouse gas emissions. The Minister of Knowledge Economy shall establish a basic plan for the promotion of technological development and use or diffusion of new and renewable energy which shall be deliberated by the New and Renewable Energy Policy Council. The text lays down procedures for obtaining certificates for manufacturing or importing and selling new and renewable energy facilities, and for registering individuals who intend to specialize in installing new and renewable energy facilities.</p>
<p>Relevant innovative instruments</p>	<p>Policies and Encouragement</p> <p>(1) The Government shall develop policies concerning the promotion of the technological development, use and distribution of new and renewable energy.</p> <p>(2) The Government shall encourage, protect and foster the voluntary technological development, use and distribution of new and renewable energy by local governments, public institutions under Article 4 of the Act on the Management of Public Institutions (hereinafter referred to as “public institutions”), or enterprises.</p> <p>Establishment of Basic Plan</p> <p>(1) The Minister of Knowledge Economy shall establish a basic plan for the promotion of technological development, use and distribution of new and renewable energy (hereinafter referred to as “basic plan”), following deliberation by the New and Renewable Energy Policy Council under Article 8 after consulting with the heads of related central administrative agencies.</p> <p>Investment Recommendation and Mandatory Use of New and Renewable Energy</p> <p>(1) Where the Minister of Knowledge Economy deems it necessary to promote</p>

the technological development, use and distribution of new and renewable energy, he/she may recommend a person carrying on energy-related business to conduct, invest in or contribute to the projects under each subparagraph of Article 10.

(2) Where the Minister of Knowledge Economy deems it necessary to facilitate the use or distribution of new and renewable energy, and to activate the new and renewable energy industry, he/she may require any of the following persons to mandatorily install new and renewable energy facilities in a building newly built, extended, or remodeled by such person in order to use energy supplied utilizing new or renewable energy over a certain percentage of the estimated volume of energy use computed as at the time of its design, as prescribed by Presidential Decree:

1. The State and a local government;
2. A public corporation under Article 5 of the Act on the Management of Public Institutions (hereinafter referred to as “public corporation”);
3. A government-contributed institution to which the Government has contributed an amount equivalent to or more than that prescribed by Presidential Decree;
4. A government-invested corporation under subparagraph 6 of Article 2 of the State Property Act;
5. A corporation to which a local government, or public corporation, government contributed institution or government-invested corporation under subparagraphs 2 through 4 has invested at a ratio or amount equivalent to or more than that prescribed by Presidential Decree;
6. A corporation established pursuant to special Acts.

(3) The Minister of Knowledge Economy may recommend any factory, place of business, collective housing complex, etc., deemed appropriate to use new and renewable energy as designated by him/her to use such energy or to install facilities for the use of such energy.

Certification on Building Using New and Renewable Energy

(1) An owner of a building, the scale of which is equivalent to or greater than that prescribed by Presidential Decree may obtain certification on a building using new and renewable energy (hereinafter referred to as “building certification”) certifying that the building uses new or renewable energy not less than a certain percentage of the total volume of energy use from an institution designated by the Minister of Knowledge Economy (hereinafter referred to as “building certification institution”).

New and Renewable Supply Certificates

A supplier of new and renewable energy (hereinafter referred to as “new and renewable energy supplier”) may obtain a certificate certifying the fact of supply (including a certificate in an electronic document; hereafter referred to as “supply certificate”) issued by an institution designated by the Minister of Knowledge Economy in order to certify energy supply using new and renewable energy (hereinafter referred to as “supply certification institution”): Provided, That where the power generation price difference is subsidized pursuant to Article 17, or governmental support prescribed by Presidential Decree, such as support for new and renewable energy facilities, etc. is provided, the issuance of a supply certificate may be restricted, as prescribed by Presidential Decree.

Reference

Title	Energy Conservation Promotion Act (Amended in 2007)
Country	Kingdom of Thailand
Entry into force	This Act enters into force on the day after being published in the Government Gazette.
Type of Instrument	Sectorial Law
Scope	National
Objective	The act aims to the production of energy (by hydropower generation, petroleum oil, gas, fire, wood combustion, electricity), and to the reduction of any losses due to misuse or mishandling.
Main provisions	<ol style="list-style-type: none"> 1) authority and duties of the National Energy Policy Council; 2) Energy conservation in factories, buildings, machinery, equipment and promotion of energy-efficient materials; 3)Energy Conservation Promotion Fund <ol style="list-style-type: none"> i) A Fund Committee and its sub-committee ii) The receipt, disbursement and keeping of money, the sale of assets of the Fund and the accounting shall comply with the regulations prescribed by the Fund Committee, by and with the consent of the Ministry of Finance. iii) the person who has the duty to send contributions to the Fund. iiii) competent officers’ duty.

	4) Incentive measures, Appeals and Punishment Etc.
Relevant innovative instruments	<p>1) Energy Conservation Promotion Fund A fund shall be set up in the Ministry of Energy, under the name " Energy Conservation Promotion Fund", to be used as working capital and as grants or subsidy in carrying out energy conservation work.</p> <p>2) Juristic management In the case where it is required to respect and certify the energy management, the energy consumption of machinery or equipment, and the quality of energy— efficient materials or equipment under Section 47 (3), the Director General may authorize a person or a juristic person to undertake the tasks instead of the competent officers.</p> <p>3) Measures for promotion and assistance i) Exemption from paying surcharges under this Act; and ii) Grant or subsidy from the Fund under Section 25.</p>
References	

Title	Energy Efficiency (Labeling of Products) Ordinance
Country	Hongkong, People's Republic of China
Entry into force	9 May 2008, 9 November 2009]
Type of Instrument	Sectoral Law
Scope	Regional
Objective	An Ordinance to require the provision by suppliers of information, etc. relating to specified energy-using products and the display of energy labels on such products and to provide for related matters.
Main provisions	<p>Labeling of prescribed products and submission of information and documents.</p> <p>Prohibition on supply of prescribed products by manufacturer or importer without reference number and energy label.</p> <p>Prohibition on supply of prescribed products by person other than manufacturer or importer without reference number and energy label.</p> <p>Submission of specified information and specified documents for product model.</p> <p>Improvement notices, prohibition notices and removal of reference number.</p> <p>The Director may serve an improvement notice on a person if he is of the opinion that the person—</p>

(a) is contravening a requirement under this Ordinance; or
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(b) has contravened such a requirement in circumstances that make it likely that the contravention will continue or be repeated.

The Director may serve a prohibition notice on a person who supplies a prescribed product prohibiting that person from supplying the prescribed product, if he reasonably believes that—

(a) the product is not a product of a listed model;

(b) its energy label is not attached or affixed in accordance with this Ordinance; or

(c) it bears an energy label containing false or misleading information about the energy efficiency or performance characteristics of the product.

In some conditions the director has the authority to Removal of reference number of listed model from record.

Enforcement powers.

The Director may in writing appoint any public officer not below the rank of assistant electrical inspector to be an authorized officer for the purpose of this Ordinance.

Appeals

The ordinance provides for the procedure of appeals.

Code of practice

For the purpose of providing practical guidance in respect of any requirement under this Ordinance, the Director may—

(a) approve and issue such codes of practice (whether prepared by him or not) as in his opinion are suitable for that purpose; and

(b) approve such codes of practice issued or proposed to be issued otherwise than by him as in his opinion Cap 598 - ENERGY EFFICIENCY (LABELLING OF PRODUCTS) ORDINANCE 16 are suitable for that purpose.

Relevant innovative instruments

Labeling of prescribed products and submission of information and documents.
 Enforcement powers.

The Director may in writing appoint any public officer not below the rank of assistant electrical inspector to be an authorized officer for the purpose of this Ordinance.

The authorized officials has power to enter premises for routine inspection, power to enter premises with warrant under section 26 in other cases, power of detention and power to require testing.

Reference

Title	Energy Conservation Act 2012
Country	Singapore
Entry into force	11 November 2012
Type of Instrument	Sectoral Act
Scope	National
Objective	This is an Act to mandate energy efficiency requirements and energy management practices to promote energy conservation, improve energy efficiency and reduce environmental impact, and to make consequential and related amendments to certain other written laws.
Main provisions	<p>Energy labelling and minimum performance standards for registrable goods : (1) No person shall, in the course of any trade or business, supply any registrable goods in Singapore on or after the effective date for those goods unless the registrable goods — (a) are registered under section 13(4); (b) are labeled in the prescribed manner; and (c) meet such minimum energy efficiency standards as may be prescribed. (2) Any person who contravenes subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000.</p> <p>Energy management practices for corporations: Any corporation which qualifies as a registrable corporation shall, within the period specified in the order under section 22(1), apply in such form and manner as may be prescribed, to the Director-General to be registered.</p> <p>Energy efficiency improvement plans: An energy efficiency improvement plan shall — (a) contain such information (including information on the implementation of any part of the plan) as may be prescribed; and (b) be submitted at the prescribed intervals and within the prescribed period.</p> <p>Fuel economy labeling, etc., of motor vehicles: The Transport Minister may, after consultation with the Land Transport Authority, by order published in the Gazette, declare any class, description or type of motor vehicle to be subject to the fuel economy requirements in this Division from the date specified in the order.</p> <p>Energy efficiency improvement plans: An energy efficiency improvement plan shall — (a) contain such information (including information on the implementation of any part of the plan) as may be prescribed; and (b) be</p>

	<p>submitted at the prescribed intervals and within the prescribed period.</p> <p>Energy and environment impact surveys: The Director-General may, from time to time, undertake investigations or surveys of the levels of energy consumption, energy production or greenhouse gas emissions for the purposes of —(a) assessing the impact on the environment of certain industries or activities; or (b) advising the Minister or other public bodies concerning energy or environmental policies.</p>
Relevant innovative instruments	Energy labeling and minimum performance standards for registrable goods; energy efficiency improvement plans and energy and environment impact surveys
Reference	

Title	Renewable Energy Act of 2008
Country	Philippines
Entry into force	28 July 2008
Type of Instrument	Departmental Act
Scope	National
Objective	<p>This is an Act to promote the development, utilization and commercialization of reviewable energy resources.</p> <p>It helps to accelerate the exploration and development of renewable energy resources such as, but not limited to, biomass, solar, wind, hydro, geothermal and ocean energy sources; to increase the utilization of renewable energy by institutionalizing the development of national and local capabilities in the use of renewable energy systems, and promoting its efficient and cost-effective commercial application by providing fiscal and nonfiscal incentives; to encourage the development and utilization of renewable energy resources as tools to effectively prevent or reduce harmful emissions and thereby balance the goals of economic growth and development with the protection of health and the environment; and to establish the necessary infrastructure and mechanism to carry out the mandates specified in this Act and other existing laws.</p>
Main provisions	Renewable Portfolio Standard (RPS). All stakeholders in the electric power industry shall contribute to the growth of the renewable energy industry of the

country.

Feed-In Tariff System. To accelerate the development of emerging renewable energy resources, a feed-in tariff system for electricity produced from wind, solar, ocean, run-of-river hydropower and biomass is hereby mandated.

Renewable Energy Market (REM). To facilitate compliance with Section 6 of this Act, the DOE shall establish the REM and shall direct PEMC to implement changes to the WESM Rules in order to incorporate the rules specific to the operation of the REM under the WESM.

Net-metering for Renewable Energy. Subject to technical considerations and without discrimination and upon request by distribution end-users, the distribution utilities shall enter into net-metering agreements with qualified end-users who will be installing the RE system.

Transmission and Distribution System Development. TRANSCO or its successors-in-interest or its buyer/concessionaire and all DUs, shall include the required connection facilities for RE-based power facilities in the Transmission and Distribution Development Plans.

Government Share. To further promote the development of RE projects, the government hereby waives its share from the proceeds of micro-scale projects for communal purposes and non-commercial operations, which are not greater than one hundred kilowatts (100 kW).

Compliance with Environmental Regulations. All RE explorations, development, utilization, and RE systems operations shall be conducted in accordance with existing environmental regulations as prescribed by the DENR and/or any other concerned government agency.

Incentives for Renewable Energy Projects and Activities. RE Developers of renewable energy facilities, including hybrid systems, in proportion to and to the extent of the RE component, for both power and non-power applications, as duly certified by the DOE, in consultation with the BOI, shall be entitled to the following incentives

Environmental Compliance Certificate (ECC). - Notwithstanding Section 17 (b)(3)(iii) of Republic Act No. 7160, it would be sufficient for the renewable energy developer to secure the Environmental Compliance Certificate (ECC) from the corresponding regional office of the DENR.

Hybrid and Cogeneration Systems. - The tax exemptions and/or incentives provided for in Section 15 of this Act shall be availed of by registered RE Developer of hybrid and cogeneration systems utilizing both RE sources and conventional energy: Provided, however, that the tax exemptions and incentives shall apply only to the equipment, machinery and/or devices utilizing RE resources.

Incentives for RE Commercialization. All manufacturers, fabricators and suppliers of locally-produced RE equipment and components didy recognized and accredited by the DOE, in consultation with the DOST, the DOF and the DTI, shall, upon registration with the BOI, be entitled to the privileges set forth under this section.

Creation of the National Renewable Energy Board (NREB). The NREB is hereby created.

Renewable Energy Trust Fund (RETF). A Renewable Energy Trust Fund is hereby established to enhance the development and greater utilization of renewable energy

Adoption of Waste-To-Energy Technologies. The DOE shall, where practicable, encourage the adoption of waste-to-energy facilities such as. but not limited to, biogas systems..

Creation of the Renewable Energy Management Bureau. For the purpose of implementing the provisions of this Act, a Renewable Energy Management Bureau (REMB) under the DOE is hereby established, and the existing Renewable Energy Management Division of the Energy Utilization Management Bureau of the DOE.

Penalty Clause. Any person who willfully commits any of the prohibited acts enumerated under this Act shall be imposed with the penalties provided herein. Any person, who willfully aids or abets the commission of a crime prohibited herein or who causes the commission of any such act by another, shall be liable in the same manner as the principal.

Relevant innovative instruments

This Act established the National Renewable Energy Board (NREB), and the Renewable Energy Management Bureau to implement the provisions of this Act. This Act established Renewable Portfolio Standard (RPS), Renewable Energy Market (REM), and Feed-In Tariff System to accelerate the development of emerging renewable energy resources.

This Act asked the government to waive its share from the proceeds of micro-scale projects for communal purposes and non-commercial operations in order to further promote the development of RE projects.

This Act formulated a series of incentives for renewable energy projects and activities, including Income Tax Holiday (ITH), Duty-free Importation of RE Machinery, Equipment and Materials, Special Realty Tax Rates on Equipment and Machinery, Net Operating Loss Carry-Over (NOLCO), Corporate Tax Rate, Accelerated Depreciation, Zero Percent Value-Added Tax Rate, Cash Incentive of Renewable Energy Developers for Missionary Electrification, Tax Exemption of Carbon Credits, and Tax Credit on Domestic Capital Equipment and Services.

This Act established a series of incentives for RE Commercialization, including Tax and Duty-free Importation of Components, Parts and Materials, Tax Credit on Domestic Capital Components, Parts and Materials, Income Tax Holiday and Exemption, and Zero-rated Value-Added Tax Transactions.

Etc.

Reference

Title	The Law on Energy
Country	Indonesia
Entry into force	10 August 2007
Type of Instrument	Sectoral Law
Scope	National
Objective	<p>In the frame of supporting the sustainable national development and improving the national energy tenacity, the objectives of energy management are:</p> <ul style="list-style-type: none"> a. the achievement of independence in energy management; b. the security of domestic energy availability, both from domestic and overseas sources. c. the availability of energy sources from domestic and/or overseas as referred to in point b for: <ul style="list-style-type: none"> 1. the fulfillment of domestic energy needs; 2. the fulfillment of domestic industrial raw material needs; and 3. the increase of state currency; d. the security of optimum, integrated, and sustainable management of energy resources. e. the efficient utilization of energy in all sectors. f. achievement of increased access of poor people and/or those who live in

remote area to the energy to realize the people welfare and prosperity in fair and evenly distributed way by:

1. providing assistance to increase the availability of energy for poor people;
2. building energy infrastructure for under-developed regions in order to reduce the inter-regional disparity.

g. the achievement of energy industrial capability development and domestic energy services to be independent and improving the professionalism of human resources.

h. the creation of employment opportunity; and

i. the preservation of living environment functions sustainability.

Main provisions

- 1、 The principle and objective
- 2、 energy arrangement
- 3、 energy buffering reserve
- 4、 energy crisis and emergency situation
- 5、 energy price
- 6、 environment and safety
- 7、 domestic content level
- 8、 international cooperation
- 9、 energy policy and national energy council
- 10、 regional energy general plan
- 11、 people right and participation
- 12、 energy management
- 13、 exploitation
- 14、 energy conservation

Relevant innovative instruments

Environment and safety

(1)Any energy management activity is obliged to prioritize the usage of environmental friendly technology and meets the terms required in the legislation on living environment sector.

(2)Any energy management activity is obliged to meet the terms required in the legislation on safety sector which covers standardization, security and safety of installation, as well as occupational safety and health.

National Energy General Plan & Regional Energy General Plan

<p>People Rights and Participation</p> <p>(1) Anyone has the right to obtain energy.</p> <p>(2) People, either individually or in group, can have the role in:</p> <p>a. the composing of national energy general plan and regional energy general plan and</p> <p>b. energy development for public interest.</p>
Reference

Title	Renewable Energy Act, 2011
Country	Malaysia
Entry into force	23 May 2011
Type of Instrument	Sectoral
Scope	National
Objective	To increase the generation of electricity from renewable sources of energy (solar photovoltaic, biogas, biomass and small hydropower) by establishing and implementing a feed-in-tariff system, which will allow producers and users to sell excess power to the national power grid
Main provisions	This Act aims to increase the generation of electricity from renewable sources of energy (solar photovoltaic, biogas, biomass and small hydropower) by establishing and implementing a feed-in-tariff system, which will allow producers and users to sell excess power to the national power grid. The Sustainable Energy Development Authority shall be the organization responsible for managing the feed-in-tariff programme. The Act sets out procedures to apply for a feed-in approval to participate in the feed-in-tariff system. The Act provides for: connection, purchase and distribution of renewable energy; payment and duration of feed-in-tariff; annual digression rates; establishment of the Renewable Energy Fund; etc.
Relevant innovative instruments	Procedures to apply for a feed-in approval to participate in the feed-in-tariff system Establishment of the Renewable Energy Fund Etc.
Reference	

Title	Decree No. 21/2011/ND-CP of March 29, 2011, Detailing the Law on Economical and Efficient Use of Energy and Measure for its Implementation
Country	Socialist Republic of Vietnam
Entry into force	May 15, 2011
Type of Instrument	Framework law
Scope	national
Objective	Promote the economical and efficient use of energy.
Main provisions	<p>1) statistical work : Statistical indicators; responsibilities; national energy database;</p> <p>2)major energy users : Identification; energy management model;</p> <p>3)economical and efficient use of energy in state budget-funded agencies and units</p> <p>4)energy labeling for energy-consuming devices and equipment: Report; Energy-consuming devices and equipment subject to elimination</p> <p>5)investment incentives; raising of awareness</p>
Relevant innovative instruments	<p>energy labeling for energy-consuming devices and equipment: Devices and equipment on the list of devices and equipment subject to energy labeling shall be labeled before their market sale.</p> <p>Energy labels including: comparative label which provides information on energy consumption rate, type of energy, etc and certification label.</p> <p>Energy labeling shall be terminated for sticking of false energy labels, without an energy label certification or not according contents and specifications provided by the Ministry of Industry and Trade.</p> <p>Energy labeling shall also be inspected and reported annually.</p>
Reference	

Title	Decision No. 37/2011/QD-TTG, June, 2011, Providing the Mechanism to Support the Development of Wind Power Projects in Vietnam
Country	Socialist Republic of Vietnam
Entry into force	August 20, 2011

Type of Instrument	Framework law
Scope	National
Objective	Support the development of wind power projects in Vietnam.
Main provisions	<p>1. Wind power planning and development: national and provincial</p> <p>2. Funds: shall be allocated for the elaboration, appraisal, public notification and adjustment of the national or local wind power development plans, raising of other lawful funding sources is encouraged.</p> <p>Investment: abide by plans and laws.</p> <p>4.Connection of wind power projects to power systems and regulation of operation of wind power plants (Article 7):</p> <p>1) electricity sellers is responsible for investing in electricity transmission line to the nearest existing point of connection to the national power grid.</p> <p>2) investors shall operate and maintain transmission lines.</p> <p>3) termination of the implementation: months after being certificated, if a investor fail to commence the construction, he may be revoked and reported.</p> <p>5.Mechanism to support development of wind power projects:</p> <p>1) responsibilities (Article 11): electricity purchasers shall purchase the whole electricity output generated by on-grid wind power plants.</p> <p>2)incentives: raising of investment capital; taxes; charges; land incentives; electricity price subsidy.</p> <p>6.organization of implementation</p>
Relevant innovative instruments	<p>Incentives:</p> <p>a/raising of investment capital: investors; wind power projects</p> <p>b/taxes: wind power projects are exempt from import duty.</p> <p>c/ enterprise income tax: enterprise income tax rates, exemption or reduction for wind power projects.</p> <p>d/land incentives: wind power projects, transmission lines and transformer stations are eligible for land use levy and land rent exemption or reduction; provincial-level People’s Committees shall allocate land to investors for implementing wind power projects.</p> <p>e/ electricity price subsidy for on-grid wind power projects.</p>
Reference	

Title Energy conservation act

Country	India
Entry into force	29th September, 2001.
Type of Instrument	Sector Law
Scope	National
Objective	This Act provides for the efficient use of energy and its conservation at the Central and State level.
Main provisions	<p>Powers and functions of Bureau</p> <p>(1) The Bureau shall, effectively co-ordinate with designated consumers, designated agencies and other agencies, recognize and utilize the existing resources and infrastructure, in performing the functions assigned to it by or under this Act.</p> <p>(2) The Bureau may perform such functions and exercise such powers as may be assigned to it by or under this Act and in particular, such functions and powers include the function and power to</p> <ul style="list-style-type: none"> (a) recommend to the Central Government the norms for processes and energy consumption standards required to be notified under clause (a) of section 14; (b) recommend to the Central Government the particulars required to be displayed on label on equipment or on appliances and manner of their display under clause (d) of section 14; (c) recommend to the Central Government for notifying any user or class of users of energy as a designated consumer under clause (e) of section 14; (d) take suitable steps to prescribe guidelines for energy conservation building codes under clause (p) of section 14; (e) take all measures necessary to create awareness and disseminate information for efficient use of energy and its conservation; (f) arrange and organize training of personnel and specialists in the techniques for efficient use of energy and its conservation; (g) strengthen consultancy services in the field of energy conservation; (h) promote research and development in the field of energy conservation; (i) develop testing and certification procedure and promote testing facilities for certification and testing for energy consumption of equipment and appliances; (j) formulate and facilitate implementation of pilot projects and demonstration projects for promotion of efficient use of energy and its conservation; (k) promote use of energy efficient processes, equipment, devices and systems; (l) promote innovative financing of energy efficiency projects; (m) give financial assistance to institutions for promoting efficient use of energy

and its conservation;

(n) levy fee, as may be determined by regulations, for services provided for promoting efficient use of energy and its conservation;

(o) maintain a list of accredited energy auditors as may be specified by regulations;

(p) specify, by regulations, qualifications for the accredited energy auditors;

(q) specify, by regulations, the manner and intervals of time in which the energy audit shall be conducted;

(r) specify, by regulations, certification procedures for energy managers to be designated or appointed by designated consumers;

(s) prepare educational curriculum on efficient use of energy and its conservation for educational institutions, boards, universities or autonomous bodies and coordinate with them for inclusion of such curriculum in their syllabus;

(t) implement international co-operation programmes relating to efficient use of energy and its conservation as may be assigned to it by the Central Government;
Power of Central Government to enforce efficient use of energy and its conservation

The Central Government may, by notification, in consultation with the Bureau,

(a) specify the norms for processes and energy consumption standards for any equipment, appliance which consumes, generates, transmits or supplies energy;

(b) specify equipment or appliance or class of equipments or appliances, as the case may be, for the purposes of this Act;

(c) prohibit manufacture or sale or purchase or import of equipment or appliance specified under clause (b), unless such equipment or appliance conforms to energy consumption standards: Provided that no notification prohibiting manufacture or sale or purchase or import of equipment or appliance shall be issued within two years from the date of notification issued under clause (a) of this section;

(d) direct display of such particulars on label on equipment or on appliance specified under clause (b) and in such manner as may be specified by regulations;

(e) specify, having regard to the intensity or quantity of energy consumed and the amount of investment required for switching over to energy efficient equipments and capacity of industry to invest in it and availability of the energy efficient machinery and equipment required by the industry, any user or class of users of energy as a designated consumer for the purposes of this Act;

(f) alter the list of Energy Intensive Industries specified in the Schedule;

(g) establish and prescribe such energy consumption norms and standards for designated consumers as it may consider necessary: Provided that the Central Government may prescribe different norms and standards for different designated

- consumers having regard to such factors as may be prescribed;
- (h) direct, having regard to quantity of energy consumed or the norms and standards of energy consumption specified under clause (a), the energy intensive industries specified in the Schedule to get energy audit conducted by an accredited energy auditor in such manner and intervals of time as may be specified by regulations;
 - (i) direct, if considered necessary for efficient use of energy and its conservation, any designated consumer to get energy audit conducted by an accredited energy auditor;
 - (j) specify the matters to be included for the purposes of inspection under subsection (2) of section 17;
 - (k) direct any designated consumer to furnish to the designated agency, in such form and manner and within such period, as may be prescribed, the information with regard to the energy consumed and action taken on the recommendation of the accredited energy auditor;
 - (l) direct any designated consumer to designate or appoint energy manager in charge of activities for efficient use of energy and its conservation and submit a report, in the form and manner as may be prescribed, on the status of energy consumption at the end of every financial year to the designated agency;
 - (m) prescribe minimum qualification for energy managers to be designated or appointed under clause (l);
 - (n) direct every designated consumer to comply with energy consumption norms and standards;
 - (o) direct any designated consumer, who does not fulfil the energy consumption norms and standards prescribed under clause (g), to prepare a scheme for efficient use of energy and its conservation and implement such scheme keeping in view of the economic viability of the investment in such form and manner as may be prescribed;
 - (p) prescribe energy conservation building codes for efficient use of energy and its conservation in the building or building complex;
 - (q) amend the energy conservation building codes to suit the regional and local climatic conditions;
 - (r) direct every owner or occupier of the building or building complex, being a designated consumer to comply with the provisions of energy conservation building codes for efficient use of energy and its conservation;
 - (s) direct, any designated consumer referred to in clause (r), if considered necessary, for efficient use of energy and its conservation in his building to get energy audit conducted in respect of such building by an accredited energy auditor in such manner and intervals of time as may be specified by regulations;

(t) take all measures necessary to create awareness and disseminate information for efficient use of energy and its conservation;

(u) arrange and organise training of personnel and specialists in the techniques for efficient use of energy and its conservation;

(v) take steps to encourage preferential treatment for use of energy efficient equipment or appliances: Provided that the powers under clauses (p) to (s) shall be exercised in consultation with the concerned State.

Power of State Government to enforce certain provisions for efficient use of energy and its conservation.

The State Government may, by notification, in consultation with the Bureau

(a) amend the energy conservation building codes to suit the regional and local climatic conditions and may, by rules made by it, specify and notify energy conservation building codes with respect to use of energy in the buildings;

(b) direct every owner or occupier of a building or building complex being a designated consumer to comply with the provisions of the energy conservation building codes;

(c) direct, if considered necessary for efficient use of energy and its conservation, any designated consumer referred to in clause (b) to get energy audit conducted by an accredited energy auditor in such manner and at such intervals of time as may be specified by regulations;

(d) designate any agency as designated agency to coordinate, regulate and enforce provisions of this Act within the State;

(e) take all measures necessary to create awareness and disseminate information for efficient use of energy and its conservation;

(f) arrange and organise training of personnel and specialists in the techniques for efficient use of energy and its conservation;

(g) take steps to encourage preferential treatment for use of energy efficient equipment or appliances;

(h) direct, any designated consumer to furnish to the designated agency, in such form and manner and within such period as may be specified by rules made by it, information with regard to the energy consumed by such consumer;

(i) specify the matters to be included for the purposes of inspection under sub-section (2) of section 17.

Establishment of Fund by State Government

(1) The State Government shall constitute a Fund to be called the State Energy Conservation Fund for the purposes of promotion of efficient use of energy and its conservation within the State.

Appellate tribunal for energy conservation

Establishment of Appellate Tribunal.-The Central Government shall, by

	notification, establish an Appellate Tribunal to be known as the Appellate Tribunal for Energy Conservation to hear appeals against the orders of the adjudicating officer or the Central Government or the State Government or any other authority under this Act.
Relevant innovative instruments	
Reference	

6.5.3 LATIN AMERICA AND THE CARIBBEAN

Title	<p>Energy Efficiency Of Electric Apparatus And Bulbs For General Use And Fluorescents.</p> <ol style="list-style-type: none"> 1. Official Mexican regulation nom-028-ener-2010- energy efficiency for bulbs for general use, limits and trial methods 2. Official Mexican regulation nom-017-ener/scfi-2012, energy efficiency and security requirements for compact self-ballasted flourescent lamps, limits and test methods. 3. Official Mexican regulation nom-015-ener-2012, energy efficiency of electro domestic refrigerators and deep freezers, limits, test methods and labeling. 4. Official Mexican legislation nom-005-ener-2012, energy efficiency of electro domestic washing machines. limits, test methods and labeling.
Country	Mexico
Became Effective	<ol style="list-style-type: none"> 1. 2nd January 2010 (Lamps for General Purpose) 2. 90 calendar days from 9th January 2013 (Fluorescent lamps) 3. 16th May 2012 (Refrigerators) 4. 6th February 2013 (Washing machines)
Type of Instrument	Official Law
Scope	National

Objective

1. Sets the minimum efficiency limits for general purpose lamps, designed for the lighting of residential, commercial, service, industrial and public lighting as well as its test methods.
2. Sets the minimum limits for luminous efficiency, safety requirements, applicable test methods, as well as business information on ballasted compact fluorescent lamps (LFCA).
3. Establishes the limits of energy consumption of electro domestic refrigerators and freezers operated by hermetic motor compressors, provides test methods to determine the said consumption of energy and calculate the total refrigerated volume, and specifies the energy level and its contents.
4. Establish the power factor levels (FE) and the energy consumption that is to be met by household electric washing machines. In addition, it also establishes test methods with which to verify the mentioned compliance and labelling.

Main Forecasts

1. **GENERAL PURPOSE LAMPS:** Applies to general purpose lamps for lighting residential, commercial, service, industrial and public areas (all those high intensity discharge lamps; ballasted compact fluorescent, linear fluorescent, incandescent and mixed light) which are marketed in the country. To obtain the certificate of conformity of the product, the applicant can opt for certification mode of periodically testing the product, or the certification mode through quality assurance system of the production line and for that should submit the following documentation to the certifying body of the product. (art. 10.5.1)
2. **FLUORESCENT LAMPS:** It applies to all self-ballasted compact fluorescent with or without casting and with an integrated reflector, with any kind of base, in supply voltages of 100V to 277 V c.a. and 50Hz or 60Hz, which are manufactured, imported or marketed in the country.
3. **REFRIGERATORS:** It applies to domestic refrigerators, refrigerator-freezers up to 1104 dm³ (39 ft³) and freezers up to 850 dm³ (30 ft³) hermetic compressor operated, marketed in Mexico
Establishes test methods for calculating the spending power of a cycle, expressed in kilowatt hours per day.
4. **WASHING MACHINES:** It applies to household electric washing machines sold in Mexico, without including those that do not use electric energy, as well as washing machines for industrial and commercial use.
Establishes test methods to calculate the power factor and the consumption of house hold electric washing machines.

Relevant Innovative Instruments

- Minimizing waste generation.
- Establishment of energy efficient measures.

Gradual replacement of incandescent bulbs with fluorescents mainly in households.

Reference

www.planetaverde.org.ar/legislacion.php

1.- http://dof.gob.mx/nota_detalle.php?codigo=5169747&fecha=06/12/2010

2.- <http://200.77.231.100/work/normas/noms/2010/017enerscfi2013.pdf>

3.- <http://200.77.231.100/work/normas/noms/2010/015ener2012.pdf>

4.- <http://200.77.231.100/work/normas/noms/2010/005ener2012.pdf>

Title	Legislation N° 443 on the Exploration and Exploitation of Geothermal Resources
Country	Nicaragua
Became Effective	24 th October 2002 with modifications by Act 173 of 5 th September 2006
Type of Instrument	Law
Scope	National
Objective	Promote and establish the basic conditions for regulating the exploration and exploitation of geothermal resources of the country to exclusively generate electric energy.
Main Forecasts	<p>The Executive through the National Energy Commission (NEC), responsible for the formulating and developing national policies and applicable strategies for the promotion, development, exploration and exploitation of geothermal resources of the country and can increase preliminary investigations for geothermal resources. (Art.4)</p> <p>Geothermal Resources: Fluids of low and high temperatures produced by the natural heat of the earth that are used to generate electricity.</p>

	<p>With the aim of protecting biodiversity, prevent, control and mitigate the environmental factors caused by geothermal exploration activities, the licensee is required to comply at all times during the term of the concession with the current legislation and all those issued in the future as well as current technical and internationally accepted practices in the geothermal industry. (Art. 58)</p> <p>The beneficiary of an exploration and / or exploitation of geothermal resources, its contractors and sub contractors, may import free of customs, duties and taxes, all materials and equipment necessary for geothermal exploration and exploitation, in accordance to the regulations established in this Act. (Art. 64)</p>
Relevant Innovative Instruments	<p>Exploration and exploitation of alternative sources of energy.</p> <p>Forecast for environmentally sound use of these resources.</p> <p>Tax exemptions to encourage the importation of equipment necessary to perform exploration and export tasks.</p>
Reference	www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 5707 on Development Incentives for Renewable Energy Sources
Country	DOMINICAN REP
Became Effective	7 th May 2007
Type of Instrument	Law
Scope	National
Objective	<p>Constitute the basic legal and regulatory framework that has to be applied throughout the country, to promote and regulate the development and investment in projects that tap into any source of renewable energy and seek to benefit from these incentives.</p> <p>Strategic objectives and public interest of the current regulations are:</p>

- a) Increase energy diversity in the country in terms of capacity and self sufficiency of strategic inputs in regard to fuels and unconventional energy, provided they are more viable;
- b) Reduce dependence on imported fossil fuels;
- c) Encourage private investment projects, developed from renewable energy sources;
- d) Promote the participation of private investment in electricity generation to be served to SENI which is subject to the regulations of the competent bodies in conformity with public interest;
- e) Mitigate the negative environmental impacts of fossil fuel energy operations;
- f) Promote social and community investment in renewable energy projects;
- g) Contribute to the decentralized production of electric energy and bio-fuels to increase market competition between different energy offers and;
- h) Contribute to the achievement of the goals set in the National Energy Plan specifically as it relates to renewable energy sources, including bio-fuels.(Art. 3)

**Main
Forecasts**

To be eligible for incentives under this Law, there is need for prior demonstration of physical, technical, environmental and financial feasibility, in all projects with public facilities, private, mixed, cooperative and / or energy production cooperatives or bio fuel production, in the following sources:

- a) Wind parks and isolated applications of wind mills with an initial installed overall capacity not exceeding 50MW;
- b) Micro and small hydro electric facilities whose power does not exceed 5MW;
- c) Electro-solar (photovoltaic) installations of any type and power level;
- d) Thermal solar (concentrated solar power) facilities with power potential of about 120MW per facility;
- e) Electric power plants that use biomass as the primary fuel, that can be used directly or after a transformation process to produce energy (at least 60% of primary energy) and whose installed power potential does not exceed 80MW per unit or central thermodynamics;
- f) Bio fuel production plants (distilleries or bio refineries) of any size or volume of production;
- g) Energy firms, plants and agricultural or agro-industrial infrastructure of any size designed exclusively for the production of biomass for consumption energy of vegetable oils, or due to pressure to produce biodiesel, as well as hydrolyzed plants producing alcohol and sugars (glucose, xylose, and others) for the production of ethanol fuel and / or energy and / or bio fuels);
- h) Installations for the exploitation ocean energy, waves, currents, ocean water temperature differences etc., of any magnitude;
- i) Medium temperature solar thermal facilities dedicated to the production of clean hot water and air conditioning equipment in regard to the hot air absorption equipment to produce cold.

The National Energy Commission (NEC) will recommend the exemption of all import taxes from equipment; machinery and accessories imported (...) necessary for energy source production (...). The exemption will take the form of 100% of the mentioned taxes. This incentive also includes the importation of equipment for the transformation, transmission and interconnection of electric energy (...). The equipment and materials in this chapter are also exempt from Transfer Tax to Goods and Services (ITBIS) and all taxes on the final sale.

Institution of a special scheme for bio fuels. A special regime of bio fuel use is established by enactment of this law. The fossil fuels used in vehicles with internal combustion engine for land transport in the country, should be mixed with specific proportions of bio fuels.

Article 23. On tax exemptions. Exemptions on payment of income taxes, fees, contributions, excise, tariffs, surcharges, exchange and other charges for a period of ten (10) years, from the start of the production and as a maximum up to 2020, to companies or industries dedicated specifically or exclusively to the production of bio-ethanol and biodiesel or any other synthetic fuel from renewable resources that make it equivalent to bio fuels in terms of their environmental effects and foreign exchange savings (...)

Relevant Innovative Instruments	<p>Development of alternative energy and promotion of the rational use of energy.</p> <p>Tax incentives for the development of new renewable energy sources.</p> <p>Establishment of a special regime referring to the use of bio combustibles.</p>
Reference	http://www.planetaverde.org.ar/legislacion.php
Title	Legislation for the Exploitation of Renewable Energy and the Financing of the Energy Transition
Country	Mexico
Became Effective	12 th January 2012 (Last Modification)
Type of Instrument	Law
Scope	National

Objective

Regulate the use of renewable energy sources and clean technologies to generate electricity for various purposes other than the provision of the electricity service to the public, as well as establish a national strategy and instruments for financing energy transitions.

Main Forecasts

The use of renewable energy sources and use of clean technologies is of public interest and will be undertaken in the framework of the national strategy for energy transition through which the Mexican state will promote energy efficiency and sustainability, and reduce dependence on oil as a primary energy source.

The Ministry of Energy, with the assistance from the Ministry of Finance, Ministry of Environment and Natural Resources, and the Ministry of Health, will develop a methodology for assessing the externalities associated with electricity generation from various renewable and non-renewable sources in its different scales, as well as policy actions referred to in this Act relating to such externalities. Basing on this methodology and policy actions, the Ministry of Environment and Natural Resources will design mechanisms for environmental regulation on the use of renewable energy.

The Energy Ministry will develop and coordinate the implementation of the programme which must:

- I. Promote social participation during the planning, implementation and evaluation of the programme, (...)
- II. Set specific objectives and goals for the use of renewable energies, as well as define the strategies and actions to achieve them;
- III. Set goals for the use of renewable energy to generate electricity, which should gradually be increased basing on the viability of the existing economic and technical potential;
- IV. Include the construction of electrical infrastructure required for renewable energy projects that can be interconnected with the National Electric grid System;
- V. Include in the objectives, the greatest possible diversity goals of renewable energy, taking into account their availability in the different regions of the country and the natural cycles of these sources, in order to increase its contribution to the national electricity grid system capacity;
- VI. Ensure consistency between the programme and other planning instruments in the energy sector;
- VII. Define strategies to promote those projects that use renewable sources to provide electricity to rural communities that do not have this service, are or not isolated from the electric networks, and;
- VIII. Define strategies to promote projects for electric generation using renewable energy preferably for the owners or possessors land and are subject to the rights over natural resources involved in such projects.

Electricity generation projects from renewable energy with a capacity greater than 2.5 Megawatts, should:

- I. Ensure the participation of local and regional communities through public meetings and consultations convened by the municipal or communal authorities; at these meetings shall agree to participate in the social development projects of the community, (...) III. Promoting social development in the community, in which projects are implemented with renewable energy generation, in accordance with the best international practices and meet applicable regulations in sustainable rural development, environmental protection and agrarian rights.

The established strategy is a mechanism through which Mexican State will implement policies, programmes, actions and projects to achieve greater use and development of renewable energy sources and clean technologies, promote energy efficiency and sustainability, as well as reduce dependency on Mexico's hydrocarbons as the primary source of energy.

Relevant Innovative Instruments

Incorporation of renewable energy sources and clean technologies in the strategic planning process.

Encourage change in the energy matrix, by reducing dependency on hydrocarbons.

Encourage the participation of local communities in projects generating renewable energy.

Reference

<http://www.planetaverde.org.ar/legislacion.php>

6.6 Sustainable Transportation

6.6.1 AFRICA

Title	Regulations Regarding the Mandatory Blending of Biofuels with Petrol and Diesel
Country	South Africa
Entry into Force	23 rd August 2012
Type of Instrument	Subsidiary Legislation

Scope	National
Objective	These Regulations regulate the mandatory blending of bio-ethanol or biodiesel with petroleum petrol or petroleum diesel, respectively, to produce a biofuel blend that may be sold in the Republic.
Main Provisions	<p>"bio-ethanol" means ethanol derived from vegetable matter which conforms to the South African National Standard, Standard specification for denatured fuel ethanol for blending with gasoline for use as automotive spark ignition engine</p> <p>fuel, SANS 465;</p> <p>"biodiesel" means a renewable fuel or fuel component derived from vegetable or animal matter which conforms to the South African National Standard, Automotive Biodiesel - Fatty acid methyl esters (FAME) for diesel engines - Requirements</p> <p>and test methods, SANS 1935, and the South African National Standard, Biodiesel Production - Quality management system - Producer requirements, SANS 833;</p> <p>"biofuel" means biodiesel or bio-ethanol;</p> <p>"biofuel blend" means a mixture of two or more compatible petroleum products having different properties, where one of the petroleum products is a biofuel, in order to produce an intermediate or final petroleum product with desired</p> <p>attributes;</p> <p>"blending facility" means a facility where biofuel blending is performed under a manufacturing license.</p> <p>A licensed petroleum manufacturer must-</p> <p>(a) blend bio-ethanol with petroleum petrol at its blending facility to the effect that the final blended product at the fuel pump complies with the South African National Standard, Unleaded petrol, SANS 1598; and</p> <p>(b) blend biodiesel with petroleum diesel at its blending facility to the effect that the final blended product at the fuel pump complies fully with the South African National Standard, Automotive diesel fuel, SANS 342.</p> <p>All petroleum petrol and petroleum diesel supplied to a blending facility</p>

must allow for the blending of biofuels to the effect that the allowed minimum concentration of the biofuel in the final biofuel blend complies with-

- the minimum concentration to be allowed for biodiesel blending, namely 5% v/v; and
- the permitted range for bio-ethanol blending, namely from 2% v/v up to 10% v/v.

A licensed petroleum manufacturer must purchase all bio-ethanol or biodiesel offered for sale by a licensed biofuel manufacturer as contemplated in these Regulations: Provided that the volume of the biofuel can be blended, within the allowable parameters, with the volumes of petroleum petrol or petroleum diesel available from the licensed petroleum manufacturers.

Prohibitions

A licensed petroleum manufacturer may not refuse to purchase bioethanol or biodiesel unless it is able to provide proof that it does not have sufficient volumes of petroleum petrol or petroleum diesel to accommodate the volume of bio-ethanol or biodiesel being sold. For this purpose, all petroleum petrol or petroleum diesel produced by a licensed petroleum manufacturer is considered to be destined for a blending facility.

Relevant Innovative Instruments	Obligation and Mandate
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Reference

6.6.2 ASIA-PACIFIC

Title	Act on Recycling, etc. of End-of-Life Vehicles
Country	Japan
Entry into force	12 July 2002 (Amended in 2006)
Type of Instrument	Sectoral Law
Scope	National
Objective	Article 1 The purpose of this Act is to ensure that waste from End-of-Life

Vehicles is properly disposed of and that resources are used effectively through reduction of the amount of waste from End-of-Life Vehicles, and Recycling and sufficiently using the recycled parts of such End-of-Life Vehicles. This is to be accomplished by having Vehicle Manufacturers, etc. and Operators of Related Businesses collect and deliver the End-of-Life Vehicles, and by devising means of Recycling, etc. End-of-Life Vehicles in an appropriate and smooth manner, thereby contributing to the preservation of the environment and the development of a sound national economy.

Main provisions

Chapter 1 General Provisions:

Article 3 to 7 articulate the obligation of vehicle manufacturers, related business operators, vehicle owners, the state, and local governments.

Chapter 2 Implementation of Recycling, etc.:

Section 1 provides the Implementation of Recycling by Related Business Operators. Article 8 to 18 articulate the obligation of the owner of End-of-Life Vehicle and the process to deliver the vehicle, and the involved parties are also required to fulfill corresponding obligation.

Section 2 provides the Implementation of Recycling, etc. by Vehicle Manufacturers, etc. Article 21 to 40 articulate the obligations of vehicle manufacturers, and the authorization for recycling.

Chapter 3 regulates the detail procedures of registration of Collection Operators and Fluorocarbon Recovery Operators, and the Licenses for Dismantling Operations and Shredding and Sorting Operations.

Chapter 4 Recycling Deposit, etc.:

The owner of a vehicle shall deposit with the Deposit Management Entity as a Recycling, etc. a deposit in an amount equivalent to the Recycling, etc. Fee for said Vehicle.

Chapter 6 Designated Entity:

Section 1 specifies the designation of the Deposit Management Entity and the management rules. The Entity shall not invest the recycling deposit. Section 2 specifies the non-profit Designated Recycling Organization. Section 3 specifies the non-profit Information Management Entities.

Relevant innovative

This Act provides an integrated management and recycling system to handle End-to-Life Vehicles. On one hand, the establishment of the Recycling Deposit

instruments	invites business sectors to invest in the vehicle recycling business; on the other hand, the Act obligates all participants in the recycling circle with clear responsibilities. These instruments encourage the societies move forward to reduce, reuse, and recycle societies.
Reference	

Title	Biofuels Act of 2006
Country	Philippines
Entry into force	24 July 2006
Type of Instrument	Departmental Act
Scope	National
Objective	<p>This is an act to direct the use of biofuels, establishing for the biofuel program, appropriating funds therefore, and for other purposes.</p> <p>It helps to reduce dependence on imported fuels with due regard to the protection of public health, the environment, and. natural ecosystems consistent with the country's sustainable economic growth that would expand opportunities for livelihood by mandating the use of biofuels.</p>
Main provisions	<p>Mandatory Use of Biofuels. Pursuant to the above policy, it is hereby mandated that all liquid fuels for motors and engines sold in the Philippines shall contain locally-sourced biofuels components.</p> <p>Incentive Scheme. To encourage investments in the production, distribution and use of locally-produced biofuels at and above the minimum mandated blends, and without prejudice to enjoying applicable incentives and benefits under existing laws, rules and regulations, the following additional incentives are hereby provided under this Act.</p> <p>Creation of the National Biofuel Board (NBB). The National Biofuel Board is hereby- created.</p> <p>Security of Domestic Sugar Supply. Any provision of this Act to the contrary notwithstanding, the SRA. pursuant to its mandate, shall, at all times, ensure that the supply of sugar is sufficient to meet the domestic demand and that the price of sugar is stable.</p> <p>Penal Provisions. Any person, who willfully aids or abets in the commission of a crime prohibited herein or who causes the commission of any such act by another shall be liable in the same manner as the principal.</p> <p>Congressional Oversight Committee. Upon the effectivity of this Act, a Congressional Committee, hereinafter referred to as the Biofuels Oversight Committee, is hereby constituted.</p> <p>Benefits of Biofuel Workers. This Act shall not in any way result in the forfeiture or diminution of the existing benefits enjoyed by the sugar workers as prescribed under R.A. No. 6982, or the Sugar Amelioration Act of 1991, in case</p>

	sugarcane shall be used as feedstock.
Relevant innovative instruments	This Act established an incentive scheme to encourage investments in the production, distribution and use of locally-produced biofuels, including specific tax, value added tax, water effluents, and financial assistances . This Act created a National Biofuel Board , and regulated its powers and obligations. This Act established a Congressional Oversight Committee to oversight the effectiveness of this Act.
Reference	

Title	Malaysian Biofuel Industry Act, 2007 (Act No. 666)
Country	Malaysia
Entry into force	18 July 2007
Type of Instrument	Sectoral
Scope	National
Objective	Provide for activities relating to the mandatory use of biofuel and licensing of activities relating to production, storage and trade and prescribes the type of biofuel and its percentage by volume to be blended in any fuel.
Main provisions	This Act provides for activities relating to the mandatory use of biofuel and licensing of activities relating to production, storage and trade and prescribes the type of biofuel and its percentage by volume to be blended in any fuel. The Act sets out procedures and requirements to apply for a licence and deals with the provisions relating to revocation or suspension of licences. The Act further provides for: powers relating to enforcement, investigation, seizure, arrest, etc.; offences; regulation making powers of the Minister; etc.
Relevant innovative instruments	Mandatory use of bio-fuel
References	id=1323F3F683EB5780A938BBE5EAAB599B?id=LEX-FAOC099076&index=documents

6.7 Buildings Energy Efficiency

6.7.1 AFRICA

Title	Building Control Bill
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Country	Mauritius
Entry into force	No. XI of 2012
Type of Instrument	Sectoral
Scope	National
Objective	To repeal the Building Act and to replace it by new legislation which will cater for the exigencies and realities of the construction industry. The Bill aims at regulating building works in order to ensure safety, comfort, energy efficiency and aesthetic value. The Bill also provides for the making of regulations which will set minimum building standards for functionality, safety and sustainability, with a view to guaranteeing the safety and comfort of users, energy efficiency and aesthetic value.
Main provisions	<p>The mandatory sustainability requirements for a building are:</p> <ul style="list-style-type: none"> (i) by providing indoor air quality in the building, to ensure the wellbeing, comfort and productivity of the occupants of the building; (ii) by ensuring – <ul style="list-style-type: none"> (A) water tightness of the building and water management within its premises; (B) waste management from the construction site; (C) noise protection so that noise levels do not affect the health of any person and allow any person to carry out his activities normally; (D) energy savings and optimum energy consumption for the proper running of the building; and (E) reduction of heat island effect in urban areas. <p>A Building Control Advisory Council will be responsible for advising the Minister on the regulations to be made, and for formulating policies for a more effective, safe, efficient and sustainable construction of buildings.</p>

	The Minister on advice of the council may make regulations on the minimum energy efficiency requirements of buildings.
Relevant innovative instruments	Energy Efficiency in buildings standards
References	

Title	National Building Regulations and Building Standards Act (Act No. 103 Of 1977) Amendment
Country	South Africa
Entry into force	9 th December 2011
Type of Instrument	Subsidiary Legislation
Scope	National
Objective	To amend the national building regulations to introduce requirements for energy usage in buildings.
Main Provisions	<p>Energy usage in buildings</p> <p>In order to contribute to the reduction of greenhouse gases buildings, and extensions to buildings in respect of which plans and specifications are to be drawn and submitted in terms of</p> <p>the Act, having A 1, A2, A3, A4, C1, C2, E1, E2, E3, E4, F1, F2, F3, G1, H1, H2, H3, H4 and H5 occupancies or building classifications excluding garage and storage areas contained within such occupancies, shall be designed and constructed so that they</p> <p>(a) are capable of using energy efficiently while fulfilling user needs in relation to vertical transport, if any, thermal comfort, lighting and hot water; or</p> <p>(b) have a building envelope and services which facilitate the efficient use of energy appropriate to their function and use, internal environment and</p>

	geographical location. At least 50% (volume fraction) of the annual average hot water heating requirement shall be provided by means other than electrical resistance heating including but not limited to solar heating, heat pumps, heat recovery from other systems or processes and renewable combustible fuel.
Main Innovative Instruments	Quotas Obligation and Mandate
References	

6.7.2 ASIA-PACIFIC

Title	Building Energy Efficiency Ordinance
Country	Hong Kong, People’s Republic of China
Entry into force	21 February 2011,21 September 2012
Type of Instrument	Sectoral Law
Scope	Regional
Objective	An Ordinance to require compliance with codes of practice concerning the energy efficiency of air-conditioning installations, electrical installations, lift and escalator installations and lighting installations and energy audits in respect of several types of buildings and to provide for related matters.
Main provisions	<p>PRESCRIBED BUILDINGS AT DESIGN STAGE AND OCCUPATION APPROVAL STAGE</p> <p>The developer of a proposed building must—</p> <p>(a) make a declaration to be called a stage one declaration; and</p> <p>(b) submit the declaration to the Director within 2 months after the day on which the consent to the commencement of building works for the superstructure construction of the building is given.</p> <p>The developer of a building must—</p> <p>(a) make a declaration to be called a stage two declaration; and</p> <p>(b) submit the declaration to the Director within 4 months after the day on which the occupation approval is issued in respect of the building.</p> <p>MAJOR RETROFITTING WORKS IN PRESCRIBED BUILDINGS</p> <p>If major retrofitting works are carried out in respect of any building services installation that serves any unit or common area of a building, a person who is the responsible person of the unit or the owner of the common area, as may be</p>

appropriate, as at the completion of the works must, within 2 months after the completion of the works, obtain a Form of Compliance issued in respect of the installation.

ENERGY AUDIT

The owner of a building must cause an energy audit to be carried out in accordance with this section at intervals no longer than 10 years in respect of the central building services installations of the building.

IMPROVEMENT NOTICE

The Director may issue an improvement notice to the developer or owner of a prescribed building, the owner of a common area of a prescribed building or the responsible person of a unit of a prescribed building if the director is of the opinion that the developer, owner or responsible person—

- (a) is contravening a requirement under this Ordinance; or
- (b) has contravened a requirement under this Ordinance in circumstances that make it likely that the contravention will continue or be repeated.

REGISTRATION OF REGISTERED ENERGY ASSESSORS

The Director may, on an application, register as a registered energy assessor any person who meets the criteria provided for in the regulation made under section 42.

APPEAL

A person who is aggrieved by the listed decisions may appeal to an appeal board against the decision or direction.

CODE OF PRACTICE

To provide practical guidance in respect of any standard or requirement under this Ordinance, the Director may—

- (a) issue any code of practice that the Director thinks fit; or
- (b) approve any code of practice issued by any body or authority that the Director thinks fit.

Relevant innovative instruments

Improvement notice

- (1) The Director may issue an improvement notice to the developer or owner of a prescribed building, the owner of a common area of a prescribed building or the responsible person of a unit of a prescribed building if the Director is of the opinion that the developer, owner or responsible person—
 - (a) is contravening a requirement under this Ordinance; or
 - (b) has contravened a requirement under this Ordinance in circumstances that make it likely that the contravention will continue or be repeated.
- (2) An improvement notice issued to a person must—
 - (a) state the Director’s opinion referred to in subsection (1);
 - (b) specify the requirement that is being or has been contravened; and
 - (c) contain a direction directing the person to remedy the contravention within the period specified in the notice.
- (3) An improvement notice may contain directions about measures to be taken which may be framed wholly or partly by reference to any code of practice.
- (4) The Director may amend or withdraw an improvement notice by issuing a notice to the developer, owner or responsible person concerned.
- (5) A person who contravenes any direction contained in an improvement

notice under subsection (2) or (3) commits an offence and is liable—

(a) on conviction to a fine at level 4; and

(b) in the case of a continuing offence, to a further fine of \$1000 for every day during which the offence continues.

(6) If, after an improvement notice has been issued to a developer, owner or responsible person (“the former party”) but before the period specified in the notice under subsection (2)(c) expires and before the contravention concerned is remedied, a person replaces the former party as the developer, owner or responsible person of the relevant building, common area or unit, the following provisions apply—

(a) the former party must, within 7 days after the change, inform the Director of the change; and

(b) the improvement notice issued to the former party ceases to have effect.

(7) A person who, without reasonable excuse, contravenes subsection (6)(a) commits an offence and is liable on conviction to a fine at level 3.

Reference

Title	Act on Special Measures Concerning New Energy Use by operators of electric utilities
Country	Japan
Entry into force	7 June 2002 (Amended in 2009)
Type of Instrument	Institutional
Scope	National
Objective	The purpose of this Act is to take necessary measures for new energy use by operators of electric utilities with an aim to contribute to the stable and appropriate supply of energy in accordance with the domestic and global economic and social environment, thereby contributing to environmental protection and the sound development of the national economy.
Main provisions	<p>Use Target for Electricity from New Energy, etc: Every four years, the Minister of Economy, Trade and Industry shall, upon hearing the opinions of the Advisory Committee for Natural Resources and Energy, set a target for Use of Electricity from New Energy, etc. obligated to operators of electric utilities for the eight-year period following the relevant fiscal year, pursuant to Ordinance of the Ministry of Economy, Trade and Industry.</p> <p>Standard Amount of Use of Electricity from New Energy, etc: Operators of electric utilities shall, pursuant to Ordinance of the Ministry of Economy, Trade and Industry, notify the Minister of Economy, Trade and Industry by June 1 of each year of their Standard Amount of Use of Electricity from New Energy, etc. as the amount to be used by said operators of electric utilities in the relevant notification year, in consideration of the prevalence of generation facilities for voltage regulation that become necessary as a result of having set a Use Target for Electricity from New Energy, etc. and installed Generation Facilities for Electricity from New Energy, etc. based on the amount of electricity supplied by said operators of electric utilities in the fiscal year preceding the notification year.</p> <p>Operators of electric utilities shall use the Standard Amount of Use or a greater amount of Electricity from New Energy, etc. in each fiscal year, pursuant to the provisions of Ordinance of the Ministry of Economy, Trade and Industry.</p> <p>Changes to the Standard Amount of Use: If an operator of electric utility uses Electricity from New Energy, etc. in excess of its Standard Amount of Use, another operator of electric utility may reduce its Standard Amount of Use by the amount of Electricity from New Energy, etc. equivalent to such excess with the consent of the operator of electric utility in excess, and upon approval by the Minister of Economy, Trade and Industry.</p> <p>Certification of Generation Facilities for Electricity from New Energy, etc.: A person who generates or intends to generate electricity using a facility that converts</p>

	<p>New Energy, etc. into electricity may receive certification from the Minister of Economy, Trade and Industry through conformity with requirement pursuant to the provisions of Ordinance of the Ministry of Economy, Trade and Industry.</p> <p>When the generation of electricity pertaining to an application for the certification is found to conform to all of the requirements, the Minister of Economy, Trade and Industry shall issue certification</p>
Relevant innovative instruments	<p>The establishment of Use Target for Electricity from New Energy and the exchangeable Standard Amount of Use of Electricity from New Energy.</p> <p>Incentive: The Minister of Economy, Trade and Industry is obligated to issue certification of Generation Facilities for Electricity from New Energy, etc. when an applicant fulfills all requirements pursuant to the to the provisions of Ordinance of the Ministry.</p>
References	

Title	Energy Efficiency Opportunities Act 2006
Country	Australia
Entry into force	06 April 2006
Type of Instrument	Framework Law
Scope	National
Objective	The object of this Act is to improve the identification and evaluation of energy efficiency opportunities by large energy using businesses and, as a result, to encourage implementation of cost effective energy efficiency opportunities.
Main provisions	The Act requires large energy using businesses: (a) to undertake an assessment of their energy efficiency opportunities to a minimum standard in order to improve the way in which those opportunities are identified and evaluated; and (b) to report publicly on the outcomes of that assessment in order to demonstrate to the community that those businesses are effectively managing their energy. There shall be a Register of Corporations for the Energy Efficiency Opportunities Scheme in which large energy users are registered.
Relevant innovative instruments	<p>Requirement to carry out energy efficiency opportunities assessments The object of this section is to require registered corporations to undertake assessments of a kind mentioned in paragraph 3(2)(a).</p> <p>(1)A registered corporation must ensure the carrying out of the proposal in its approved assessment plan for assessing the opportunities for improving the energy efficiency of its group.</p> <p>(2)A registered corporation must ensure the carrying out of that proposal in</p>

accordance with requirements (if any) set out in the regulations.

(3) Regulations made for the purposes of subsection (2) may set out requirements relating to:

- (a) the communication of objectives about energy use; and
 - (b) the measurement and analysis of energy use, and of related business activity; and
 - (c) the identification and evaluation of opportunities for improving energy efficiency; and
 - (d) any other matter reasonably necessary to further the object of this section.
- (4) A registered corporation contravenes this subsection if it fails to comply with subsections (1) and (2).

Reporting about energy efficiency opportunities assessments

A registered corporation must prepare and make available to the public a report in accordance with section 22; and prepare and give to the Secretary a report in accordance with section 23.

The registered corporation is taken to comply with subsection 22(1) in relation to a period mentioned in subsection 22(2) if:

- (a) the registered corporation's approved assessment plan sets out, in accordance with paragraph 18(7A)(a), its intention to rely on this section in order to comply with its obligations under subsection 22(1); and
- (b) the registered corporation prepares a report that describes the way in which only part of the proposal mentioned in paragraph 22(3)(a) was carried out during the period; and
- (c) one or more other members of the group prepared a report or reports describing the way in which the remaining part or parts of the proposal were carried out during the period; and
- (d) each report mentioned in paragraphs (b) and (c):
 - (i) meets the requirements in subsection 22(3) for the part or parts of the proposal to which the report relates; and
 - (ii) meets the requirements in subsection 22(4); and
 - (iii) has been made available to the public in accordance with subsection 22(5).

(2) For the purposes of applying subsection (1) in relation to a report prepared by a member of the group other than the registered corporation:

- (a) treat references in subsections 22(3) and (4) to the corporation, or the registered corporation, as references to the member of the group that prepared the report; and
- (b) treat references in subsection 22(3) to the proposal in the approved assessment plan of the registered corporation as references to the part or parts of that proposal to which the report relates.

A registered corporation must:

- (a) prepare a report in accordance with this section for each period mentioned in subsection (2); and
- (b) give the report to the Secretary in accordance with subsection (5).

Reference

Title	Building Energy Efficiency Disclosure Act 2010
Country	Australia
Entry into force	28 June 2010
Type of Instrument	Sectoral Law
Scope	National
Objective	The purpose of this Act is to promote the disclosure of information about the energy efficiency of buildings, and for related purposes.
Main provisions	<p>This Act prohibits transactions in buildings for which the Minister has, by legislative instrument, determined that it is a disclosure-affected building, and for which no energy efficiency certificate is registered in the Building Energy Efficiency Register. The Act also provides for energy-efficiency assessments of buildings.</p> <p>Part 1 is about the preliminary. Part 2 regards the obligations to disclose energy efficiency information. Part 3 regards accreditation of assessors. Part 4 regards auditing accredited assessors. Part 5 regards enforcement. Part 6 is about other miscellaneous provisions.</p>
Relevant innovative instruments	<p>Buildings and areas of buildings affected by energy efficiency disclosure obligations</p> <p>(1) The Minister may, by legislative instrument, determine that a specified kind of building is disclosure affected.</p> <p>(2)The Minister may, by legislative instrument, determine that a specified kind of area of a building is disclosure affected.</p> <p>Application for accreditation</p> <p>(1) A person may apply to the Secretary to become an accredited assessor.</p> <p>(2) The application must:</p> <p>(a) be in writing in a form approved by the Secretary; and</p> <p>(b) include information of the prescribed kind; and</p> <p>(c) be accompanied by the prescribed fee.</p> <p>Auditing authority</p> <p>(1) The Secretary may, by written instrument, appoint a person or body as an auditing authority.</p> <p>(2) The function of an auditing authority is to direct auditors in performing their work to ensure that:</p> <p>(a) accredited assessors properly apply the assessment methods and standards determined under section 21 in carrying out assessments for the purposes of applying for building energy efficiency certificates; and</p> <p>(b) the assessments are not influenced by any conflict of interest.</p> <p>Secretary may obtain information or documents</p> <p>(1) If the Secretary reasonably believes that a person has:</p> <p>(a) knowledge of information; or</p> <p>(b) custody or control of documents;</p> <p>relating to whether a civil penalty provision has been complied with, the Secretary may give a written notice to the person requiring the person to provide the information or</p>

- produce the documents to the Secretary.
- (2) The notice must specify:
- (a) the period within which the person must comply with the notice; and
- (b) the manner in which the person must comply with the notice.
- (3) The specified period mentioned in paragraph (2)(a) must end at least 14 days after the notice is given.

Reference

6.7.3 LATIN AMERICA AND THE CARIBBEAN

Title	Legislation N° 2818 Urban Development Projects
Country	PROVINCE OF NEUQUEN, ARGENTINA
Became Effective	14 th November 2012
Type of Instrument	Law
Scope	Provincial
Objective	<p>Regulate carrying out of Urban Development Projects located outside the selected municipalities, in the provincial jurisdiction, through the establishment of minimum technical and policy guidelines that ensure a uniform standard throughout the province:</p> <ul style="list-style-type: none"> a) Sustainable urban development, b) Rational use of land and other shared natural resources in the urban development projects, c) Preservation of the environment, d) Respect to the scenic and cultural aspects of each area. <p>In this way implement a regulatory system of authorization for Urban Development Planning projects considering land resources as strategic assets.</p>
Main Forecasts	The land located outside the selected municipalities within the provincial jurisdiction, shall not be affected by urban land use, or considered developable, nor will it be used for Urban Development Projects, without the prior approval of the provincial

executive power, which should take into account the social and environmental impact and compliance with the provided provisions and procedures. (Art. 2)

When applying for the relevant approval, the owner of the urban development Project must submit to the enforcement authority: (...) f) policy deposit on the caution of the works included in the inc; e) of this Article and the actions for reparation, mitigation, rehabilitation, restoration or compensation of the damage produced, as well as any other adequate measures to this end, made to the satisfaction of the enforcement authority under the conditions established by the regulations of this Act. (Art. 7)

Each head of an Urban Development Project should freely give the provincial government a minimum area equivalent to ten percent (10%) of the total area covered by it, in order for it to be allocated to free and public green spaces and reserved for the location of community facilities for public use. When the urban development project involves estate development, in addition it should give up areas destined for roads and transport circulation which the enforcement authority will determine. (Art. 18)

Relevant Innovative Instruments

Consideration of the environmental function of the property

Incorporation of financial instruments, like environmental insurance, for the prevention of possible environmental damages

Development of environmental aspects in area planning.

Reference <http://www.planetaverde.org.ar/legislacion.php>

6.8 Enabling Conditions

6.8.1 AFRICA

Title	Nigeria Sovereign Investment Authority Establishment Act
Country	Nigeria
Entry into force	2011
Type of Instrument	Framework Law
Scope	National

Objective An Act to establish the Nigeria Sovereign Investment Authority to receive, manage invest in a diversified portfolio of medium and long-term revenue of the Federal Government, State Government, Federal Capital Territory, Local Government and Area Councils to prepare for the eventual depletion of Nigeria's hydrocarbon resources for the development of critical infrastructure in Nigeria that attract and support foreign investment, economic diversification, growth and Wealth creation in Nigeria; and for related matters,

Main Provisions (a) build a savings base for the Nigerian people;

(b) enhance the development of Nigerian infrastructure;

(c) provide stabilization support in times of economic stress;

(d) carry out such other matters as may be related to the above objects.

Establishes the NSIA as an independent body of full legal status with the objective of building a savings base for Nigerians; enhancing Nigerian infrastructure base and also providing support in terms of economic stress amidst other connected objectives.

Allows for the injection of the sum of One(1) Billion US Dollars drawn from the share of the Federation revenue of the Federal, States, the Federal Capital Territory ,Local Governments and Area Councils from the Federation Account for the initial take-off of the Fund.

FUNDS TO BE ADMINISTERED BY THE NSIA UNDER THE ACT:

Empowers the NSIA to manage three (3) classes of Funds. These are:

to manage the ‘Future Generations Fund’-Section 4(1) a of the Act defines the Future Generations Fund as a diversified portfolio of appropriate investments for the benefit of future generations of Nigerian citizens. The Fund is essentially of ensuring the legacy of future generations of Nigerians is not squandered by the present generations.

To manage the “Nigeria Infrastructure Fund’ - Section 4(1) b defines this Fund as a portfolio of investments specifically related to and with the object of assisting the development of critical infrastructure in Nigeria that would attract and support foreign investment, economic diversification and growth.

To manage the ‘Stabilization Fund’-Section 4(1) c describes the Stabilization Fund as a portfolio of investments to provide supplemental funding for stabilization of the Federation.

GUIDELINES FOR ADMINISTERING EACH FUND:

FUTURE GENERATIONS FUND: Confers the NSIA with the power to develop a rolling five (5) year development plan incorporating the means of achieving the objective of providing for future generations of Nigeria. The NSIA can thus invest and reinvest proceeds, interest and dividends on portfolio investments in new or existing assets of the Future Generation Fund. The purpose of this reinvestment is to build a solid savings base for such time as when the oil and gas reserves of the country is exhausted.

As a means of ensuring transparency, the Act further mandates the NSIA to publish its investment plans, policies and procedures in a manner as may be prescribed by its Board from time to time.

NIGERIA INFRASTRUCTURE FUND: Act empowers the NSIA to develop a rolling five (5) year development plan with the aim of engendering the development of basic and essential infrastructure such as power , agriculture , water roads et cetera through investment.

STABILIZATION FUND: Act designates the NSIA with the power to ensure make such investments and sell such assets for the purpose of stabilizing the national economy. In essence, the NSIA is to ensure that this Fund is available as a last-resort source of finance during periods of budgetary deficits. This stabilization function will thus ensure the smooth functioning of government and delivery of key services during periods where revenues from petroleum sales are less than the level anticipated and approved by the Legislature for any fiscal year.

OWNERSHIP OF THE FUNDS:

Section 32 (1) of the Act vests the ownership of the Funds in the Nigerian people represented by the governments of the federating units. The Act further forbids any of the tier of government as owners of the Sovereign Wealth Fund, from transferring, redeeming, assigning, disposing, selling, mortgaging, pledging or otherwise encumbering any of their interest in the SWF.

FUNDING OF THE SOVEREIGN WEALTH FUND:

After the deployment of the initial take-off fund of One (1) Billion US Dollars, further funding of the Sovereign Wealth Funds-the Future Generations Fund, The Nigerian Infrastructure Fund and the Stabilization Fund, shall be as follows:

- Residual funds to be transferred from the Federation Account to the NSIA

	<ul style="list-style-type: none"> • 20% of the initial sum of One (1) Billion Dollars and subsequent funding from the Residual Account shall be disbursed to each Fund (the Future Generations Fund, The Nigerian Infrastructure and the Stabilization Funds respectively) until the amount of funds in each Fund reaches a ceiling percentage of gross domestic product to be determined by biennially upon the assessment of a professional.
Relevant Innovative Provisions	Future Generations Fund
Reference	

Title	Environment Investment Fund of Namibia Act, 2001
Country	Namibia
Entry into Force	6 th December 2001
Objective	To provide for the establishment of an Environmental Investment Fund of Namibia in support of sustainable environmental and natural resources management in Namibia; to constitute the Board to manage and control the Fund, and to define its powers and functions; and to provide for incidental matters.
Main Provisions	<p>Establishes a fund known as the Environmental Investment Fund of Namibia as a juristic person.</p> <p>Monies for the Fund consists of -</p> <ul style="list-style-type: none"> (a) moneys appropriated by Parliament for the Fund; (b) moneys collected in respect of levies imposed under the Act; (c) moneys donated or accruing to the Fund from any source; and - (d) interest and other income derived from the investment of moneys standing to the credit of the Fund. <p>The objects of the Fund are to procure moneys for the maintenance of an endowment fund that will generate income in perpetuity and to allocate such</p>

income to activities and projects aimed at promoting -

- (a) the sustainable use and management of environmental and natural resources;
- (b) the maintenance of the natural resource base and ecological processes;
- (c) the maintenance of biological diversity and ecosystems for the benefit of all Namibians; and
- (d) economic improvements in the use of natural resources for sustainable rural and urban development

The Fund is managed and administered by the Environmental Investment Fund of Namibia Board.

The Board may allocate moneys for:

- (a) the conservation, protection and management of natural resources, the conservation of biological diversity, or the maintenance of ecosystems
- (b) the improvement in the management of natural resources for the benefit of those whose livelihoods directly depend on natural resources or are most directly affected by protected areas for the promotion of diversified sustainable rural development;
- (c) the training and education of Namibians in environmentally sustainable practices and promoting general public environmental awareness;
- (d) the development and implementation of environmental policies and strategies;
- (e) the broadening of the knowledge base of Namibia's environmental resources through the production, monitoring, management, use, and dissemination of environmental information;
- (f) the management and operations of conservancies, game parks and nature reserves declared or established under the Nature Conservation Ordinance, 1975 (Ordinance NO.4 of 1975); and
- (g) any other related activities which promote the objects of the Fund.

The Minister, with the concurrence of the Minister of Finance and on the recommendation of the Board, may make regulations relating to -

- (a) the determination and imposition of levies payable by -

- (i) visitors to the national parks, reserves and other places of national importance and tourist attraction, the amount of which may differ between local and foreign visitors and between categories of persons;
 - (ii) persons engaged in wildlife, forestry, wild plants or other natural resources for commercial purposes;
 - (iii) persons engaged in any activities on environmental and natural resources management for commercial purposes; or
 - (iv) any other categories of persons or sources of revenue deemed by the Minister to be in support of the objectives and purposes of the Fund;
- (b) the exemption of any category of persons from paying levies when visiting certain places where levies are payable;
- (c) the form of any application for a grant, loan, bursary, scholarship or other assistance permitted to be made in terms of the Act and the manner in which such application must be made; .
- (d) the fees payable for any application and the charges payable for any application form or any other documents; ...
- (e) the allocation of moneys through grants, loans, bursaries, scholarships and other financial aid to governmental and non-governmental organizations and institutions, private organizations and individual persons, and the conditions in respect of such grants, loans bursaries, scholarships and other financial aid;

**Relevant
Innovative
Instruments**

Green Fund

Reference

Title	Uganda Investment Code Act
Country	Uganda
Entry into force	25 th January 1991
Objective	To establish a code to make provision in the law relating to local and foreign investments in Uganda by providing more favorable conditions for investment, to establish the Uganda Investment Authority and to provide for other related matters.
Main Provisions	<p>Establishes Uganda Investment Authority to promote, facilitate and supervise investments in Uganda; to receive all applications for investment licenses for investors intending to establish or set up business enterprises in Uganda under this Code and to issue licenses and certificates of incentives in accordance with this Code; to secure all licenses, authorizations, approvals and permits required to enable any approval granted by the authority to have full effect; to recommend to the Government national policies and programmes designed to promote investment in Uganda; to provide information on matters relating to investment in Uganda; to assist potential investors in identifying and establishing investment projects in Uganda; to determine the terms and conditions which may be imposed in relation to the operation of a business enterprise.</p> <p>The authority shall, in considering an application for an investment license under this Code, carry out an appraisal of the capacity of the proposed business enterprise to contribute to the following objectives</p> <ul style="list-style-type: none"> a) the generation of new earnings or savings of foreign exchange through exports, resource-based import substitution or service activities; b) the utilization of local materials, supplies and services; c) the creation of employment opportunities in Uganda; d) the introduction of advanced technology or upgrading of indigenous technology; e) the contribution to locally or regionally balanced socioeconomic development; <p>or</p> <ul style="list-style-type: none"> f) any other objectives that the authority may consider relevant for achieving the objects of this code. <p>An investor in a business enterprise shall qualify for incentives under this if Part</p>

if he or she satisfies **three or more** of these objectives specified in section; in the case of a foreign investor, that investor makes a capital investment or an equivalent in capital goods worth at least five hundred thousand United States dollars by way of capital invested; or in the case of an investor who is a citizen of Uganda, the value of his or her investment is at least fifty thousand United States dollars.

Exemption of investors from import duties and sales tax

An investor importing any plant, machinery, equipment, vehicles or construction materials for an investment project shall benefit from the concessional rates of import duty and other taxes as may be specified in the Finance Acts from time to time.

The Act classifies the following areas as priority investment sectors including energy conservation industry,

Incentives for certain exporters

A holder of a certificate of incentives shall be entitled to a drawback of duties and sales tax payable on imported inputs used in producing goods for export as provided in any law imposing such duties or taxes.

Relevant Innovative Instruments	Incentives for Green Industries
References	

Title	The Manufacturing Sector Workers Welfare Fund Bill (No. Xxvi Of 2012)
Country	Mauritius
Entry into force	N/A
Type of Instrument	Sectoral
Scope	National
Objective	To provide for the establishment of the Manufacturing Sector Workers Welfare Fund to replace the Export Processing Zones Labour Welfare Fund. The Bill

provides for the social and economic welfare applicable to workers and their families in the former export processing zone to be extended, with better provisions, to workers in manufacturing enterprises in specified fields with 10 or more workers, their spouses and children.

- Main Provisions** The object of the Fund shall be to advance and promote the social and economic welfare of workers, their spouses and their children. The functions of the Fund shall be to –
- (a) finance all such things as appear requisite and advantageous for or in connection with the advancement and promotion of the social and economic welfare of workers, their spouses and children;
 - (b) manage the financial and other resources of the Fund;
 - (c) give loans or financial assistance to workers, their spouses and children;
 - (d) do all such things as appear to be necessary and conducive to the promotion of the welfare of workers, their spouses and children.

Registration of manufacturing enterprises

Every person registered under the Business Registration Act who or which employs 10 or more persons and operates in a field specified in the First Schedule shall, on the commencement of this Act, be deemed to be registered with the Fund as a manufacturing enterprise under the Act.

Contribution to Fund

Every manufacturing enterprise shall make a monthly contribution to the Fund in accordance with the rate specified in Part I of the Third Schedule.

Every worker shall make a monthly contribution to the Fund in accordance with the rate specified in Part II of the Third Schedule.

Every manufacturing enterprise shall, every month, deduct from the basic wage or salary, or other allowance, of a worker the amount of contribution specified in Part II of the Third Schedule at the time the basic wage or salary, or other allowance, is paid to the worker and remit such money to the fund.

Where a manufacturing enterprise fails to remit the amount of contribution it shall be liable to pay to the Fund, in addition to the contribution, a penalty representing

	5 per cent of the amount of the contribution, excluding the penalty for each month or part of the month during which the contribution remains unpaid.
Relevant innovative Instruments	Social equity
References	

6.8.2 ASIA-PACIFIC

Title	Law on Environmental Protection Tax
Country	Socialist Republic of Vietnam
Entry into force	January 1, 2012
Type of Instrument	Framework law
Scope	National
Objective	Introduce environmental protection tax in order to reduce environmental impacts from specific products and goods Environmental protection tax: indirect-collected tax, collected on products and goods (hereafter referred to as goods) when used to cause negative environmental impacts.
Main provisions	This Law provides for taxable subject, un-taxable subject, taxpayers, tax base, tax declaration, tax calculation, tax payment and environmental protection tax refund Taxable subject includes gasoline, oil, grease, coal, Hydrogen-chlorofluorocarbon liquid (HCFC), taxable-plastic bag, herbicide and pesticide which are restricted from use, forest product preservative which is restricted from use, warehouse disinfectant which is restricted from use. Taxpayer is organizations, households and individuals producing, importing goods under taxable subject. Tax base of environmental protection is the number of taxable goods and absolute rate.
Relevant innovative instruments	Environmental protection tax

Title	Draft Act on Fiscal Measures for Environmental Management
Country	Thailand
Entry into force	Not yet adopted
Type of Instrument	Framework Law
Scope	National
Objective	To introduce fiscal measures to Thai environmental law, which is currently based on the command-and-control approach, which has proved to be insufficient for pollution control, in order to create incentives and change production and consumption patterns. In addition, the measures will assist in internalization of environmental costs and enhance the polluter pays principle and accumulation of fund for environmental management.
Main provisions	<p>Institutions:</p> <ul style="list-style-type: none"> - <u>The Minister of Finance</u> (the Minister) shall have the care and charge of the Act. - <u>Fiscal Measures for Environmental Management Policy Committee</u> (the Committee) shall be established and have the power and duty for, inter alia, setting policies and plans for the utilization of fiscal measures; proposing policies and recommendations to the cabinet regarding adoption of decrees in accordance with this Act; providing recommendations and consultations for the Minister regarding adoption of ministerial regulations, notifications or other actions; considering and giving approval to the utilization of fiscal measures as proposed by government agencies, requirements, e.g., types of pollution sources, rules, procedures, conditions and rates for taxation. <p>General provisions:</p> <ul style="list-style-type: none"> - Where a government agency requests for utilization of a fiscal measure, the Committee shall consider and submit a recommendation to the cabinet in order to assign the Minister to adopt a decree setting rules, procedures and conditions for the utilization of such measure. <p>Environmental tax (imposed on owners and possessors of pollution sources)</p> <ul style="list-style-type: none"> - Rules, procedures and conditions regarding taxation shall be in accordance with decrees. The Minister, with recommendations from the Committee, has a power to adopt declarations to designate types and sizes of sources of pollution

which is to be taxed under this Act

- The tax shall be collected by the Excise Department and distributed to local administrations (who shall conduct local environmental improvement plans, reports on local environmental quality situation and reports on disbursement of the budget) and responsible agencies in proportion as stipulated in decrees. The rest of the income shall be accumulated into the environmental tax and fee fund.

Fee for pollution management services (imposed on owners and possessors of pollution sources)

- A local administration or relevant agency who is responsible for making available central wastewater treatment or waste disposal systems or other environmental management public services has a power to collect service fees from the owners and possessors of pollution sources who benefit from such services.

- Rules, procedures, conditions and rate of the fee shall be in accordance with local legislation of the local administration.

Product tax and fee (imposed on producers, importers and consumers)

- In order to control and promote a reduction in the utilization of products which is harmful to health or effect the environment, producers importers or consumers shall have a duty to pay the product tax.

- In order to promote a reduction in the amount of waste and management of waste which causes the least effect to the environment, producers importers or consumers who cause damage or effect to the environment shall have a duty to pay the product fee, as the cost for the management and facilities to collect used products.

- Rules, procedures and conditions for the collection of shall be in accordance with decrees.

- Excise, Customs and Revenue Department shall have a duty and power to collect the product tax and fee.

Performance bonds for risks and damage to the environment (imposed on persons in charge of activities which may affect the environment, life or health of humans)

- A person in charge of an activity, as specified, which may affect the environment life or health of humans shall have a duty to issue a bond or a

contract of suretyship to insure that he/she will comply with the rules and conditions and will be responsible for damage to life body, health, sanitary and property of the government or other person.

- The Minister, with recommendations from the Committee, and a local administration have a power, in accordance with the law, to adopt declarations and local legislation respectively to set rules conditions and procedures.

Tradable permits

- In order to create equality of the utilization of natural resources and to limit the amount of pollutants, the Committee has a power to require the responsible agency to use the permit trading system for the utilization of natural resources or emissions of pollutants. The responsible agency may, on its own, propose to the Committee to use the permit trading system.

- Rules, procedures and conditions for the utilization of the systems shall be in accordance with decrees.

Promotional measures

- In order to promote and create incentives for pollution control and environmental quality conservation, a responsible agency may propose to the Committee for recommendations regarding utilization of the following measures:

1. grant of funding and low-interest loan to promote activities which use less natural resources, including alternative energy production, energy conservation measures and collection of used product for reuse
2. reduction in environmental tax for persons who manage pollutants with standards higher than as required by law.
3. grant of funding to farmers for agriculture which helps conserve the environment
4. other promotional measures to promote conservation of natural resources and the environment

Environmental tax and fee fund

- Environmental tax and fee fund shall be established and composed of, inter alia, funding provided by the government, income for environmental tax and product tax and fee.

	<ul style="list-style-type: none"> - The fund shall be used, inter alia, to support activities and projects to control and reduce emissions of pollutants, manage natural resources and the environment; as expense for restoration of the environment which has been damaged; as compensation for persons who are damaged or affected from pollution. - The fund shall be managed by the environmental tax and fee fund committee, established under this Act.
Relevant innovative instruments	<ul style="list-style-type: none"> - environmental tax - fee for pollution management services - product surcharge, in a form of tax and fee - performance bonds - tradable permits - incentives, e.g., tax reduction, subsidy and low-interest loan.
Reference	

6.8.3 LATIN AMERICA AND THE CARIBBEAN

Title	Provincial Legislation of Misiones Xxiii N° 10
Country	Province of Misiones, Argentina
Became Effective	13 th December 2000
Type of Instrument	Law
Scope	Provincial
Objective	The objective of this Act is to regulate the promotion and development of alternative tourism ventures and organize activities in the province, provide or operate traditionally unusual services and / or resources for traditional tourism with emphasis on environmental tendencies dedicated to the conservation, preservation, education and sustainable use of natural and cultural resources, generating activities that are

not usually carried out in daily life and offering a personalized service.

Main

Forecasts

The following are considered alternative modalities of tourism: ecotourism, agrotourism, adventure tourism, thematic tourism, educational tourism and all other related activities. (Art. 3)

*Creation of a Provincial Registry of Alternative Tourism Operators and Service Providers. ARTICLE 8. – The enforcement authority will extend to the registered alternative tourism providers and operators, an enabling annual certificate of operation, which should be displayed in places of public attention, detailing the activities they set out to undertake. In order to have an extension of the certificate, it is pertinent to submit an affidavit of registration, or modification of data in the gross income tax, in which the owner of the property demonstrates that alternative tourism is the main or secondary activity, basing on the information that will be granted by the Revenue Department.

In order to achieve the objectives of this act, the Undersecretary for tourism will provide to the registered service operators and providers in the Registry created by the preceding article: a) professional technical assistance, training and perfection; b) promotion and dissemination of all registered enterprises; c) support in the management of civil liability insurance against third parties, to provide this service to enterprises; d) promotion of credit systems and incentives for enterprises to achieve a product offer and its services; e) coordinate with the provincial and national organs, infrastructure works and services for the development of entrepreneurship; f) foster partnerships between public and private organizations, to achieve awareness, training and marketing advice on alternative tourism services.

*Tax benefits: Article 12. Establish the zero percent (0%) aliquot on the gross income tax on the activities performed by service providers and operators of alternative tourism registered in the Registry created in this Act.

Use Executive Power to modify the fixed aliquot in the previous paragraph, provided that the objectives of fiscal policy, financial emergencies of the state, and the warranting market conditions.

Relevant

**Innovative
Instruments**

Technical assistance from the state in the development of sustainable tourism activities.

Fiscal Incentives for the providers of “alternative touristic services”.

Reference

www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 20.600 Creation of Environmental Tribunals
Country	Chile
Became Effective	28 th June 2012
Type of Instrument	Law
Scope	National
Objective	Creation of Environmental Tribunals, as special courts whose role is to solve environmental disputes in its jurisdiction.
Main Forecasts	<p>Each Environmental Tribunal will consist of three ministers. Two of them should be lawyers (...) The third will hold a Bachelors of Science majoring in environmental matters (...) (Art.2)</p> <p>Powers: Environmental Tribunals are competent to: 1) know the complaints made against the decrees establishing primary or secondary standards for environmental quality and emission standards, that declare areas of the territory as dormant or saturated and establish plans for the prevention and decontamination, (...), 2) know the demands in order to obtain repair for the environmental damage caused, (...), 3) to listen to the claims against the resolutions of the Superintendence of the Environment, (...) (Art. 17)</p> <p>Advertising the procedure and representation of parties. The procedure will be public and driven from office by the court to its final resolution (...) (Art. 21)</p> <p>Precautionary measures. In order to protect the legal interest of guardianship and taking into account the credibility of the claim made, the court may order the precautionary measures, conservative or innovative, necessary to prevent the negative effects of the acts or conducts submitted to it (...). The court may order these measures at any stage of the process or before the start and by the time it deems appropriate. It can declare them ex officio or upon petition, as appropriate, according to the general rules, in case of the latter, resolve on the basis of a reasoned decision, whether plain or subpoena. (Art. 24)</p> <p>Indemnity to the repair of environmental damage. The environmental reparation action can not to be traded or any other agreement that exempts the author to</p>

	implement reparation measures to the environmental damage caused. (Art. 44).
Relevant Innovative Instruments	<p>Institutional strengthening for Environmental Protection, focusing on the environment as a common good, through judicial activity, with broad powers to boost trade in the process.</p> <p>Access to specialized justice, incorporating a technical specialist in the creation of the court, in view of the interdisciplinary nature of the subject.</p>
Reference	www.planetaverde.org.ar/legislacion.php

Title	Legislation N° 113 of the Tax System
Country	Cuba
Became Effective	23 rd July 2012
Type of Instrument	Law
Scope	National
Objective	Set taxes, principles, rules and general procedures that underpin the tax system of the Republic of Cuba.
Main Forecasts	<p>Are regulated under the Title (Taxation for the use of Natural Resources and Environmental Protection) taxes for the use or exploitation of beaches, bays, forest resources, and dumping of waste in watersheds that feed bays and the use of underground water, which is intended for conservation and protection of ecosystems and natural resources which are damaged. (Art. 238)</p> <p>Establish a tax regime for the use or exploitation of beaches by conducting the following activities:</p> <p>Establishing a tax shedding those acts of waste in water sheds of the country, within the limits approved by the environmental authorities and subject to appropriate administrative actions corresponding to the violations of the regulations in regard to</p>

the protection and conservation of the environment.

This tax is aimed at discouraging pollution by dumping of waste in the water sheds and for developing a compensation mechanism to help finance expenditures for the protection and conservation of the environment. (Art. 246)

It establishes a tax on the use and exploitation of the bays of Havana, Mariel, Matanzas, Cienfuegos and Santiago de Cuba, gradually extending the application of this to the rest of the bays in the country. (Art. 258)

Establishes a tax for the use and exploitation of the natural and artificial forest resources, and forest world life, regardless of the activity being undertaken. (Art.267)

The use and exploitation of resources as mentioned above is defined as, the use of timber and non timber products such as resins, barks, leaves, foliage, lianas, vines, and others, and the use of these areas for hunting practices with economic ends, and the development of commercial and recreational activities in protected areas. (Art. 268)

Establishing a tax for the use of surface water, which can be harnessed directly from works or means of conveyance and distribution not administered by third parties, whether through technical production purposes or for the provision of a service. (Art. 275)

Relevant Innovative Instruments

Incorporation of taxes to be collected with the purpose of constituting mechanisms for the protection and conservation of the environment.

Reference

www.planetaverde.org.ar/legislacion.php

Title	Environmental Protection Levy Act
Country	Saint Lucia
Became Effective	6 th March 2002
Type of Instrument	LEGISLATIVE ACT

Scope	NATIONAL
Objective	Establish the imposition and collection of the environmental protection tax on imported goods in Saint Lucia.
Main Forecasts	An “Environmental Protection Tax” on imported goods in Saint Lucia must be levied and collected with a specified rate in the annual scheme. The funds collected under this tax regime must be deposited in a special allocation account to cover environmental protection costs.
Relevant Innovative Instruments	Establishment of import taxes to finance environmental protection expenditures.
Reference	http://www.planetaverde.org.ar/legislacion.php

6.9 Climate Change Adaptation and Mitigation

6.9.1 AFRICA

Title	Climate Change Commission Bill
Country	Nigeria
Entry into Force	N/A
Type of Instrument	Framework
Scope	National
Objective	To establish the Climate Change Commission
Main Provisions	The Commission shall consist of the President of the Federal Republic as chairman, and in the absence of the President, such other person as may be designated by him in that behalf to act as chairman and the following other

members, that is —

(a) the Ministers charged with responsibility for the following matters

— (i) energy (power and steel, gas and petroleum),

(ii) science and technology,

(iii) environment, housing and urban development,

(iv) water resources, agriculture and rural development,

(v) justice,

(vi) foreign affairs,

(vii) finance,

(viii) health;

(b) the Executive Secretary of the Commission shall be the administrative and Accounting officer of the Commission.

The Commission shall consist of the following departments, that is— (a) Climate Science, Inventories and Mitigation (CSIM);

(b) Vulnerability, Impacts and Adaptations (MBP);

(c) Multilateral and Bilateral Programmes (MBP);

(d) Research and Systematic Observations;

(e) Planning, Statistics and Policies;

(f) Administration and services.

Functions of the Commission.

Charged with responsibility for the strategic planning and co-ordination of national policies in the field of climate change and energy-

(a) advice the Federal Government on policies and priorities on the

International Climate Change regime and its effects on the country;

{b) initiate research in technological use, acquisition and deployment to prejudice to the generality of the foregoing,

- (c) maintain a programme of technical assistance to bodies (public and private) concerning implementation of climate change criteria, guidelines, regulations and standards and monitoring compliance with such regulations and standards thereof;
- (d) establish programmes for the prevention, reduction and elimination of greenhouse gases in the nation's air, land and inter-state waters as well as national programmes for restoration and enhancement of the environment;
- (e) utilize and promote expansion of research, experiments, surveys and studies by public and private agencies, institutions and organizations concerning causes, effects, extent, prevention, reduction and elimination of greenhouse gases and such other related environmental protection as the commission may deem expedient;
- (f) serve as centre for gathering and dissemination of information relating to national policy on climate change its effects and mitigation;
- (g) serve as centre for solving any inter-related problem that may arise in the implementation of any policy, strategy or guideline relating to climate change, develop strategy, master plan, programme for combating climate change;
- (h) coordinate all institutional and voluntary actions and programmes of reducing greenhouse gases and taking inventory of greenhouse gases;
- (i) undertake the implementation and ensuring national compliance with all commitments under the United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, Marrakesh Accords and all other related international agreements on climate change;
- (j) prepare after consultation with such relevant agencies of government and private sector, periodic master plan for balanced and coordinated development of actions to adapt to climate change;
- (k) make recommendation for the exploiting of other renewable sources of energy as and when necessary;
- (l) monitor the performance of the energy use in the industrial, agricultural, land, water, transport and aviation sectors to ensure stabilization of greenhouse gases and reduce emission level; .
- (m) promote training and manpower development in climate change related matters;
- (n) carry out such other functions as conducive, necessary and expedient National

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to the discharge of its function under this Act or as may be directed from time to time by the president;

(o) act as Designated National Authority (DNA) for the purpose of implementation of the Kyoto Protocol financial mechanisms. For the time being, tend any other Post-Kyoto Mechanisms in pursuant to that, it shall have the powers to:

(i) make and set out criteria in accordance to national laws for the implementation of the Clean Development Mechanism (CDM),

(ii) evaluate and assess applications for CDM projects and grant necessary approvals.

(iii) liaise with the United Nations Framework Convention on Climate Change UNFCCC Secretariat on verification, validation and registration 13 of CDM projects in Nigeria,

(iv) make rules, guidelines and set procedures for the development of a carbon trading mechanism in the country assist in marketing and promoting CDM project and establishing market structures that will encourage the evolvement of a carbon market,

(v) public awareness of Clean Development Mechanism (CDM);

The Commission shall not be subject to the direction, control or supervision by any other authority or person in the performance of its functions under this Act other than the President.

**Relevant
Innovative
Instruments**

Public and private Sector Participation

References

Title	Regulations Under Section 25(3) of the National Environmental Management Act, 1998: Establishment of a Designated National Authority for the Clean Development Mechanism
Country	South Africa
Entry into Force	24 th December 2004
Type of Instrument	Subsidiary Legislation
Scope	National
Objective	To give effect to the Clean Development Mechanism established under Article 12 of the Kyoto Protocol and to establish a Designated National Authority as required by the Protocol and to establish an intra-governmental Steering Committee for the Designated National Authority and related matters.
Main Provisions	<p>Designated National Authority (DNA) responsible for the approval of Clean Development Mechanism projects for the purposes of the Kyoto Protocol Establishment is the Director General of Minerals and Energy.</p> <p>DNA comprises also a Steering committee of 8 members from the National Departments of Minerals and Energy; Environmental Affairs and Tourism, Water Affairs and Forestry; Foreign Affairs; Trade and Industry; Agriculture and Land Affairs, Transport; and The National Treasury responsible for co-ordination and approval of CDM projects in South Africa.</p> <p>The DNA is obligated to:</p> <ol style="list-style-type: none"> a) In concurrence with the Steering Committee for the Designated National Authority establish and apply an approval procedure. b) Consider applications by project proponents for comments on Project Design Documents and where appropriate comment on Project Design Documents; c) Issue Letters of Approval to project proponents in respect of Clean Development Mechanism Projects that meet the sustainable development criteria approved by the Minister of Minerals and Energy from time to time; d) Facilitate the effective and beneficial participation of South Africa and South African public and private sector entities in the activities of the Clean Development Mechanism; e) Promote the establishment of Clean Development Mechanism Projects in South Africa in cooperation with other government agencies with the same or similar responsibilities; f) Monitor and report to the Minister of Minerals and Energy from time to time

	<p>on Clean Development Mechanism Projects and activities in South Africa;</p> <p>g) Declare all donations received in accordance with the provisions of the Public Finance Management Act, 1999 (Act No. 1 of 1999)</p> <p>The approval procedure for Clean Development Mechanism projects must include the sustainable development criteria as approved by the Minister from time to time.</p>
Relevant Innovative Instruments	Sustainable Development as a criteria for Clean Development Mechanism project approval
References	

Title	Climate Change Authority Bill 2012
Country	Kenya
Entry into Force	N/A
Type of Instrument	Framework
Scope	National
Objective	<p>To establish the Climate Change Authority; to provide a framework for mitigating and adapting to the effects of climate change on various sectors of the economy and to provide for the development of response strategies to the effects of climate change and for connected purposes.to provide —</p> <p>(a)a framework for mitigating and adapting to the effects of climate change on all sectors of the economy;</p> <p>(b)appropriate response strategies in relation to climate change; and</p> <p>(c) mechanisms for the financing, coordination and governance of matters of climate change.</p>
Main Provisions	<p>Section 3(1) states that the objects and purposes of this Act are to provide-</p> <p>(a)a framework for mitigating and adapting to the effects of climate change on all sectors of the economy;</p> <p>(b)appropriate response strategies in relation to climate change; and</p> <p>(c) mechanisms for the financing, coordination and governance of matters of climate change.</p>

Functions of the Authority

Section 6 provides that the functions of the Climate Change Authority shall be to—

- (a) advise the national and county governments on legislative and, other measures necessary for the mitigating and adapting to the effects of climate change;
- (b) provide coordination between and amongst various governmental and non-governmental stakeholders dealing with matters related to climate change;
- (c) advise the national and county governments on regional and international conventions, treaties and agreements on climate change to which Kenya is a party or should be a party to and follow up the implementation of the conventions, treaties and agreements to which Kenya is a party;
- (d) prepare reports on Kenya's adherence to its international obligations relating to climate change;
- (e) coordinate negotiations on climate change related issues at the local, regional and international levels;
- (f) carry out public education and awareness programmes on climate change and facilitate public participation in climate change programmes at the national and county governments;
- (g) coordinate the conduct of research on climate change including the collation and dissemination of information relating to climate change to the national and county governments, the public and stakeholders;
- (h) establish and manage a national registry for energy and carbon emission reporting by public and private entities;
- (i) serve as the national information and management centre for collating, verifying and disseminating information on greenhouse gases and managing Kenya's quantity of greenhouse gases emitted and absorbed;
- (j) in relation to a public or private entity—
 - (i) monitor and assess activities being undertaken by the public or private entity in order to ensure that such activities comply with legislation and policy on issues of climate change; and
 - (ii) where necessary, require a public or private entity, within a specified time, to comply with such directions as the Authority may issue;
- (k) in collaboration with relevant government and non-governmental agencies, and after the conduct of relevant research and studies—
 - (i) set targets and coordinate actions for the reduction of greenhouse gas emissions;
 - (ii) identify and coordinate the implementation of low carbon and green growth strategies; and
 - (iii) set targets relating to and promote the development of carbon markets;
- (l) design programmes to provide for incentives relating to matters of climate change including incentives for reduced emissions from deforestation and degradation;
- (m) publish, regularly update and disseminate national and county climate change strategies, action plans and other information;

- (n) mobilize resources for the purposes of achieving the objects and purposes of this Act; and
- (o) perform any other function that may be assigned by this Act or by any other legislation or which is necessary for the achievement of the objects and purposes of this Act.

Climate Change Programmes and Response Strategies

Section 19(1): The Authority shall formulate, publish and coordinate the implementation of national and county' climate change programmes and shall make the programmes available to the public in both print and electronic form to measures relating

to—

- (a) adaptation;
- (b) mitigation;
- (c) emission levels and trends;
- (d) education and creation of awareness, including integration in the educational curricula;
- (e) assessment of climate change vulnerability, climate change threats;
- (f) capacity building in strategic climate sectors;
- (g) research, development and technology transfer; and
- (h) identification of climate change opportunities.

Section 19(3) The programs may address health, water, transport, agriculture, livestock, forestry, tourism, infrastructure, industry, waste management sectors or any other relevant sectors.

Section 19(4): The programs shall be informed by-

- (a) scientific knowledge about climate change;
- (b) technology relevant to climate change;
- (c) economic circumstances, in particular, the likely impact of the programmes on-
 - (i) the economy;
 - (ii) the competitiveness of particular sectors of the economy;
 - (iii) small and medium-size enterprises;
 - (iv) employment opportunities; and
 - (v) the socio-economic wellbeing of any segment or part of the population.
- (d) fiscal circumstances, in particular, the likely impact of the programmes on taxation, public spending and public borrowing;
- (e) social circumstances, in particular, the likely impact of the programmes on the marginalized and disadvantaged communities;
- (f) energy policies, in particular, the likely impact of the programmes on energy supplies and energy consumption;
- (g) environmental considerations, in particular, the likely impact of the programmes on biodiversity and the ecosystem;
- (h) international law and policy relating to climate change; and indigenous knowledge related to climate change adaptation and mitigation

.Guidance to Public and Private Entities

Section 22. (I) The Authority shall, where necessary or on request, give guidance to public and private entities in relation to climate change duties.

(2)Before giving guidance under subsection (1), the Authority shall consult with such persons, including non-state actors, as the Authority may consider appropriate.

(3)The Authority may vary or revoke the guidance given under this section and where the Authority proposes to vary such guidance to a substantial extent, the provisions of subsection (2) shall apply.

(4)The Authority shall publish any guidance given under this section in the Gazette and in such other manner as it considers appropriate.

Reporting. by Public or Private entities, on Climate Change Duties

Section 23. (I) The Authority may, by notice in the Gazette, make provisions—

(a)requiring a public or a private entity to prepare reports on the status of the entity's compliance with climate change duties within a specified time;

(b)requiring any public or private entity that fails to comply with its climate change duties, to prepare a report, within a specified time, on the actions it has taken, is taking or intends to take to secure future compliance with those duties;

(2)A report required by virtue of subsection (1) shall, in addition to the required information, contain information relating to the compliance of procurement policies and the activities undertaken by the public or private entity relating to its climate change duties.

(3)A notice under subsection (I) may require—

(a)two or more public or private entities to prepare a joint report in relation to compliance with one or more climate change duties; and

(b)such public or private entities to co-operate with each other for the purpose of preparing such report.

24. (I) The Authority may, by notice in the Gazette, designate one or more persons or bodies to monitor, investigate and prepare a report on whether public or private entities are—

(a)complying with climate change duties; and

(b) in conformity with the guidance given under section 24.

Enforcement of Rights Relating to Climate Change

Section 25. (I) A person may, pursuant to Article 70 of the Constitution, apply to the Environment and Land Court alleging that a person has acted in a manner that has or is likely to adversely affect efforts towards mitigation and adaptation to the effects of climate change.

**Relevant
Innovative
Provisions**

Rights relating to Climate Change Mitigation and Adaptation
Green procurement
REDD

Reference

6.9.2 ASIA-PACIFIC

Title	Climate Change (State Action) Act 2008
Country	Australia
Entry into force	22 October 2008
Type of Instrument	Framework Law
Scope	Regional
Objective	<p>The objects of this Act are –</p> <ul style="list-style-type: none">(a) to help Tasmania respond to the challenges of climate change by addressing issues associated with that phenomenon and, in particular, by providing for the setting of a target for the reduction of greenhouse gas emissions in the State as part of the national and international response to climate change; and(b) to promote a commitment to action on climate change issues in Tasmania by providing for the development of –<ul style="list-style-type: none">(i) interim State targets for the reduction of greenhouse gas emissions in the State; and(ii) suitable targets and interim targets, having the same aim, for specific sectors of the State's economy; and(c) to help Tasmania take advantage of the new social, economic and environmental opportunities that climate change will present; and(d) to provide for reporting and Parliamentary oversight of progress being made towards achieving the State's 2050 target and other targets; and(e) to promote energy efficiency and conservation; and(f) to promote research and development in the development and use of technology for reducing or limiting greenhouse gas emissions or for dealing with and adapting to the expected consequences of climate change, including technology for removing greenhouse gases from the atmosphere; and(g) to promote and facilitate business and community consultation and early action on climate change issues; and(h) to identify, promote and support measures to help Tasmania deal with and adapt to the expected consequences of climate change; and(i) to promote a Tasmanian response to climate change issues that is as far as practicable consistent with national and international schemes addressing those issues, including any schemes for emissions trading and emissions reporting; and(j) to enhance Tasmania's willingness and capacity to contribute and respond, constructively and expeditiously, to national and international developments in climate change issues.
Main provisions	This Act aims to: help Tasmania respond to the challenges of climate change by providing for the setting of a target for the reduction of greenhouse gas emissions; promote energy efficiency and conservation; promote research and

	<p>development in the development and use of technology for reducing or limiting greenhouse gas emissions; identify, promote and support measures to help Tasmania deal with and adapt to the expected consequences of climate change; etc. The Act provides for the establishment of the Tasmanian Climate Action Council which shall provide the minister with independent advice on climate change issues as they affect Tasmania. It defines the internal organization of the Council and its functions and powers.</p>
<p>Relevant innovative instruments</p>	<p>The State's 2050 target The State's 2050 target under this Act is to reduce, by 31 December 2050, greenhouse gas emissions in Tasmania to at least 60% below 1990 levels.</p> <p>Regulation-making power The Governor may, on the recommendation of the Minister, make regulations for the purposes of this Act.</p> <p>Tasmanian Climate Action Council Function of Council</p> <p>(1) The Council's function is to provide the Minister with independent advice on climate change issues as they affect Tasmania including, in particular –</p> <ul style="list-style-type: none"> (a) the setting of interim State targets and the setting of targets and interim targets for specific sectors of the State's economy; and (b) the progress being made towards achieving the State's 2050 target and other targets; and (c) the effectiveness of the initiatives and methods being employed to achieve those targets; and (d) alternative or additional methods capable of being employed to achieve those targets; and (e) the extent to which any targets or methods prescribed by the regulations are being achieved and, if it seems relevant, should be revised; and (f) the progress being made towards identifying and implementing strategies for dealing with and adapting to the expected consequences of climate change; and (g) other matters relating to the mitigation of, and adaptation to, the expected consequences of climate change. <p>(2) In performing its function, the Council may have regard to such matters as it considers necessary or expedient but is to have particular regard to –</p> <ul style="list-style-type: none"> (a) national and international best practice; and (b) relevant methodologies and principles that apply in other Australian jurisdictions; and (c) climate change actions taken in foreign jurisdictions that, by reason of their geographic, demographic, economic, industrial or infrastructural profile, face climate change challenges similar to those facing Tasmania; and (d) the medium- to long-term practicability, flexibility and sustainability of Tasmania's climate change strategies; and (e) any opportunities for Tasmania to innovate and contribute to national and international solutions. <p>(3) The Council is to also perform any prescribed functions.</p>
<p>Reference</p>	

Title	Climate Change Authority Act 2011
Country	Australia
Entry into force	29 November 2011,9 December 2011,1 July 2012
Type of Instrument	Framework Law
Scope	National
Objective	An Act to establish the Climate Change Authority ,and for other purposes.
Main provisions	<p>This act aims to establish a climate change authority. Part 2 provides for:</p> <ol style="list-style-type: none"> (1)Authority’s establishment, functions, powers and Liabilities, (2)Constitution and membership of the Authority, (3)Terms and conditions for Authority members and associate Authority members, (4)Decision-making by the Authority, (5)Delegation, (6)Chief Executive Officer of the Authority, (7)Staff of the Authority, (8)Planning and reporting obligations. <p>This act aims to establish a Land Sector Carbon and Biodiversity Board.Part 4 provides for:</p> <ol style="list-style-type: none"> (1)Board’s establishment and functions (2)Membership of the Board (3)Assistance to Board (4)Committees (5)Annual report
Relevant innovative instruments	<p>The Climate Change Authority is established by this act.The Authority has the following functions:</p> <ol style="list-style-type: none"> (a) to conduct reviews under: <ol style="list-style-type: none"> (i) Part 22 of the Clean Energy Act 2011; and (ii) section 306 of the Carbon Credits (Carbon Farming Initiative) Act 2011; and (iii) sections 76A and 76B of the National Greenhouse and Energy Reporting Act 2007; and (iv) section 162 of the Renewable Energy (Electricity) Act 2000; and (v) Part 3 of this Act; (b) if requested to do so by the Climate Change Minister, to assist the Climate Change Minister in preparing the Commonwealth Government’s response to recommendations set out in a report of such a review; (c) to conduct research about matters relating to climate change; (d) to conduct research for purposes in connection with the performance of any of the Authority’s functions; (e) such other functions as are conferred on the Authority by this Act; (f) such functions as are conferred on the Authority by any other law of the Commonwealth; <p>Land Sector Carbon and Biodiversity Board is established by this act. The Board has the following functions:</p> <ol style="list-style-type: none"> (a) to advise any or all of the relevant Ministers about:

- (i) performance indicators for; and
 - (ii) the implementation of; and
 - (iii) the priorities for research in relation to;
- prescribed measures that:
- (iv) increase the land sector’s resilience to climate change;
- or
- (v) improve long-term farm productivity; or
 - (vi) assist landholders and regional communities to benefit from the reduction of greenhouse gas emissions from the land sector; or
 - (vii) assist landholders and regional communities to benefit from the sequestration of carbon in soil, in living biomass, or in dead organic matter;
- (b) to advise the Environment Minister about:
- (i) performance indicators for; and
 - (ii) the implementation of; and
 - (iii) guidelines for the funding of;
- Biodiversity Fund program measures that:
- (iv) protect, manage or restore biodiverse ecosystems; or
 - (v) establish, protect, manage, improve or restore levels of carbon sequestered in living biomass, or in dead organic matter, so far as that living biomass or dead organic matter, as the case may be, is in a biodiverse ecosystem;
- (c) to advise any or all of the relevant Ministers about any other matters that:
- (i) are specified in a legislative instrument made by the Environment Minister; and
 - (ii) relate to measures, or proposed measures, that assist the land sector to deal with climate change;
 - (d) to do anything incidental to or conducive to the performance of the above functions.

Reference

Title	Climate Change Act of 2009 (Republic Act No. 9729 of 2009)
Country	Philippines
Entry into force	7 November 2009
Type of Instrument	Framework Law
Scope	National
Objective	<p>This Act aims to integrate disaster risk reduction measures into climate change adaptation plans, development and poverty reduction programs.</p> <p>The State adopts the principle of protecting the climate system for the benefit of humankind, on the basis of climate justice or common but differentiated responsibilities and the Precautionary Principle to guide decision-making in climate risk management.</p> <p>The Act provides for the establishment of a Climate Change Commission to formulate and implement plans for the country to cushion the impact of natural</p>

	disasters.
Main provisions	<p>Creation of the Climate Change Commission. The Commission shall be the sole policy-making body of the government which shall be tasked to coordinate, monitor and evaluate the programs and action plans of the government relating to climate change pursuant to the provisions of this Act.</p> <p>Climate Change Office. There is hereby created a Climate Change Office that shall assist the Commission. It shall be headed by a Vice Chairperson of the Commission who shall act as the Executive Director of the Office. The Commission shall have the authority to determine the number of staff and create corresponding positions necessary to facilitate the proper implementation of this Act, subject to civil service laws, rules and regulations.</p> <p>Panel of Technical Experts. The Commission shall constitute a national panel of technical experts consisting of practitioners in disciplines that are related to climate change, including disaster risk reduction. The Panel shall provide technical advice to the Commission in climate science, technologies, and best practices for risk assessment and enhancement of adaptive capacity of vulnerable human settlements to potential impacts of climate change.</p> <p>Framework Strategy and Program on Climate Change. The Commission shall, within six (6) months from the effectivity of this Act, formulate a Framework Strategy on Climate Change. The Framework shall serve as the basis for a program for climate change planning, research and development, extension, and monitoring of activities to protect vulnerable communities from the adverse effects of climate change.</p> <p>National Climate Change Action Plan. The Commission shall formulate a National Climate Change Action Plan in accordance with the Framework within one (1) year after the formulation of the latter.</p> <p>Local Climate Change Action Plan. The LGUs shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan.</p> <p>Annual Report. The Commission shall submit a report giving a detailed account of the status of the implementation of this Act, a progress report on the implementation of the National Climate Change Action Plan and recommend legislation, where applicable and necessary.</p>
Relevant innovative instruments	<p>Creation of the Climate Change Commission, Climate Change Office, and Panel of Technical Experts, which all will contribute to taking measures into climate change adaptation plans, development and poverty reduction programs.</p> <p>Framework Strategy and Program on Climate Change which innovatively sets up a program serving as the basis for a program for climate change planning.</p> <p>National and local Climate Change Action Plan which will be in accordance with the Framework within one year after the formulation of the latter.</p> <p>Etc.</p>
Reference	

6.9.3 LATIN AMERICA AND THE CARIBBEAN

Title	Legislation N° 12.187/2009 and the Regulatory Decree N° 7390/2010 National Policy on Climate Change
Country	Brazil
Became Effective	Act: 29 th December 2009. Regulatory Decree 9 th December 2010
Type of Instrument	National Law and Regulatory Decree
Scope	National
Objective	Establish the principles, objectives, guidelines and tools on Climate Change.
Main Forecasts	<p>The National Climate Change Policy is aimed at: I. sharing social and economic development with the protection of the climate system (...), VI. The preservation, conservation and recovery of environmental resources VII. Consolidate the expansion of the legally protected areas, incentive for reforestation and the restoration of the vegetation of degraded areas (...)</p> <p>The National Policy objectives should be consistent with sustainable development in order to pursue economic growth, eradication of poverty and the reduction of social inequalities. (Art. 4)</p> <p>Guidelines: (...) The promotion and development of scientific and technological research and dissemination of technologies, processes and practices. (...) VII. The use of financial and economic instruments to promote adaptation and mitigation actions (...) XII. Promoting the dissemination of information, training and public awareness on climate change. XIII. Encouragement, support and maintenance and promotion of practices, activities and technologies of low carbon emissions, and sustainable production and consumption patterns. (Art. 5)</p> <p>Instruments. (...) The fiscal and tax measures to stimulate emission reductions including different tax rates, exemptions, compensation (...) VII credit lines and financing of public and private financial agents (...) development of research lines by development agencies (...) financial and economic mechanisms (...) existing measures or those to be created, stimulate the development of processes and technologies that contribute to the reduction of emissions. (Art. 6)</p> <p>Include in the National Plan: I. An Action Plan for the prevention and control of</p>

	deforestation in the Amazon. II. Action Plan for the prevention and control of “un closed bush burning”. III. Ten year Plan for the expansion of energy. IV. Plan for the consolidation of low economies in carbon emissions in agriculture. V. Plan for the reduction of emissions from the Steel Industry. (Art. 3 Regulatory Decree)
Relevant Innovative Instruments	<p>Inclusion in the legal framework a strong statement of the relationship between the implementation of a climate change policy and sustainable development.</p> <p>Promotion of incentives for technical and scientific research on technologies applicable to climate change.</p> <p>Use of economic, financial and tax instruments to promote activities related to reducing emissions and research in this respect.</p> <p>Change in consumption habits towards more sustainable patterns.</p>
Reference	www.planetaverde.org.ar/legislacion.php

Title	General Legislation on Climate Change
Country	Mexico
Became Effective	10 th October 2012
Type of Instrument	National Law
Scope	National
Objective	<ol style="list-style-type: none"> I. Guarantee the right to a healthy environment and establish concurrence of powers of the federation, federation entities and municipalities in the development and implementation of public policies for climate change adaptation and mitigation of greenhouse compounds and emissions; II. Regulate greenhouse gas emissions and compounds (...) III. Regulate the actions for mitigation and adaptation to climate change; IV. Reduce the vulnerability of the population and the ecosystems of the country against the adverse effects of climate change, and create and strengthen national capacities to respond to the phenomenon;

- V. Promote education, research, development and technology transfer and innovation and diffusion in adaptation and mitigation to climate change;
- VI. Establish the basis for consensus with the society, and
- VII. Promote the transition toward a competitive, sustainable and low carbon emission economy. (art.2)

**Main
Forecasts**

Creates the National Institute for Ecology and Climate Change (art.13)

The national adaptation policy in regard to climate change will be based on diagnostic instruments, planning, measuring, monitoring, reporting, verification and evaluation, with the objective of:

- I. Reducing the vulnerability of the society and the ecosystems from the effects of climate change;
- II. Strengthening the resilience and resistance of natural and human systems;
- III. Minimizing risk and damage, considering the current and future scenarios of climate change;
- IV. Identifying vulnerability and the adaptation and transformation capacity of the ecological, physical and social systems and exploit opportunities created by new climatic conditions;
- V. Establish mechanisms for immediate and prompt response in areas impacted by the effects of climate change as part of the plans and actions for civil protection, and
- VI. Facilitate and promote food security, agricultural productivity, livestock, fisheries, aquaculture, preservation of the ecosystems and natural resources (art. 27).

National Policy on Climate Change mitigation should include, through the planning instruments, policy and economic instruments provided for in this law, a diagnostic, planning, measuring, monitoring, reporting, verification and evaluation of national emissions. This policy should establish plans, programmes, actions, economic, political and regulatory instruments, for the gradual achievement of emission reduction targets by specific sectors and activities in reference to the baseline scenarios per sector established by the instruments provided in this law, and taking into account international treaties signed by Mexico on climate change. (art. 31)

The inventory should be prepared by INECC, in accordance to the guidelines and methodologies established by the Convention, the Conference of the Parties and the Intergovernmental Panel on Climate change. INECC will draw the contents of the inventory in accordance to the following deadlines:

- I. The annual estimated emissions resulting from the burning of fossil fuels,
- II. Estimation of the emissions different from those resulting from the burning of fossil fuels, with exception to those relative to land use, will be carried out every two years, and
- III. The total estimation of emissions by sources and the absorptions by drains of all categories included in the inventory will be held every four years (art.

74).

Economic instruments are the normative and administrative mechanisms of fiscal, financial or market in character, through which people assume the costs and benefits related to the mitigation and adaptation of climate change, encouraging them to undertake actions that promote compliance with the objectives of the national policy on this matter. (Art. 92)

**Relevant
Innovative
Instruments**

Institutional strengthening for the development of policies relating to climate change

Establishment of guidelines for national programmes on adaptation and mitigation for climate change.

Economic incentives for the transition toward an economy with low carbon emissions.

Reference

www.planetaverde.org.ar/legislacion.php

<http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC.pdf>

6.10 Waste Management

6.10.1 AFRICA

Title	No. 59 of 2008: National Environmental Management: Waste Act, 2008
Country	South Africa
Entry into force	10 th March 2009
Type of Instrument	Framework law
Scope	National
	This Law was enacted to reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste

management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; for matters connected therewith.

The objects of the Act are—

(a) to protect health, well-being and the environment by providing reasonable measures for—

(i) minimizing the consumption of natural resources;

(ii) avoiding and minimizing the generation of waste;

(iii) reducing, re-using, recycling and recovering waste;

(iv) treating and safely disposing of waste as a last resort;

(v) preventing pollution and ecological degradation;

(vi) securing ecologically sustainable development while promoting justifiable economic and social development;

(vii) promoting and ensuring the effective delivery of waste services;

(viii) remediating land where contamination presents, or may present, a significant risk of harm to health or the environment: and

(ix) achieving integrated waste management reporting and planning;

(b) to ensure that people are aware of the impact of waste on their health, well-being and the environment;

(c) to provide for compliance with the measures set out in the Constitution in order to secure an environment that is not harmful to health and well-being.

Main Provisions

The Act binds all the organs of State responsible for implementing this Act, must put in place uniform measures that seek to reduce the amount of waste that is generated and, where waste is generated, to ensure that waste is re-used, recycled and recovered in an environmentally sound manner before being safely treated and disposed of.

The Minister shall establish a National Waste Management Strategy which must include objectives, plans, guidelines, systems and procedures relating to the protection of the environment and the generation (including the avoidance and

minimization of such generation), re-use, recycling, recovery, treatment, disposal, use, control and management of waste in order to achieve the objects of this Act; The Department and the provincial departments responsible for waste management must prepare integrated waste management plans which must at least contain a situation analysis that includes—

- (i) a description of the population and development profiles of the area to which the plan relates;
- (ii) an assessment of the quantities and types of waste that are generated in the area;
- (iii) a description of the services that are provided, or that are available, for the collection, minimization, re-use, recycling and recovery, treatment and disposal of waste; and
- (iv) the number of persons in the area who are not receiving waste collection services;

General duty in respect of waste management

A holder of waste must, within the holder's power, take all reasonable measures to—

- (a) avoid the generation of waste and where such generation cannot be avoided, to minimize the toxicity and amounts of waste that are generated;
- (b) reduce, re-use, recycle and recover waste;
- (c) where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner;
- (d) manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour or visual impacts;
- (e) prevent any employee or any person under his or her supervision from contravening this Act; and
- (f) prevent the waste from being used for an unauthorized purpose.

Reduction, re-use, recycling and recovery of waste

Unless otherwise provided for in this Act, any person who undertakes an activity involving the reduction, re-use, recycling or recovery of waste must, before

undertaking that activity, ensure that the reduction, re-use, recycling or recovery of the waste—

- (a) uses less natural resources than disposal of such waste: and
- (b) to the extent that it is possible, is less harmful to the environment than the disposal of such waste.

The Minister may, after consultation with the Minister of Trade and Industry require any person or category of persons to:

- (a) provide for the reduction, re-use, recycling and recovery of products or components of a product manufactured or imported by that person; or
- (b) include a determined percentage of recycled material in a product that is produced, imported or manufactured by that person or category of persons.

Extended producer responsibility

The Minister after consultation with the Minister of Trade and Industry may-

- (a) identify a product or class of products in respect of which extended producer responsibility applies;
- (b) specify the extended producer responsibility measures that must be taken in respect of that product or class of products; and
- (c) identify the person or category of persons who must implement the extended producer responsibilities measures contemplated in paragraph

The Minister may specify—

- (a) the requirements in respect of the implementation and operation of an extended producer responsibility programme, including the requirements for the reduction, re-use, recycling, recovery, treatment and disposal of waste;
- (b) the financial arrangements of a waste minimization programme, with the concurrence of the Minister of Finance;
- (e) the institutional arrangements for the administration of a waste minimization programme;
- (d) the percentage of products that must be recovered under a waste minimization programme;

- (e) the labeling requirements in respect of waste;
- (f) that the producer of a product or class of products identified in that notice must carry out a life cycle assessment in relation to the product, in such manner or in accordance with such standards or procedures as may be prescribed; and
- (g) the requirements that must be complied with in respect of the design, composition or production of a product or packaging, including a requirement that:
 - (i) clean production measures be implemented;
 - (ii) the composition, volume or weight of packaging be restricted; and
 - (iii) packaging be designed so that it can be reduced, re-used, recycled or recovered.

Before publishing such a notice the Minister must—

- (a) consult affected producers;
- (b) follow a consultative process unless the notice is amended in a non-substantive manner;
- (c) take into account the Republic's obligations in terms of any applicable international agreements; and
- (d) consider relevant scientific information.

Industry Waste Management Plans

The Minister may, by notice in writing, require an industry waste management plan to be prepared by an organ of state, excluding a municipality, within a stipulated timeframe.

An MEC may, by notice in writing, require an industry waste management plan to be prepared by the provincial department responsible for environmental affairs, within a stipulated timeframe.

The content may be:

- (a) the amount of waste that is generated;
- (b) measures to prevent pollution or ecological degradation;
- (c) targets for waste minimization through waste reduction, re-use, recycling and

recovery;

(d) measures or programmes to minimize the generation of waste and the final disposal of waste:

(e) measures or actions to be taken to manage waste;

(f) the phasing out of the use of specified substances;

(g) opportunities for the reduction of waste generation through changes to packaging, product design or production processes;

(h) mechanisms for informing the public of the impact of the waste-generating products or packaging on the environment;

(i) the extent of any financial contribution to be made to support consumer-based waste reduction programmes:

(j) the period that is required for implementation of the plan:

(k) methods for monitoring and reporting; and

(l) any other matter that may be necessary to give effect to the objects of this Act

Waste Information

The Minister may establish the national waste information system is to —

(a) store, verify, analyze, evaluate and provide data and information for the protection of the environment and management of waste;

(b) provide information for the development and implementation of any integrated waste management plan required in terms of this Act; and

(c) provide information to organs of state and the public —

(i) for education, awareness raising, research and development purposes;

(ii) for planning, including the prioritization of regulatory, waste minimization and other initiatives;

(iii) for obligations to report in terms of any legislation;

(iv) for public safety management;

(v) on the status of the generation, collection, reduction, re-use, recycling and recovery, transportation, treatment and disposal of waste; and

	(vi) the impact of waste on health and the environment
Relevant Innovative Instruments	Reduce, Reuse, Recycle 3Rs Extended Producer Responsibility
Reference	

Title	Waste Management By-laws for the City of Johannesburg Metropolitan Municipality
Country	South Africa
Entry into Force	2003
Type of Instrument	By-law
Scope	Municipal
Objective	The main objects of these By-laws are—the regulation of the collection, disposal, treatment and recycling of waste; the regulation of the provision of the municipal service by a service provider and commercial services by licensees; and enhancing sustainable development.
Main Provisions	<p>The bylaw classifies wastes into the following categories: business and industrial and recyclable waste; garden and bulky waste; building waste and industrial and hazardous waste.</p> <p>In pursuing the main objects of these By-laws, the Council must-</p> <ul style="list-style-type: none"> (a) endeavor to minimize the consumption of natural resources; (b) promote the re-use and recycling of waste; (c) encourage waste separation to facilitate re-use and recycling; (d) promote the effective resourcing, planning and delivery of the municipal service and commercial services; (e) endeavor to achieve integrated waste planning and services on a local basis; (f) promote and ensure an environmentally responsible municipal service and

commercial service; and

(g) endeavor to ensure compliance with the provisions of these By-laws.

Waste Management information System

The Council must establish and maintain a waste management information system which records how waste is managed within the municipal area for the purpose to:

- (a) record data relating to the implementation of the local waste plan and the management of waste in the municipal area;
- (b) furnish information upon request or as required by law to the Gauteng provincial or national government;
- (c) gather information and undertake strategic planning regarding potential and actual waste generators, service providers and licensees;
- (d) provide information to waste generators, service providers, licensees and the local community in order to –
- (i) facilitate monitoring of the performance of the Council, service providers and licensees, and, where applicable, waste generators;
- (ii) stimulate research; and
- (iii) assist the Council to achieve the main objects of these By-laws.

**Relevant
Innovative
Instruments**

3Rs(Reduce, Reuse and Recycle) by separation of waste

Reference

6.10.2 ASIA-PACIFIC

Title	Law No. 18/2008 regarding Rubbish Management
Country	Indonesia
Entry into force	07 May 2008
Type of Instrument	Sectoral Law
Scope	National
Objective	This Law provides for the effective and efficient management of rubbish in order to improve the quality of the environment as well as to promote rubbish as a resource.
Main provisions	<p>Principle and objective Rubbish management shall be executed on the basis of the principle of responsibility, sustainability, benefit, justice, awareness, togetherness, safety, security and economic value. Rubbish management shall aim at enhancing the public health and quality of the environment as well as promoting rubbish as resource.</p> <p>The task of the government and regional governments The task of the government and regional governments as meant in Article 5 shall consist of:</p> <ul style="list-style-type: none"> a. driving up and enhancing public awareness in rubbish management; b. undertaking research, developing rubbish reduction and handling technology; c. facilitating, developing and undertaking efforts to reduce, handle and utilize rubbish; d. undertaking rubbish management and facilitating the provision of rubbish management infrastructure and facility; e. encouraging and facilitating the development of benefits resulting from the rubbish management; f. facilitating the application of local specific technology which develops in local communities to reduce and handle rubbish; and g. undertaking coordinating between government institutions, communities and business communities so to as to result in integration in rubbish management. <p>Right Everybody shall be entitled:</p> <ul style="list-style-type: none"> a. to obtain service in proper and environmentally sound rubbish management from the government, regional government and/or other parties assigned to bear the responsibility; b. to participate in decision making, operation and supervision in the field of rubbish management; c. to obtain true, accurate and on-time information about the operation of rubbish management; d. to secure protection and compensation because of the negative impact of the activities of final rubbish processing place; and e. to obtain the fostering so that rubbish management could be executed

property and environmentally friendly.

(2) further provision on procedures for exercising the rights as meant in sentence (1) shall be governed by government regulation and regional regulation in accordance with their respective scope of authority.

Obligation

(1) In managing domestic rubbish and rubbish similar to domestic rubbish, everybody shall be obliged to reduce and handle rubbish by environmentally friendly methods.

(2) Further provision on technical procedures for the management of domestic rubbish and rubbish similar to domestic rubbish as meant in sentence (1) shall be governed by a regional regulation.

Every producer shall mention label or mark related to reduction and handling of rubbish in package and/or product,

Producers shall manage the produced package and/or products which could not disintegrate or difficult to disintegrate by natural process.

Licensing

Anybody undertaking rubbish management business activity shall be obliged to secure license from heads of regions in accordance with their respective scopes of authority.

Decision on the licensing of rubbish management shall be announced publicly.

Rubbish Reduction

The rubbish reduction shall cover activities of:

- a. Restriction of rubbish source;
- b. Recycling of rubbish; and/or
- c. Re-use of rubbish.

The government and regional governments shall be obliged to undertake the activities as meant in Sentence

(1) by the following means:

- a. Stipulating the target of rubbish reduction gradually in a specified period;
- b. Facilitating the application of environmentally sound technology;
- c. Facilitating the application of label of environmentally sound products;
- d. Facilitating the re-use and recycling; and
- e. Facilitating the marketing of recycled products.

(2) Business communities in executing the activities as meant in sentence (1) shall use production materials which yield rubbish as minimum as possible, could be re-used, recycled and/or is easy to disintegrate by natural process.

(3) Communities in executing the activity of rubbish reduction as meant in Sentence (1) shall use materials which can be re-used, recycled and/or are *easy* to disintegrate by natural process.

Incentives

The government shall provide:

- a. Incentives for everybody undertaking rubbish reduction; and
- b. Disincentives for everybody not undertaking rubbish reduction.

Rubbish treatment

(1) The activity of rubbish treatment as meant in Article 19 letter b shall include:

- a. The sorting in the form of classification and separation of rubbish in accordance with kind, quantity and/or characteristic of rubbish;
- b. The collection in the form of the taking and removal of rubbish from rubbish sources to temporary collection place or integrated rubbish processing place;
- c. The transportation in the form of the carrying of rubbish from source and/or temporary rubbish collection place or integrated rubbish processing place to the final processing place;
- d. The processing in the form of the change in characteristic, composition and quantity of rubbish; and/or
- e. The final processing in the form of the returning of rubbish and/or residue resulting from the previous processing to the environmental media safely.

(2) Further provision on the rubbish treatment as meant in Sentence (1) shall be governed by a government regulation and/or regional regulation in accordance with their respective scopes of authority.

Specific Rubbish Management

Article 23

- 1) The management of specific rubbish shall be the responsibility of the government.
- 2) Further provision on the management of specific rubbish as meant in Sentence (1) shall be governed by a government regulation.

Compensation

- 1) The government and regional governments individually or collectively may give compensation to people to compensate negative impacts arising from the activities of rubbish handling in the final rubbish processing place.
- 2) The compensation as meant in Sentence (1) shall be in the form of:
 - a. relocation;
 - b. environmental restoration;
 - c. medical and therapy cost; and/or
 - d. compensation of other form.
- 3) Further provision on the negative impact and compensation as meant in Sentence (1) and Sentence (2) shall be governed by a government regulation.
- 4) Further provision on the provision of compensation by the government and regional government as meant in sentence (1) shall be governed by a government regulation and/or regional regulation.

Cooperation and partnership

Inter-regional Cooperation

- 1) Regional governments may cooperate with other regional governments in the rubbish management.
- 2) The cooperation-as meant in Sentence (1) may be realized in the form of cooperation and/or establishment of collective business of rubbish management.
- 3) Further provision on guidance for cooperation and model of *collective* business between regions as meant in sentence (1) shall be governed in a

	regulation of the Minister in charge of home affairs.
Relevant innovative instruments	Rubbish 3Rs
Reference	

Title	Law for Waste Management in the Emirate of Abu Dhabi
Country	United Arab Emirates
Entry into force	This law shall be published in the official gazette and shall be effective as of date of publication.
Type of Instrument	Sectoral Law
Scope	The Emirate of Abu Dhabi
Objective	Promote the Reduction, recycling and reuse of the generated waste Including the ordinary, medical, industrial, hazardous and other types of waste.
Main provisions	<p>1. Responsibilities of the Competent Authority:</p> <p>Reduce, recycle and reuse the generated waste; set out the priorities and best practices for disposal; Environmental permitting of facilities and activities; Assessment of the existing facilities; Monitoring compliance with relevant laws, bylaws and regulations; etc.</p> <p>2. Responsibilities of the concerned parties:</p> <p>The concerned parties shall endeavor to enhance waste management within its waste generating or recipient sectors through provision of efficient and integrated systems and solutions for management, storage, treatment and disposal of all types of waste.</p> <p>3. Responsibilities of waste generators:</p> <p>Reduce the generated waste by means of implementing the regulations, methods, techniques and alternatives; Classify the generated waste to hazardous and non-hazardous waste as indicated in the approved relevant guidelines; Enforce its waste generating facilities, etc.</p> <p>4. Responsibilities of the storage, treatment and disposal facilities: Obtain preliminary approval from the Competent Authority on the methods, installations and facilities; comply with the approved regulations, codes of practice and guidelines; storage, treatment and/or disposal facilities must not receive any hazardous waste shipment except after obtaining the approval of the competent authority on the site and methods to be used.etc</p> <p>5. Responsibilities of the environmental Service Providers:</p>

	<p>obtain a permit; reduce generated waste and seek systems, techniques and methods; prepare and apply plans for the provision of occupational health and safety requirements; train employees; keep records.</p> <p>6. Control, inspection and penalties. Etc.</p>
Relevant innovative instruments	<p>Periodical reports:</p> <p>Keeping records is one of the responsibilities of the environmental Service Providers: Keep records showing kinds of wastes that are handled, their sources and quantities, any treatment operations carried out thereon, analysis results prior to and following the treatment, and waste recipient for disposal, and furnish the Competent Authority with periodical reports.</p>
Reference	

6.10.3 LATIN AMERICA AND THE CARIBBEAN

Title	Legislation N ° 12.305 National Policy on Solid Waste
Country	Brazil
Became Effective	2 nd August 2010
Type of Instrument	National Law
Scope	National
Objective	Establish the National Policy on Solid Waste, setting its principles, objectives, instruments and guidelines related to the integrated management and treatment of solid waste, including the hazardous; and responsibilities of the generators of political power and the applicable economic instruments.
Main Forecasts	Principles: (...) Shared responsibility of the life cycle of products. VIII. Recognition of the reusable and recyclable solid waste as an economic good with social value, generator of work, income and promoter of citizenship. (Art.6)

Instruments: (...) Promote the creation and development of cooperatives and other forms of association of collectors of reusable and recyclable materials. VI. Financial and technical cooperation between the public and private sector for the development of new products, methods, processes and technologies for the management, recycling, reuse, treatment and final disposal of waste VII. Scientific technology and research (...) IX. Financial tax incentives and credit.

1. Technologies aimed at the energy recovery from solid urban waste can be used, after the verification of their technical and environmental feasibility, and implementing a monitoring programme for toxic gas emissions. (Art.9)

Responsibilities: Shared responsibility is established during the life cycle of the products, to be implemented on an individual basis and linked, incorporating the manufacturers, importers, distributors, and retailers, to the consumers and holders of urban sanitation utilities (...)

Will have the following objectives: I. Reconcile interests among economic and social agents, and the processes for business and market management with those for environmental management, developing sustainable strategies. II. Promote the use of solid waste (...) III. Reduce the generation of solid waste (...), IV. Promote the use of less aggressive inputs to the environment and more sustainable. V. promote the development of a market for the production and consumption of products derived from recycled and recyclable materials. (Art. 30)

Without prejudice to the established obligations (...), the manufacturers, importers, distributors and retailers have the responsibility to: I. Invest in the development, manufacture and place products on the market which are suitable for use afterwards by the consumer, reusable, recyclable or any other environmentally sound disposal method and whose manufacturing generates the lowest possible solid waste. II. Dissemination of information on ways of preventing, recycling and disposing of solid waste associated with their respective products. III. Recollection of the products and residual waste after use, as well as its subsequent final disposal in an environmentally adequate manner, in the case of products subject to the reverse logistical system. (Art. 31)

Reverse Logistics. They are forced to restructure their reverse logistics systems by returning their products after consumer use, independently of utility street cleaning and solid waste management, the manufacturers, importers, distributors and retailers of: I. agrochemicals (...); Cells and Batteries, III, "Pneus", IV. Lubricating oils (...); V. florescent lamps (...), VI Electronic Products. (Art.33)

**Relevant
Innovative
Instruments**

Reduction, Reuse and Recycling of Solid Waste.

Shared responsibility in the management of solid waste,

	<p>Differentiated responsibility in the management of producers</p> <p>Introduction of the reverse logistics system for certain wastes.</p> <p>Energy recovery and use of waste as raw materials in other processes</p> <p>Incorporation of economic incentives.</p>
Reference	www.planetaverde.org.ar/legislacion.php

Title	Legislation N°3956 on the Integral Management of Solid Waste
Country	Paraguay
Became Effective	15 th December 2009
Type of Instrument	Law
Scope	National
Objective	<p>Ensure that solid waste is managed without endangering health and the environment, improving the quality of life of the citizens;</p> <p>Prioritize the reduction of the amount of solid waste, as well as avoid the imminent danger it causes to health and the environment.</p> <p>Promote the implementation of instruments for planning, inspection and control, which in turn promote the safety and efficiency of activities aimed at the integral management of solid waste;</p> <p>Ensure access to information by citizens on the public actions in the area of integral solid waste management, promoting their participation in the development of the planned actions.</p> <p>Improve the environment and the quality of life, with effective provisions in regard to health security.</p>
Main Forecasts	The comprehensive management of solid waste should be hygienic and

environmentally adequate, subject to the prevention and control principles of negative impacts on the environment and human health; in addition, this mentioned comprehensive management, should include both processes and agents involved in the stages of generation, collection, storage, transportation, transfer, treatment or processing and use until the final disposal and any other operation involved.

Solid waste, whose characteristics permit, should be exploited during its use or reincorporated in the production process as a secondary material, if it does not pose risk to health and the environment. Recycling, recovery, reduction, composting, vermiculite and other “Harnessing Systems” which technology develops and have authorization from the competent authorities. (Art. 23)

Relevant Innovative Instruments Creating a market for recycling and the reuse of waste, establishing rules for investment.

Reference www.planetaverde.org.ar/legislacion.php

Title	Solid Waste Management Act 2001
Country	Jamaica
Became Effective	20 th December 2001
Type of Instrument	LEGISLATIVE ACT
Scope	NATIONAL
Objective	Establish guidelines for the management of solid waste.
Main Forecasts	<p>Establish a National Authority for Solid Waste Management.</p> <p>Any person who: a) operates or proposes to operate a facility for solid waste disposal; b) provides or proposes to operate a collection service or transfer of solid waste. (...) Must apply for an environmental permit.</p>

	<p>The National Authority may require a financial guarantee for the re-composition of the possible environmental damages to the owners of the facilities for final waste disposal. (Art. 33 y ss).</p> <p>The Enforcement Authority shall provide to those home owners who require: a) containers for degradable waste; b) containers for non bio degradable waste for recycling; c) bins for non recyclable waste</p> <p>In this regard, where possible, these will be delivered free of charge or provided through a payment plan.</p>
Relevant Innovative Instruments	<p>Licensing for the proper management of waste.</p> <p>Requirement of financial guarantees capable of financing the re-composition of environmental damage.</p> <p>Waste separation at the source to facilitate its recycling.</p>
Reference	http://www.planetaverde.org.ar/legislacion.php

Title	Legislation on the Integral Management of Garbage
Country	Venezuela
Became Effective	30 th December 2010
Type of Instrument	Law
Scope	National
Objective	This Act establishes regulatory provisions for the integral management of waste, with the aim of reducing waste generation and guarantees its recollection, use and final disposal in a healthy and environmentally safe way.
Main Forecasts	Integrated waste and solid waste management will be implemented in accordance

with the principles of prevention, integrity, precaution, citizen participation and co-responsibility, civil responsibility, effective guardianship, marshalling collective interest, education and information for an ecological culture of equity and non discrimination must be efficient and sustainable, with the aim of guaranteeing adequate management of the same.

The integral management of residue and solid waste is a public service which should be guaranteed by the state and provided in a continuous, regular, effective, efficient and uninterrupted manner, in joint responsibility with all people, through an organized community.

Corresponds to the National Executive, through the Ministry of Popular Power with competence in environmental matters, with other agencies and entities with jurisdiction in the matter, the formulation of policies on integrated waste and solid waste management, elaborate and implement management plans, set criteria for establishing rates on the matter, approve technologies geared toward the treatment and use of waste and any other duties assigned by the laws of the Republic.

Undertake a public consultation for the approval of the National Plan for the Integral Implementation and Management of waste and solid waste.

The management plan should consider the adequate actions for waste and solid waste due to its physical, chemical, or biological amount of complexity which warrant special management conditions, for which there should be differentiated service programmes, whose provision will be subject to special rates with charges to their generators, owners or managers.

Natural and legal persons responsible for the importation, manufacture or distribution of goods or wholesale products which generate solid waste, should have programmes to return their waste for recovery, including mechanisms for return or deposit equivalent to collection, storage and transport, which should guarantee its reutilization in the production chain or its effective recycling, in accordance with the regulations.

Create the National Register of Residue and Waste Management, under the Ministry of Popular Power with competence in environmental matters, which are part of the Environmental Information Registry, which will contain basic information about the service providers and other regular handlers, as well as the types and quantities of residue and waste managed. The competent municipal authority should keep up to date the information in their jurisdiction and should forward it to the National Management Register.

**Relevant
Innovative
Instruments**

Establishment of return programmes and other mechanisms of reverse logistics by those responsible for the importation, manufacture and distribution of goods or products for massive consumption.

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Constitution of Guatemala (1986)
Constitution of Hawaii (1978)
Constitution of India (1950)
Constitution of Indonesia (1945)
Constitution of Kenya (2010)
Constitution of Liberia (1986)
Constitution of the Maldives (2008)
Constitution of México (1917)
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Constitution of Montana (1972)
Constitution of Mozambique (1990)
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7.4 Framework laws

Argentina:

ACT 2780 of the province of Neuquén

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Law 25,127 on Ecological, Biological and Organic Production, 1999

Australia:

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Tourism Australia Act, 2004

Bangladesh:

Environmental Court Act, 2000

Brazil:

DEC 7,404/2010 (Executive Decree)

Canada:

National Marine Conservation Areas Act, 2002 (Federal law)

Sustainable Development Act 2008 (Federal law)

Species at Risk Act 2002 (Federal law)

Alberta Climate Change and Emissions Management Act, 2003
Alberta Water Act, 2000
Alberta's Oil & Gas Conservation Act, 2000
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British Columbia Clean Energy Act of 2010
British Columbia Greenhouse Gas Reduction (Cap and Trade) Act, S.B.C. 2008
British Columbia the Greenhouse Gas Reduction Targets Act, 2008
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Manitoba Climate Change and Emissions Reduction Act, 2008
Nova Scotia's Mineral Resources Act, 1990 as amended
Nova Scotia Wildlife Act, 1989 as amended
Nova Scotia's Public Utilities Act 1989
Ontario Places to Grow Act, 2005
Ontario Waste Diversion Act, 2002
Ontario Crown Forests Sustainability Act, 1994
Ontario Electricity Act, 1998
Saskatchewan Oil & Gas Conservation Regulations, 2012
Yukon's Public Utilities Act 2002
Yukon Wilderness Tourism Licensing Act, 2002
Yukon Environment Act, 2002

Chile:

Law No. 19300, General Foundations on the Environment, 2010
Law 20283, relating to Native Forest Recovery and Forestry Development, 2008

China:

Circular Economy Promotion Law, 2008
Environmental Impact Assessment Law, 2003
Clean Production Promotion Law, 2002
Regulations on the Administration of the Recovery and Disposal of Waste Electrical and Electronic Products, 2009
Renewable Energy Law, 2005
Hong Kong's Building Energy Efficiency Ordinance, 2012

Colombia:

Law No. 1450, 2011
Law on Water Resources Management, 2007
Law No. 1450 (National Development Plan 2010-2012)

Costa Rica:

Environmental Organic Law No. 7554 of November 13, 1995
Law No. 8591 on the development, promotion and development of organic farming, 2007
Law No. 36935 – Ministry of Environment, Energy and Telecommunications (MINAET)

Cuba:
Environmental Law No. 81 of 1997

DRC:
Environmental Protection Act (EPA), No. 11/009 of 9 July 2011
Mining Code, Law No. 007/2002

East Timor:
Basic Law on Environment, 2012

El Salvador
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Finland:
Finnish Act on Water Resources Management, 2004

France:
Charter for the Environment of 2004
Circulaire on Timber public procurement, 2008

Germany
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Honduras:
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Iceland:
Act on the Survey and Utilisation of Ground Resources, No. 57/1998
Electricity Act 65/2003

Indonesia:
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Italy:
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Japan:
Act on Preservation and Control of Living Marine Resources, 1996
Basic Act on Biodiversity, 2008
Basic Act on Establishing a Sound Material-Cycle Society, 2000
Food, Agriculture and Rural Areas Basic Act, 2013
Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities, 2000

Kazakhstan:

Environmental Code of the Republic of Kazakhstan, 2007

Kenya:

Geothermal Resources Act of 1982

Lao:

Environment Protection Law, 1999

Law on Tourism, 2005

Lesotho:

Environment Act, No. 10 of 2008

Luxembourg:

Loi relative à la gestion des déchets, 1999

Malta:

Sustainable Development Act, 2006

Mauritius:

Fisheries and Marine Resources Act, 1998

Mexico:

General Law on Climate Change, 2012

General Law on Ecological Equilibrium and Environmental Protection of 28 January 1988

Mozambique:

Environment Law (Lei do Ambiente), No. 20/97 of 1 October 1997

New Zealand:

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Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act, 2012

Marine and Coastal Area (Takutai Moana) Act, 2011

Nicaragua:

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Nigeria :

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2011 National Environmental (Coastal and Marine Areas Protection)

Paraguay:

Law No. 3956/09 of the Integrated Management of Solid Waste

Pakistan:

Punjab Environmental Protection Act of 2012

Peru:

Legislation 29,419/ 2009

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Legislation No. 28,611, General Legislation on the Environment, 2005

Philippine:

Environment Code, 1977

Climate Change Act 2009

South Korea:

Framework Act on Low Carbon Green Growth, 2010

Environmental Dispute Settlement Act 1991

Singapore:

Environmental Protection and Management Act of 1999 (last amended 1 April 2009)

Swaziland:

Environment Management Act, 2002

Tanzania

Environmental Management Act, 2004

Water Supply and Sanitation Act 2009

National Water Policy, 2002

Trinidad &Tobago:

Act Number 3, of 2000, "Environmental Management Act,

Finance Act, 2013

Tunisia

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South Africa

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United States of America:

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California Global Warming Solutions Act of 2006

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Florida Green Governments Grants Act

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Illinois Sustainable Agriculture Act, 1990

Idaho enacted Geothermal Resources Act in 1987
Louisiana Environmental Education Act, 2008
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Puerto Rico Sustainable Tourism Development Public Policy Act [23 L.P.R.A. §6313-6325]
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Utah Air Conservation Act (Utah Code Ann. §§ 19-2-101 – 127)
Washington Marine Waters Planning and Management Act, WA Stat. 43.372.005 (2012)

UK

Climate Change Act, 2008

Uruguay:

The General Environmental Protection Law No. 17.283 of November 28, 2000

Law No. 18,195/2007

Venezuela:

Environmental Organic Law, 2007

Vietnam

Decision 380 and Decree No. 99/2010/ND-CP on the Policy for Payment for Forest Environmental Services

Zambia

Environmental Management Act No. 12 of 2011

7.5 Regional Directives Laws and Polices

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African Development Bank Green Growth Strategy, 2012

Arusha Declaration on Africa's post Rio+20 strategy for sustainable development (2012)

Bamako Declaration on the Environment for Sustainable Development, 2010

EAC Protocol on Environment and Natural Resources Management, 2006

Protocol on Standards Development, Quality Management, Testing and Metrology (SQMT) in 2003

ECOWAS Regional Bioenergy Strategy of 2012

ECOWAS Humanitarian Policy of 2012

ECOWAS Regional Agricultural Policy for West Africa, 2013

ECOWAS Policy for Disaster Reduction of 2006

ECOWAS Energy Protocol, 2003

ECOWAS Environmental Policy, 2008

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SADC Treaty 1992

SADC Regional Policy and Strategy for Food, Agriculture and Natural Resources, 1992

EU:

Directive 2009/28/EC (“Renewable Energy Directive”)

Directive 2009/125/EC on eco-design requirements for energy-related products, [2009] O.J. L285/10

Directive 2008/101/EC amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowances trading within the Community” (2009) O.J. L 8/3.

EU Directive 2009/29/EC of the European Parliament

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European Code of Conduct for Coastal Zones, [1999], online: <<http://www.coastalguide.org/code/cc.pdf>

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Mauritius Sustainable Development Strategy ‘Maurice Ile Durable’ 2007

Namibia’s Green Plan, 1992

Nigeria National Adaptation Strategy and Plan of Action for Climate Change Nigeria (NASPA-CCN), 2011

Nigeria Strategic Framework for Voluntary Nationally Appropriate Mitigation Action (NAMA)

South Korea National Strategy and Plan, 2009

Swaziland National Development Strategy 1997
Swaziland Economic Recovery Strategy 2011
Uganda the Ministry of Works and Transport is developing a policy for Non-Motorised Transport (NMT) 2012

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