

OurPlanet

United Nations Environment Programme

June 2014



The First United Nations Environment Assembly



Ban Ki-moon
UNEA – reconciling
the needs of
people and planet

Michelle Bachelet
Time for change
is here

Angela Merkel
The future we want –
and decisions we need

Michael Bloomberg
Making headway



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Table of Contents

Features



Page 6

Ban Ki-moon
UNEA – reconciling
the needs of
people and planet



Page 22

Michael Bloomberg
Making headway



Page 8

Michelle Bachelet Jeria
Time for change is here



Page 24

Juan José Guerra Abud
Challenge ahead



Page 12

Angela Merkel
The future we want – and
decisions we need



Page 28

Pekka Haavisto
Stronger UNEP for
stronger post-2015 goals



Page 14

Zhou Shengxian
Facing environmental
challenges – promoting
green solutions



Page 34

Paul Polman
Step change
in ambition



Page 38

Rachel Kyte
Break from the past



Page 48

Mary Robinson
Opening a world of opportunity



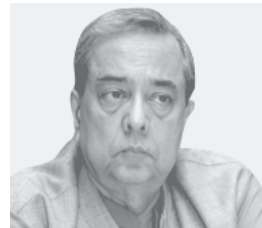
Page 44

Trevor Manuel
José María Figueres
David Miliband
Reckoning on the high seas



Page 50

Carlos Lopes
Powering Africa's industrialization and agricultural revolution with renewable energies



Page 52

Ashok Khosla
Ernst Ulrich von Weizsäcker
Sustaining our resources – by choice or by chance?



Page 4

Reflections

Page 10

IPCC

Page 18

Bacteria in soil

Page 20

The road to UNEA

Page 30

World Environment Day

Page 32

Car manufacturer goes solar

Page 36

Publications

Page 42

Regional Seas Programme

Page 54

Making trash a home

Page 56

Goodwill ambassadors

Achim Steiner: Reflections



Achim Steiner

UN Under-Secretary-General and UN Environment Programme Executive Director

This inaugural meeting of the United Nations Environment Assembly (UNEA) is a truly historic event. It is the culmination of more than four decades of ground-breaking work by UNEP to tackle and provide responses to the environmental challenges of our age and places these firmly at the centre of the broader journey towards sustainable development.

UNEP has indeed come a long way since the times when the environmental agenda was frequently characterized as the “preoccupation of the few at the expense of the many” or “the luxury of the rich at the expense of the poor”. In June 2012, at Rio+20 – held exactly 20 years after the transformative Rio Earth Summit – world leaders provided for UNEP’s strengthening and upgrading and it is in this context that UNEA has been designed to take us further along that road, to a world where seven billion people can live with dignity and in harmony with our planet. Mandated to

determine policy and catalyse international action, UNEA represents the world’s policy forum and the new global environmental authority.

At this first UNEA, fittingly meeting in Nairobi, the home of UNEP, ministers responsible for the environment, benefitting from contributions from civil society and other stakeholders, will start providing the design and architecture for the next chapter of the environment programme of the United Nations and inputs to important global policy challenges. This will happen in a new configuration, with *all* member states of the United Nations being represented in the Assembly – the most significant change to UNEP and international environmental governance in the UN since its creation at the Stockholm conference of 1972.

But UNEA is about much more than an enlarged governing council. This new body



Mandated to determine policy and catalyse international action, UNEA represents the world's policy forum and the new global environmental authority.

bestows a new level of legitimacy and authority on the decisions that will be taken, which in turn can translate into a more effective service that UNEP and the UN family can provide to the international community and to ministers responsible for the environment.

At its first session, UNEA is expected to provide leadership on global environmental policy and to continue to keep the world environment under review, a mandate first conferred upon UNEP's Governing Council by the 1972 United Nations General Assembly resolution 2997 and subsequently enhanced through Rio+20's outcome, *The Future We Want*.

One of the main themes of UNEA's first session will be "Sustainable Development Goals (SDGs) and the Post-2015 Development Agenda, including sustainable consumption and production". Ministers will also have the opportunity to address the illegal trade in

wildlife, a complex, multi-faceted issue that is generating increasing global attention given its alarming scale and its global inter-linkages and implications.

UNEA will additionally provide a forum for examining crucial processes in environmental action such as the science-policy interface and the strengthened engagement of major groups and other key stakeholders as well as a dedicated gender forum.

A set of unprecedented symposia will also be organized on this historic occasion to broaden the scope for key actors in the sustainable development arena to participate in UNEA. A symposium on the Environmental Rule of Law will bring together lawmakers and decision makers, along with key civil society organizations in lively debates on recent developments linked to international environmental governance.

The second symposium will focus on the questions of how the global finance system can contribute to the green economy and what makes the green economy work for the financial systems. It will bring together professionals of the finance sector, policy makers and environmental economists with the expectation to identify opportunities and bottlenecks for green, sustainable investments.

For the UN system, the United Nations Environment Assembly of UNEP embodies the notion that challenges are best addressed and opportunities realized when the community of nations and citizens of the world join forces to promote economic prosperity, social equity, and environmental sustainability in a holistic manner. ▲

Ban Ki-moon: UNEA – reconciling the needs of people and planet

*UNEA shows how far we have come:
all governments have a role in
environmental stewardship.*



Ban Ki-moon

*Secretary-General
of the United Nations*

We have come a long way since the UN General Assembly established UNEP in the wake of the 1972 UN Conference on the Human Environment in Stockholm. Four decades of growing awareness backed by science have eroded the once widespread belief that environmental concerns are secondary to economic development. The principle of common but differentiated responsibility has established that wealthy nations should bear the burden of repairing historic environmental ills, but recognizes that all governments have a role in environmental stewardship. We are now ready to embark on the crucial next phase of human development – a universal post-2015 sustainable development agenda that reconciles the needs of people and planet.

Today, there is common acceptance among governments that a healthy environment is necessary for eradicating poverty and supporting equitable economic growth and social progress. That is why the 2012 Rio+20 UN Conference on Sustainable Development agreed to strengthen UNEP as the leading global environmental authority by establishing universal membership in its Governing Council. The United Nations Environmental Assembly (UNEA) represents a

coming-of-age for UNEP and its governing body. For the first time, all 193 United Nations member states are represented along with major stakeholders. The message is clear: protecting humanity's life support system is a duty for all, for the benefit of all.

With its augmented role as a subsidiary of the UN General Assembly, UNEA has the mandate and capacity to position the environment within the sustainable development debate alongside peace and security, poverty reduction, global health, trade and sustainable economic growth as an issue of crucial importance to every government. As of this year, UNEP is better placed than ever to help governments and other key actors incorporate the environment into the mainstream of all policymaking.

The timing could not be better. Next year marks the deadline for the Millennium Development Goals; it is when we will launch a post-2015 sustainable development agenda; and it is when member states have pledged to sign a meaningful new global climate agreement. The decisions that will be made over the coming months will have profound ramifications for this generation and many to come. UNEP and UNEA have a central role to play – beginning now.

This first session of UNEA will address some weighty and contentious issues. The formulation of Sustainable Development Goals with the core purpose of eradicating extreme poverty and improving human well-being across the board must have a solid environmental dimension. Yet policies must also factor in many other considerations. The closely interlinked global financial system is a source of great opportunity but also risk, as we have seen through a series of food, fuel and financial crises. UNEA will bring together policy-makers, economists, financiers and civil society groups to examine how green economy principles can help in designing a more sustainable and equitable system.

The decisions that will be made over the coming months will have profound ramifications for this generation and many to come. UNEP and the UNEA have a central role to play – beginning now.

The illegal trade in wildlife will provide the focus for another symposium. Only international cooperation and multilateral agreement can prevail against wildlife crime, which threatens so many of our endangered species and ecosystems, to the ultimate detriment of local communities and national governments. UNEA will also provide a forum for member states to advance environmental governance through the Rule of Law by facilitating knowledge exchange and formulating policy. The responsibilities of this new body are considerable. Under UNEA's stewardship, UNEP should now finally have the resources to match its mission to carry the environmental message of the United Nations with clarity, authority and vigour to all countries and sectors of society. Development cannot be sustainable without its environmental dimension. The institutional framework has been established. What remains is for all 193 member states and their multi-stakeholder partners to seize this opportunity by acting decisively to transform humanity's relationship with our planet. ▲



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Michelle Bachelet: Time for change is here

Sustainability is not only a requirement for economic development, but also a condition for peace and international security.



Michelle Bachelet

President of Chile

Next year will be a decisive year for sustainable development. First, we have a concrete opportunity to advance towards a global sustainable development agenda under the Sustainable Development Goals set by Rio+20. Second, it is imperative to reach a binding, ambitious agreement on climate change.

About 15 years ago, we set the Millennium Development Goals, which served as guidelines for countries struggling to eradicate poverty and improve the standard of living in the developing world. Although some goals are still to be accomplished, we learnt that in order to combat poverty more efficiently we need to incorporate development considerations.

Experience has shown that rapid progress in a world showing significant weaknesses in some areas may impact negatively. For example, countries with high economic growth sustained health crises due to pollution or social conflicts arising from differences in income. In this regard, failure to match progress in different areas may hinder development itself since costs deriving from environmental

degradation or social inequality impair achievements in economic growth.

A development agenda incorporating social, environmental and economic dimensions not only bridges the gap in the Millennium Development Goals, but also ensures more comprehensive well-being for society as it favours the creation of decent jobs, equal access to opportunities and a healthier environment.

Chile is a good example. In past decades, our country quadrupled per capita income, reduced poverty, consolidated democratic institutions and gained a reputation as an emerging country with an open market economy and macroeconomic soundness. However, in order to maintain development, it is crucial to reduce economic inequality and increase the economy's sustainability. At present this depends primarily on the exploitation of raw materials.

We are a small, narrow country extending for 4,000 km between the Pacific Ocean and the Andean Mountains, with diverse geography, climates, soils and ecosystems, particularly vulnerable to climate change. Indeed, glaciers – which feed our rivers, lakes, wetlands, aquifers and underground reservoirs and supply water to the population – are receding.

In addition, temperate valleys – the cradle of our renowned Chilean wine – are increasingly threatened by desertification. To think that these issues are just local is a mistake.

On the contrary, sustainability issues are of global importance. Chile has 75 per cent of the total area of glaciers in South America, making it a country rich in an ever-shrinking resource. According to estimates, by 2050 water demand will have increased by 50 per cent in developing countries and 18 per cent in developed countries.

only assume their responsibility, but will also play a leading role in managing what will be a difficult process, but which will lead towards a global agreement. Let us not forget that global change will impact harder on the most vulnerable communities. The Sustainable Development Goals afford us an opportunity to make progress. We will

The scientific evidence collected is eloquent: we cannot continue to defer a solution. We are now at a critical scenario for each and every nation.



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*By 2050 water demand will have increased by **50%** in developing countries and **18%** in developed countries.*

Consequently, sustainability is not only a requirement for economic development, but also a condition of social peace and international security. In the case of Chilean glaciers, they must be treated as a global water reserve, since their disappearance or retreat will have a global impact.

This commonality demands a global political agreement uniting all of us and requiring an increased commitment by present – and past – stakeholders responsible for factors leading to climate change. Scientific evidence collected is eloquent: we cannot continue to defer a solution. We are now at a critical scenario for each and every nation, which will make realpolitik – where each country sees to its own interests – obsolete.

Chile undertakes this commitment with the international community by setting an ambitious emission control goal. Therefore, we hope that high-polluting countries will not

attempt to define a set of goals and their indicators, whilst facing up to the challenges posed by integrated and integrating development, and tailored to the particular needs of each country or region. These goals should allow us to measure advances and shortcomings and mobilize international cooperation. This will force us, as leaders, to focus our efforts on designing and laying the foundations of common goals contributing to an inclusive, environmentally friendly growth.

Great results are obtained by leaders with ambition and challenging visions. We are now at the crossroads. We need to have integrated development, which incorporates neglected populations and diversity. This will protect and maintain the natural base on which our lives, coexistence and future depend. The evidence is on the table. As leaders, we are now compelled to seek solutions demanded by the international community. ▲

International Panel on Climate Change – greenhouse gas levels continue to rise faster than ever

After six years of intensive work, the Intergovernmental Panel on Climate Change (IPCC) last April published its 2014 assessment on measures to mitigate climate change. The IPCC, the group of the world's leading climate-change scientists, had reviewed all available science.

The IPCC was established by the UN General Assembly and works under the auspices of the United Nations Environment Programme and the World Meteorological Organization. Among its main findings is that the concentration of greenhouse gases has grown more quickly during the last decade than in each of the previous three decades. Globally, economic and population growth continue to be the most important drivers of increases in CO₂ emissions from fossil fuel combustion. The contribution of population growth between 2000 and 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply.

Scenarios show that to have a likely chance of limiting the increase in global mean temperature to 2°C means lowering, by mid-century, global greenhouse gas emissions by 40 to 70 per cent of their 2010 levels. The panel analysed the causes for the increase in CO₂ emissions in the main economic sectors: energy, transport, construction and building, industry, land use, agriculture and forestry. CO₂ emissions from fossil fuel combustion and industrial processes contributed about 78 per cent of the total greenhouse gas emission increase from 1970 to 2010, with a similar percentage contribution for the period 2000–2010.

About half of cumulative anthropogenic CO₂ emissions from 1750 to 2014 have occurred in the last 40 years, with consistent annual increases between 2000 and 2010. This increase is shown to arise directly from the supply of energy (47 per cent), industry (30 per cent), transport (11 per cent) and buildings (3 per cent).

The panel analysed different scenarios for stabilizing or reducing emissions in each of these sectors and made a number of recommendations to policy makers in this regard. It concluded that without additional efforts to reduce greenhouse gas emissions beyond those in place today, growth in emissions is expected to persist, driven by growth in global population and economic activities. Model predictions that do not include additional mitigation efforts for emissions show global mean surface temperature increases of between 3.7°C and 4.8°C by 2100 compared to pre-industrial levels.

Achim Steiner, UN Under-Secretary-General and UNEP Executive Director, welcomed the assessment and said, "UNEP congratulates the IPCC for producing once again a masterpiece of assessment and advice on how to address climate change. Reading this last assessment, the urgent need for making further progress in greening our economies is clear. UNEP stands ready to continue providing advice and support to countries around the world on how to design and implement policies that will move us towards low-carbon economies and societies."



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Angela Merkel: The future we want – and the decisions we need

*The future we all want requires a
fundamental rethink of how we live and work.*



Angela Merkel

*Chancellor of the
Federal
Republic of Germany*

What do we, the human race, see as the future we want? What can and what must we do today to ensure that we really are moving in the right direction? These questions are relevant to all of us, in all regions of the world. We all want peace, security and prosperity – today and tomorrow. That, however, requires a fundamental rethink, because we cannot live and work as if the resources of our environment are inexhaustible. Planetary boundaries exist and we cannot exceed them if we want to avoid diminishing the resources younger and future generations need to live their lives.

Only recently, the Intergovernmental Panel on Climate Change (IPCC) reiterated just how vulnerable humans and nature are to the effects of unchecked climate change. Therefore we must finally make the shift to climate-friendly development, something that is in fact very compatible with increasing prosperity. It is not a question of limiting economic development in the poorest regions of the world. On the contrary, many new development prospects need to be opened up to them. This can succeed if around the world we learn how to generate prosperity differently from how we do today.

Despite all the encouraging progress of recent years, around 1.3 billion people worldwide still suffer abject poverty. In view of this, it is very tempting to strive solely for quantitative growth whilst disregarding the limits set by nature in terms of water, land, raw materials and biodiversity. Yet an increasing depletion of resources vital for people's livelihoods would inevitably undermine long-term development prospects, exacerbate hunger and poverty and, as a result of this, increase the risk of conflicts. Security and stability, on the other hand, are vital prerequisites for developing successful economies.

The relationship between economic performance and the protection of the natural resource base is symbiotic. Therefore we cannot avoid thinking about them together and indeed bringing them together. The key is sustainable development. The international community reiterated its commitment to this at the 2012 United Nations Conference on Sustainable Development in Rio de Janeiro. We agree that our existing economy needs to be developed into a "green economy". This means above all investing in renewable energy, boosting resource efficiency in production and consumption and establishing effective instruments for the protection and sustainable management of forests and oceans.

For this, we need strong and capable international organizations and so it was very important that Rio 2012 succeeded in boosting UNEP's clout as a voice of international environmental protection, thus enabling it to make itself permanently heard. The establishment of the United Nations Environment Assembly (UNEA) is a visible sign of this enhanced status. For the first time, all 193 members of

the United Nations will debate and make decisions on global challenges together. I see this as a great opportunity for us to reach a joint consensual understanding on what needs to be done in the coming years and on how it can be achieved.

Experience has shown us that we make the best progress in sustainable development when we define clear and universally valid rules. An impressive example of this is the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer. For instance, until the 90s it was normal for ozone-damaging CFCs to be used in fridges. Since then the global production and use of such chemicals has been reduced by 97 per cent. This determined action is now bearing fruit, as the latest research shows that the ozone layer is slowly starting to recover.

Here in Germany and also amongst EU member states we take this very seriously. This is evident, for instance, in three national targets that we aim to meet by 2050. By then, we want to reduce our greenhouse gas emissions by 80 to 95 per cent compared to 1990 levels. We want 80 per cent of our electricity to come from renewable energy – above all wind and solar – and we want to reduce our primary energy consumption by 50 per cent. Germany's shift to green energy will show that it is not only possible but indeed economically beneficial to decouple economic growth from energy consumption.

2015 will be an important year in setting the course for the future, with the UN Climate Change Conference in Paris and the UN summit on the Post-2015 Development Agenda

We need strong and capable international organizations and so it was very important that Rio 2012 succeeded in boosting UNEP's clout as a voice of international environmental protection.



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in New York. Germany is working to facilitate the adoption of a legally binding climate change agreement, with the participation of all states, which would enter into force in 2020.

In our view, it must include ambitious goals, fair rules for more transparency, should initiate cooperation between industrial and developing countries and boost investment in climate protection in all parts of the world whilst at the same time taking into consideration legitimate interests when it comes to adaptation and the protection against risk.

We are also striving to incorporate ambitious goals that apply to all states into the Post-2015 Development Agenda. Each country will be responsible for implementing the goals but support will be available in the form of international monitoring. I consider there to be four main strategic areas – eradicating extreme poverty and hunger, preserving the natural resource base and ensuring its sustainable use, the creation of decent jobs and adequate income through ecologically sound growth, and good governance. Shared goals are contingent upon joint understanding for sustainable development. Germany therefore supports a new global partnership as proposed last year by the high-level panel of eminent persons on the Post-2015 Development Agenda. Such a partnership must involve business, science and society in equal measure.

A path of sustainable development that benefits everyone requires us to go the extra mile time and again and to think not only about what is happening today, but also about what tomorrow will bring. If we succeed in doing this then I am sure we will succeed in building the future we want. ▲

In 2050 we want 80% of our electricity to come from renewable energy – above all wind and solar.

A further example is the Nagoya Protocol on Access and Benefit Sharing, which regulates access to genetic resources, such as medicinal plants, and aims to fairly and equitably share the benefits of their use between countries of origin and countries utilizing these resources. It also provides economic incentives to preserve biodiversity in countries of origin. Generally funding is a key factor in the global protection of biodiversity. That is why Germany is standing by its pledge to make an annual sum of 500 million euros available for this.

Joint action in no way diminishes national and local obligations, everyone must assume responsibility to the extent that their circumstances permit.

Zhou Shengxian: Facing environmental challenges – promoting green solutions

In a shorter time frame, China has experienced similar unprecedented environmental challenges as the rest of the world.



Zhou Shengxian

Minister of Environmental Protection, People's Republic of China

Human society has been challenged by overpopulation, unbalanced development, resource depletion, and environmental degradation, while creating unprecedented material wealth since the industrial revolution. For this consideration, the international community has been seeking a global solution to environmental and development issues, from the United Nations Conference on the Human Environment in Stockholm to Rio+20 and from the *Declaration on the Human Environment to The Future We Want*.

China, the world's largest developing country, is also experiencing unprecedented environmental challenges during its fast economic expansion. Environmental issues that occurred in developed countries during industrialization over 100–200 years have exposed themselves in China in 30 years and show remarkable structural, compression, and complex features. New environmental issues become increasingly prominent before old ones are solved. Generally, the country faces more complex and difficult environmental issues than any other in the world.

As a responsible country, China has always followed the national strategy of sustainable development. It has integrated into its development, ecological, economic, political, social, and cultural aspects, which envision a beautiful country. Ecological civilization philosophy and strategy is a major achievement of the Chinese Government and responds creatively to the relationship between economic development and environmental issues, and also the localization and escalation of sustainable development. To push ahead with ecological progress, the Chinese Prime Minister highlighted in the Government Work Report this year that the Chinese Government will resolutely declare war against pollution and fight it with the same determination as it battles poverty.

In China, the newly revised *Environmental Protection Law* marks a milestone in environmental protection with its adoption by the legislature on April 24, 2014. It maximizes the cohesion and absorption of consensus in all aspects and breaks through difficulties in promoting the green development model based on environmental carrying capacity and promoting the modern multi-party environmental governance system. For example, the law clearly defines the concepts of ecological civilization construction and sustainable development, and requires the establishment of environmental and public health monitoring and evaluation system and the rights of citizens to have access to environmental information, participation and supervision. Meanwhile, to address outstanding environmental problems threatening human health and improve environmental quality as soon as possible, the Chinese Government

directs attention to air, water and soil pollution prevention and control in the "resolute war against pollution". It has formulated and implemented in depth the Action Plan for the Prevention and Control of Air Pollution and is stepping up the preparation of Clean Water Action Plan and the Action Plan for the Prevention and Control of Soil Pollution, which highlight the firm determination to control pollution, improve environmental quality, and protect the health of the people.

Looking back, the international community has exerted massive efforts to address environmental issues, but except for a few cases, the overall situation is deteriorating. Biodiversity loss, climate change, water crises, chemical

pollution, and land degradation have not been effectively resolved. In most developing countries, the deterioration of environmental quality is exacerbated by population expansion, industrialization, and urbanization, as well as transfer of pollution from developed countries, adding difficulty in control.

Looking ahead, we expect a green and prosperous world that is free from excessive requests and ravages of humans and strikes a harmonious balance between economic, social and environmental development. It should be our long-term vision to face environmental challenges and promote green development. It necessitates a sound system for international environmental governance with the concerted efforts



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of all nations. In this respect, the international community should strengthen cooperation, consensus and mutual trust. The United Nations Environment Programme (UNEP) should fully play its leadership role, such as improving instruction, coordination and implementation capacity, strengthening the voice and decision of developing countries, removing barriers in capital, technique and capacity-building in developing countries, and forging new partnerships with international organizations, governments and the public.

It requires fair, just, open, and inclusive development. Nations should have the courage to take joint responsibility for protecting the earth, but also take account of

In China, the newly revised Environmental Protection Law marks a milestone in environmental protection.



different development stages and levels, and comply with the Rio principles, in particular common but differentiated responsibilities. Developing countries should develop and implement sustainable development strategies based on national realities, while developed countries should honour commitments by changing unsustainable patterns of production and consumption and assisting developing countries to build up capacity for sustainable development.

We need to set reasonable and feasible goals of sustainable development. In relation to the direction of future environment and development around the world, these objectives should help developing countries to achieve their development goals with full consideration to their development

stages and difficulties, and drive ahead the common progress of all countries. UNEP should provide scientific support for environmental goals and act in a coordinating role with regard to implementation, so as to effectively help developing countries build up capacity.

As to specific initiatives from the Rio+20 summit, UNEA will draw up a new green strategy for the world. I look forward to this fruitful meeting. China would like to strengthen cooperation with UNEP, share opportunities and face up to global challenges on green development, environmental governance capacity, and international environmental cooperation. ▲





Bacteria power

Bio-photovoltaic panels produce energy from bacteria in soil.

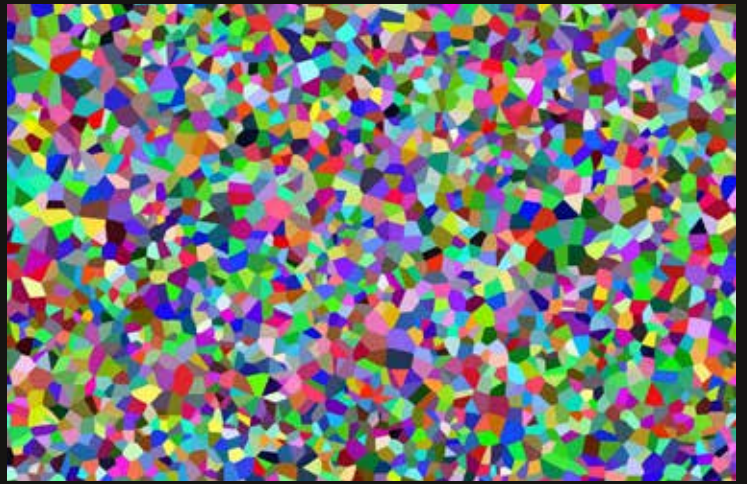
Can the ability of bacteria in soil to produce energy be harnessed in a realistic and even attractive way? The designers of this bio-photovoltaic panel believe so. A decorative framework based on Voronoi tessellation, a natural pattern, has been installed at the Valldaura campus of the Institute for Advanced Architecture of Catalonia. The framework houses bacteria-rich soil fed through by-products from the photosynthesis of plants, creating free electrons that are captured and stored in a battery applications.

So how does it work? When bacteria metabolize plant nutrients, they release hydrogen protons and electrons, and then a 'redox process' occurs transferring the free electrons in the soil from anode to cathode. A circuit with a step-down converter or capacitor can transfer this energy to electronic devices. Different variables make a significant difference in how much power is produced, from the type of plant that is grown, the type of soil that is used and how often it is watered.

During their experiments, the researchers discovered that totally saturated soil produces the best results since the water promotes electrolysis within the soil. Triangle containers were found to be most efficient, and coil cathodes maximize the surface for bacteria to gather around, making it ideal for collecting electrons. The Voronoi tessellation pattern used in the containers maximizes water distribution.

Could this be a viable method of producing power? Scientists have known for years that bacteria living in soil create small currents that can be harvested in a microbial fuel cell, but it is still unclear just how much power they could ultimately provide.





In mathematics, a Voronoi diagram is a way of dividing space into a number of regions. A set of points (called seeds, sites, or generators) is specified beforehand and for each seed there will be a corresponding region consisting of all points closer to that seed than to any other. The regions are called Voronoi cells.

It is named after Georgy Voronoy, and is also called a Voronoi tessellation, a Voronoi decomposition, a Voronoi partition. Voronoi diagrams can be found in a large number of fields in science and technology, even in art, and they have found numerous practical and theoretical applications.

UNEP Landmarks

The road to UNEA

1972

UNEP established after Stockholm UN Conference on the Human Environment.

1973

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) adopted, protecting over 30,000 species.

1970

1974

Mediterranean Action Plan agreed in Barcelona.

1979

Bonn Convention on Migratory Species (CMS) established – with 116 member states and binding agreements and action plans to protect 120 migratory species.

1982

The Montevideo Programme adopted by UNEP Governing Council setting priorities for global lawmaking. This led to major agreements, including the Basel, Stockholm and Rotterdam Conventions and the Montreal Protocol.

1983

The Brundtland Commission was created as a result of a decision by UNEP's Governing Council. This created the most prevalent definition of sustainable development and had a major influence on the Rio 1992 Earth Summit and the Johannesburg Conference on Environment and Development, 2002.

1980

1987

Montreal Protocol on Substances that Deplete the Ozone Layer established following the Vienna Convention of 1985. Almost 150 countries assisted, which led to over a 98 per cent reduction of controlled ozone depleting substances.

1988

Intergovernmental Panel on Climate Change (IPCC) established by UNEP and the World Meteorological Organization.

1989

Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal adopted.

1992

UN Conference on Environment and Development (Earth Summit) adopts Rio Declaration and Agenda 21. Conventions on Biological Diversity (CBD), climate and desertification agreed.

1995

Global Programme of Action (GPA) launched as a non-binding agreement to protect the marine environment from land-based sources of pollution. Basel Ban Amendment barring export of hazardous wastes adopted.

1990

1996

UN Convention to Combat Desertification (UNCCD) entered into force.

1997

Kyoto Protocol set emission-reduction targets to mitigate climate change.

1998

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade adopted.

1999

UN Global Compact launched.

Michael Bloomberg: Making headway

How cities can fight climate change, adapt to it and improve life for their residents.



Michael Bloomberg

*UN Secretary-General's
Special Envoy for Cities
and Climate Change*

For the world to confront climate change effectively – and avoid its most catastrophic impacts – cities must play a leading role. This is true for two main reasons: first, because cities account for 70 per cent of the world's total carbon footprint – a proportion that will rise if cities do nothing to curb their emissions since the total population of world cities is projected to double by mid-century. And second, because city leaders have a wide range of powers that they can use to reduce emissions and adapt to climate risks, without having to depend on action by other levels of government.

In New York City, for instance, we set an ambitious goal of reducing our carbon footprint by 30 per cent by 2030, and were able to achieve a 19 per cent reduction in just six years. Many other cities – of all sizes, and in every region of the world – have also made encouraging progress. However, much more is possible and much more needs to be done.

While every city has different challenges and opportunities, there are several key steps each can take to help fight climate change, adapt to it, and improve life for residents.

Measure greenhouse gas emissions. I've always believed, "If you can't measure it, you can't manage it" – and that's

certainly true when it comes to climate change. Taking a comprehensive inventory of total emissions is the only way for cities to identify the areas where their efforts should be targeted. It also allows them to measure the impact of those efforts – and hold themselves accountable for delivering results. This is a crucial first step that hundreds of cities have already taken, from megacities like Tokyo, Japan to small ones like Negombo, Sri Lanka.

We can help more cities take this step – and accelerate progress in those that already have – by establishing a uniform, consistent global metric for measuring and reporting emissions. This would help cities plan and manage emission-reduction strategies, and bring a new level of transparency to their climate work. Once national governments see how much progress cities are making, they will be more likely to set more ambitious goals. Leading by example, cities can have an enormous impact on global climate change.

A number of organizations – including ICLEI, the C40 Cities Climate Leadership Group, and the UN Environment Programme, along with several other important partners – have been working together to develop a uniform measurement and reporting system, called the Global Protocol for Community-scale Emissions, or GPC. Having every city worldwide use the GPC would be a major step forward, building on the enormous potential cities have for leading the fight against climate change.

Tackle the biggest problems. Once cities have a full picture of their emissions, they can focus their efforts on attacking the major sources. In some – such as Bogota, Colombia, and Delhi, India – one of the largest sources of emissions is transportation, largely from automobiles. That's why these cities are focused on solutions like bus rapid transit systems, which help get private cars off the road, and more fuel-efficient taxi fleets. In other cities – like Lagos, Nigeria – solid waste is one of the largest sources of carbon emissions, which is why Lagos has focused its sustainability efforts on capturing methane emissions from landfills and improving recycling.

In many other cities, buildings are the largest sources of emissions. To reduce them, Tokyo created a cap-and-trade emissions programme for large buildings. Melbourne is providing loans to homeowners for energy-efficiency improvements, and allowing them to pay for them over time

Once cities have a full picture of their emissions, they can focus their efforts on attacking the major sources.



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through small increases to their property taxes. New York City mandated energy efficiency steps for large buildings while also banning the dirtiest forms of heating oil and working with utilities to help building owners transition to cleaner fuels.

Focus on what the city controls. Many city governments have significant power over the areas that most contribute to their carbon footprints. Cities are prioritizing their efforts around these areas, rather than waiting for national action or relying on national support. City governments tend to be more nimble than their counterparts at the national level, and they are using this flexibility to launch innovative initiatives aimed at combatting and adapting to climate change. In addition, having a record of local progress can help cities encourage national governments to give them more authority over factors that contribute to climate change.

Spread what works. Cities can accelerate their progress on climate change by learning from one another. We in New York learned from the success of cities like Bogota, Colombia and Curitiba, Brazil when planning our bus rapid transit system. We learned from Copenhagen in our work on building pedestrian plazas and bike lanes. Collaboration between cities is helping many other powerful climate strategies spread

– from green building codes to energy-efficient street lighting. A new report from the Intergovernmental Panel on Climate Change shows how urgent – and how incredibly important – this work is. Climate change is already taking a serious toll on ecosystems, on economies, and on lives – and its impacts will grow much worse unless we take decisive action to reduce emissions and adapt to risks now.

Cities are stepping up to meet the challenge. The actions they are taking aren't only improving our odds in the fight against climate change; they are also making cities healthier, cleaner, more livable and more economically vibrant – and helping prove that now, more than ever, what happens in cities really can change the world.

As a Special Envoy, I will work with the Secretary-General and his team to draw more attention to what cities are doing – and mobilize new, concrete actions that cities can take, which will be announced at the Secretary-General's climate summit in September.

We have a great opportunity to make real headway – and I am honoured to be working closely with a Secretary-General who recognizes how important cities are in the fight against climate change. ▲

*Cities account for **70%** of the world's total carbon footprint – a proportion that will rise if cities do nothing to curb their emissions since the total population of world cities is projected to double by mid-century.*

*New York City has set an ambitious goal of reducing its carbon footprint by **30%** by 2030.*

Juan José Guerra Abud: Challenge ahead

The international community must unite to make better use of our natural wealth, increase its value and ensure a better quality of life for our children.



Juan José Guerra Abud

Secretary of Environment and Natural Resources, Mexico

Our generation faces unprecedented challenges: to ensure sustained economic growth, combat poverty and social inequality and ensure the preservation of the environment and ecosystems for future generations.

Overcoming these challenges requires creative and innovative approaches, political will, international cooperation and, most of all, decisive action. We must provide answers in order to exist in a world inhabited by the seven billion people competing for our natural resources.

It is imperative to achieve global agreements to counter global warming and the loss of biodiversity and ecosystems, which are advancing desertification, pollution of the seas and the exponential growth of solid and hazardous wastes.

National and multilateral legal and institutional frameworks must be strengthened to promote the conservation of natural capital and ensure the right of our communities to a healthy environment. For the administration of President Enrique Peña Nieto, sustainability is a priority, which must result in specific plans and concrete actions. This has been

reflected in the National Development Plan 2013–2018, the guiding document that will lead our efforts over the following years. The President is committed to drive Inclusive Green Growth – an economic growth that preserves the natural environment and promotes social inclusion and a better future for our country and the world.

We are one of the few countries in the world that has a climate change act and, as a result, we are forced to reduce our emissions of greenhouse gases by 30 per cent by 2020 and 50 per cent by 2050.

The energy and tax reforms recently approved in Mexico will strengthen investment in this sector, create more jobs and boost development with social and environmental responsibility.

Without doubt, one of the main beneficiaries of the energy reform will be the environment. This measure represents a major step towards economic development and the adoption of production processes that will allow for the greater presence of cleaner, more efficient and less polluting energy sources. Meanwhile, tax reform has proposed green taxes for the first time in the history of our country.

Mexico fulfils its international responsibility: Mexico is a signatory to international agreements and protocols on climate change, biodiversity, water, air, chemicals, waste and sustainable development. Coupled with its strategic location, its level of economic development and access to international fora, this positions our country as a privileged interlocutor to promote dialogue and cooperation between



Mexico is a signatory to international agreements and protocols on climate change, biodiversity, water, air, chemicals, waste and sustainable development.

*Mexico is committed to reducing greenhouse gases by **30%** by 2020; and by up to **50%** by 2030.*

developed and developing countries and to strengthen national capacities in the transition to greener and more inclusive growth.

The welfare of humanity and the functioning of the economy and society depend on the responsible management of natural resources. Recognizing that the ecosystem and natural resources of the earth are limited will safeguard humanity from crossing ecological thresholds that could undermine or even reverse developmental gains.

The international community must unite to make better use of our natural wealth, increase its value and ensure a better quality of life for our children.

Since 1972, when UNEP was set up, the international community has made progress. Many international agreements have been adopted to address the different facets of the challenges to the environment. However, more efficient environmental governance, and the mobilization of adequate financial and technical resources to promote the development and transfer of clean technologies and capacity-building, is still required.

Mexico celebrates the first session of the United Nations Environment Assembly (UNEA). In this forum we have a unique opportunity to take decisions to achieve higher levels of welfare and development opportunities for our people. Without any doubt, UNEA, which has now taken on a universal character, is the ideal political and strategic vehicle for strengthening the environmental dimension of sustainable development. We also reaffirm our commitment to ensuring that UNEP is strengthened and exercises the leadership role it deserves through scientific analysis, cooperation, dialogue and practical solutions to address the environmental challenges of the 21st century.

At UNEA, the ministers of the environment have the opportunity to send a clear political message to the international community on, among others, the Post-2015 Development Agenda, Sustainable Development Goals and attention to global climate change. While it is true that we have worked as states, regions and the international community for the benefit of the environment, our experience should be used to ensure that the environmental dimension of sustainable development receives the space it deserves in this new platform.

UNEA is an ideal platform for reaching effective agreements and designing practical solutions. Mexico reiterates its deep commitment to face global challenges and will work decisively with the international community to strengthen sustainable and equitable development.

Mexico plays a responsible role, working with Latin American and Caribbean countries, in defining our priorities in the regional environmental agenda. That was the goal that motivated our country to host the 19th Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean of UNEP, in Los Cabos, in which we achieved the following results:

- A Ministerial Declaration that reaffirms the forum as one of the main areas of policy dialogue on environmental cooperation and the establishment of regional priorities;
- Identification of regional priorities for UNEA, including the strengthening of regional offices; and
- A package of decisions that promote concrete initiatives for regional cooperation in the areas of climate change, sustainable production and consumption, biodiversity, chemical substances, solid waste management, and environmental democracy, among others.



In my capacity as Chairman of the Forum of Ministers of Environment of Latin America and the Caribbean of UNEP, I have been tasked to reaffirm the commitment of the ministers of the region to a successful outcome from UNEA, which will strengthen regional and sub-regional agendas. Latin America and the Caribbean will participate actively in this new era for global environmental governance. Mexico is committed as chair of the forum to promote and encourage the process over the next two years.

At UNEA, Mexico, as president of the Forum of Ministers of Latin America and the Caribbean, will support the implementation of concrete actions to catalyse the transition towards

low-carbon economic development, the efficient utilization of resources based on the protection and sustainable use of ecosystem services, consistent environmental governance and the reduction of environmental risks to the welfare of present and future generations.

We have before us the opportunity to consolidate the work already undertaken over many years and from different perspectives, and seize it to build synergies and reach agreements beneficial to the environment and to our people. Together we can achieve higher levels of well-being, economic growth and environmental protection for the benefit of our societies. ▲



Pekka Haavisto: Stronger UNEP for stronger post-2015 goals

International action requires effective institutional architecture.



Pekka Haavisto

Minister for International Development, Finland

UNEP represents the international attention that the environment and future generations need from us. I am proud of my own years in UNEP, 1999–2005, when I had the privilege of directing its post-conflict activities in many fragile states. The Finnish Government has also kept UNEP as one of its priority organizations for voluntary contributions.

Therefore, I was particularly pleased with the mandate given by the Rio+20 conference to strengthen UNEP. Universal Membership of UNEP's Governing Council and the establishment of the United Nations Environment Assembly (UNEA) are important steps forward.

Strengthening UNEP also implies a need for additional resources and the decision by the UN General Assembly to increase its regular budget contribution is very welcome. As a sign of confidence in and support to UNEP's work, Finland is almost doubling its contribution to the Environment Fund, to 6 million euros this year.

The Rio+20 conference was a significant milestone in moving the world towards sustainable development. It set the

world in motion to develop Sustainable Development Goals (SDGs) – and a universal development agenda. This agenda must ensure sustainable development and work to end extreme poverty.

Finland has emphasized the need to mainstream environmental sustainability in the Post-2015 Development Agenda. All development needs to be inclusive and happen within ecosystems' capacities. Halting environmental degradation and loss of biodiversity, shifting to sustainable consumption and production patterns and urgently addressing climate sustainability are prerequisites for a sustainable future for our planet.

In this context, one cannot overlook the relationship between conflicts and the environment. Serving as the co-chair of the International Dialogue on Peacebuilding and Statebuilding (IDPS), together with Minister Emilia Pires from Timor-Leste, I am faced with the devastating effects of conflicts – and wonder if they could be reversed. Instead of oil wars could we have peace based on fair and sustainable use and protection of natural resources? Could the environment be one tool in peacemaking?

I feel that the potential that natural resources have in conflict resolution and longer-term state building is not yet fully exploited. Therefore, developing good and transparent governance of natural resources is imperative in the mobilization of domestic revenues of fragile states. Managing revenues, including natural resources, and building capacity for accountable and fair service delivery is one of the principal goals of the IDPS.

In addition, the work that UNEP has done with the support of Finland within the Environmental Cooperation for Peacebuilding programme has great potential to provide concrete input into this area. This need to focus on good and transparent governance involves all actors, not only governments.

Climate change truly is one of the defining factors of our times, and Finland has been active in securing financing for efficient climate action in developing countries where the poorest are the ones who most suffer. Climate finance is one of the major issues in the ongoing negotiations on a new



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agreement for adoption at the United Nations Framework Convention on Climate Change Conference of the Parties in Paris in December 2015.

The international architecture for climate finance is quite complex. Too fragmented, one could argue. However, with the establishment of the Green Climate Fund we have a great opportunity to streamline and considerably increase the multilateral funding for climate action. It takes time to get all the necessary operational and administrative modalities in order, but I hope to get the foundation of the fund ready as soon as possible in order to start its initial capitalization. Finland stands ready to contribute its fair share to this and be an active partner in the activities of the fund.

Innovative sources of financing have been topical over the last years, and in this respect Finland is at the forefront. In March 2013 the government decided to allocate all of the revenues from the auctioning of European Union emission allowances to developing cooperation, including of climate finance. Already in 2013, Finland has allocated approximately 50 million euros through this mechanism, and we have plans to allocate up to 90 million euros in 2014.

The first UNEA, in June 2014, comes at a critical juncture of the SDGs and post-2015 process. UNEA provides an excellent opportunity to send a strong message to the high-level political forum and to the post-2015 negotiation process about the crucial importance that environmental sustainability has for maintaining the carrying capacity of our planet and ensuring well-being for present and future generations.

UNEP has the comparative advantage and mandate to be the leading authority on the environmental dimension of sustainable development globally as well as within the UN system.

Therefore UNEP, under the guidance of UNEA, should also play an important role in the implementation and monitoring of the environmental aspects of the post-2015 framework. In order to achieve this, better coordination among international institutions working on issues related to the environment is needed.

The Rio+20 outcome document provides for strengthening UNEP's engagement in key United Nations coordination bodies. UNEP has also been given the mandate to develop system-wide environmental strategies by the General Assembly. The development of such strategies could help in better addressing the division of labour within the UN system on environmental matters and dealing with identified implementation and policy gaps.

UNEP is encountering growing expectations from the global audience. To guide its future work, it is important to crystallize the role UNEP has in the wider sustainable development setting and capitalize all its potential. The assessment work of UNEP, including the work of the scientific panels it is hosting, is crucial when providing evidence-based information for decision makers.

In the post-2015 context, UNEP should have a key role in supporting monitoring and reporting on environmental issues. Furthermore, UNEP should continue to facilitate mutual collaboration and implementation of the Multilateral Environmental Agreements (MEAs). This is important also from the post-2015 perspective as the objectives of major MEAs address sustainable development at large.

Moving towards sustainable consumption and production (SCP) patterns is a key challenge globally, and UNEP has a pivotal role in this work. SCP is fundamentally about fulfilling basic needs in a sustainable manner. The sustainable provision of materials, energy, food, water and shelter are central to ensuring that one billion people are lifted out of absolute poverty and that the well-being of many others is improved.

With our joint efforts, we are able to overcome the fundamental impediments for achieving sustainable development. We need universal goals for post-2015. UNEP can have a crucial role in defining our way ahead. ▲

In 2013 Finland made available approximately 50 million euros for climate financing, and has plans to allocate up to 90 million euros in 2014.

World Environment Day

Millions of voices were raised around the world in support of World Environment Day on June 5, 2014. Over 2,000 registered events across the globe ranged from an “eco-action day” in Singapore to a drive by the British multinational corporation Tesco to lower its carbon emissions by 30 per cent by 2020.

A week of cultural events and high-level political engagement took place in June on the island nation of Barbados, the host of the 2014 World Environment Day global celebrations.

This year’s theme, *Raise Your Voice, Not the Sea Level*, spotlighted the environmental leadership of small island developing states (SIDS) such as Barbados, while bringing into focus the challenges that such islands continue to face every day. Home to 62.3 million people, the world’s 52 SIDS are custodians of 30 per cent of the world’s 50 largest exclusive economic zones and play an important role in protecting the oceans.



SIDS contribute little to climate change – emitting less than one per cent of global greenhouse gases. However, they suffer disproportionately from its effects due to their small size, remote locations and low economic resilience.

Speaking at the official opening ceremony, Freundel Stuart, Prime Minister of Barbados, said, “On World Environment Day, we raise the collective voices of SIDS, once again, in calling for stronger and more concrete political action and solutions to enable us to realize a future not only of resilience, but also of prosperity for our island nations”.

“As one of the smallest independent states in the world, with a total land area of just 431 km², Barbados faces many challenges but it is not passively accepting its fate. Barbados has long been a leader in the Caribbean region in the green economy approach. Its current National Strategic Plan (2006–2025) clearly identifies Building a Green Economy: Strengthening the Physical Infrastructure

and Preserving the Environment as one its key aims,” said UN Under-Secretary-General and UNEP Executive Director Achim Steiner.

UNEP also launched its *SIDS Foresight Report*. The report finds that climate-change-induced sea-level rise in the world’s SIDS – estimated to be up to four times the global average – continues to be the most pressing threat to their environmental and socio-economic development with annual losses at the trillions of dollars. It notes that an immediate shift in policies and investment towards renewable energy and green economic growth is required to avoid exacerbating these impacts.

A second report, the *Green Economy Scoping Study*, was also launched, representing an unprecedented collaboration across a range of experts in Barbados on ways to accelerate the island’s transition to a green economy.

UNEP also formally designated the actor and environmentalist, Ian Somerhalder (see

page 57) – best known for his work on the Warner Brothers international hit TV Series, *The Vampire Diaries* – as its newest goodwill ambassador. Mr. Somerhalder was the celebrity winner of this year’s WED Challenge, in which he and three other UNEP goodwill ambassadors – actor Don Cheadle, supermodel Gisele Bündchen and footballer Yaya Touré – invited individuals to pledge action for the environment.

The specific challenges and opportunities for sustainable development for SIDS will be highlighted at a side event of the first United Nations Environment Assembly in Nairobi in June. Specific partnerships dedicated to SIDS, and in which UNEP can assist and contribute, will be discussed. This is in advance of the Third International Conference on SIDS, taking place in Samoa in September, where the review of the implementation of the Barbados Programme of Action and the Mauritius Strategy for Implementation will be made within the context of the Post-2015 Sustainable Development Agenda.



From left to right: His Excellency Ambassador Irwin Larocque, CARICOM Secretary-General; Rt. Hon. Freundel J. Stuart, Q.C., M.P., Prime Minister and Minister of National Security, the Public Service and Urban Development of Barbados; Dr. the Hon. Ralph Everard Gonsalves, Prime Minister of St Vincent and the Grenadines; Achim Steiner, United Nations Environment Programme Executive Director at the June 5 World Environment Day celebration in Bridgetown, Barbados.



Jaguar Land Rover installs UK's largest rooftop solar panel

The hi-tech panel array covers the entire length of its new state-of-the-art manufacturing centre.

More than 21,000 photovoltaic panels, with a capacity of 5.8MW, have been fixed to the roof of the manufacturing plant, with plans to increase this to over 6.3MW by the end of the year. The world-class plant will manufacture the first family of premium, advanced technology engines, Ingenium, to be entirely designed and built in-house by Jaguar Land Rover for exclusive use in the company's future vehicles. The Jaguar XE, debuting in 2015, will be the first vehicle equipped with these four-cylinder engines.





Paul Polman: Step change in ambition

*Business is increasingly part
of the solution to global
environmental challenges.*



Paul Polman

*Chief Executive Officer,
Unilever*

The first meeting of the United Nations Environment Assembly addresses an anomaly of global governance structure going back nearly half a century. It at last puts sustainable development at the heart of the global agenda, giving environmental issues a similar status to those of peace, security, finance, health and trade.

And not a moment too soon, because our prospects for a peaceful, secure, prosperous and healthy world, it is clearer by the day, are fundamentally linked to whether we use the next few years to tackle the environmental challenges we face.

Climate change is probably the single biggest one. Recent examples of extreme weather – from the Californian drought to Typhoon Haiyan, which devastated parts of the Philippines – give us a taste of what a significantly warmer world might look like, threatening all we have achieved since the 1960s in addressing poverty, food security and stability. The latest IPCC report should have finally laid to rest any lingering doubts about the science, allowing the global community to focus on our response.

But this is not, of course, our only challenge. Initiatives such as UNEP's Global Environment Outlook, and the work of the Stockholm Resilience Centre on planetary boundaries, have clearly charted how we are disturbing the earth's natural balance and edging ever closer to irreversible and calamitous tipping points.

Business cannot immunise itself from this rising tide of environmental challenges. In the last decade alone, the world

spent \$2.7 trillion more than usual on natural disasters. The OECD predicts that, by 2050, over \$45 trillion of assets could be at risk.

We see this on a macro-scale, but also in terms of the effects on individual businesses like Unilever. We operate in 190 countries, and our supply chain supports, directly or indirectly, 5–6 million people. Already we have seen agricultural yields ruined by drought, supply chains disrupted by flooding and employees unable to travel to work because of severe air pollution. In Kenya, our tea plantations are already susceptible to changes in rainfall patterns as a result of deforestation of the neighbouring Mau forest. In total, climate change is already costing us over 300 million euros a year.

If we allow it to further tighten its grip, climate change will compromise business growth in other ways too – such as the impact of water scarcity in some of our fastest growing markets, like India, China and Indonesia. Our analysis suggests that by 2020, India will face water availability gaps of 45–90 per cent. Without mitigation strategies, shortages in Mumbai could start to affect our growth there as early as next year.

So the challenges are real, clear and extremely serious. Our response must both reflect their scale and nature and demonstrate our recognition that tackling climate change and other environmental issues is not just compatible with economic growth, but that it is only by tackling them in a systemic way that we can deliver growth for the global economy in the 21st century.

More and more businesses have worked out that they cannot prosper in a world of runaway climate change, poverty and inequality. They understand the need for political leadership and business action to address such systemic challenges, beyond the power of any one actor to fix alone.

And they want to be part of the solution. More than 50 of the top 200 businesses have set carbon intensity reduction goals in line with the 6 per cent per year reduction target that the Stockholm Resilience Centre says is needed to maintain economic growth without exceeding 2°C of warming.

Global investment in clean technologies is now up to \$300 billion a year. The global low-carbon economy is a \$4 trillion reality, growing at nearly 4 per cent and growing resiliently, less affected by the financial crisis than many other sectors.

More and more businesses have worked out that they cannot prosper in a world of runaway climate change, poverty and inequality.

Real commitments are being made to tackle tropical deforestation, the source of up to 15 per cent of global emissions. In the last few months alone, consumer goods companies like Mars, Kellogg, P&G and J&J and growers such as Wilmar and APP have made new or strengthened commitments to deforestation-free supply chains, building a critical mass of businesses who recognize this new paradigm and have both a new cadre of leaders and a deep desire to contribute meaningful solutions.



yet recognized what this means in practice – taking carbon emissions out of the energy systems of all major economies in little more than a generation. We have the technologies and the capital to do this, and know what policies we need. We just require the political leadership.

To business, what that leadership looks like is pretty simple. It can be summarised in three words: clarity, confidence and courage. Reluctance to invest in the green economy will fade away when it is seen as inevitable, and when high-carbon assets, and those that deplete natural capital in other ways, risk being stranded. Policy certainty will drive investment, create jobs, de-risk R&D, support new supply chains and lower costs. Above all, business needs evidence of a commitment to integrated international climate ambition in domestic legislation that sets clear targets within a common framework that will deliver, not incremental, but transformational change – and unlock the billions of dollars of investment needed to stay below 2°C.

We are in a critical period. Efforts to agree a global climate deal coincide with those to renew the Millennium Development Goals, giving the global community a unique chance to end extreme poverty for good and tackle the urgent sustainable development challenges of the 21st century. But a step change in collective ambition is needed from all of us. The birth of the United Nations Environment Assembly is a positive and important sign that the world recognizes our interdependencies, both on each other and on our shared planet. I wish it the very best. ▲

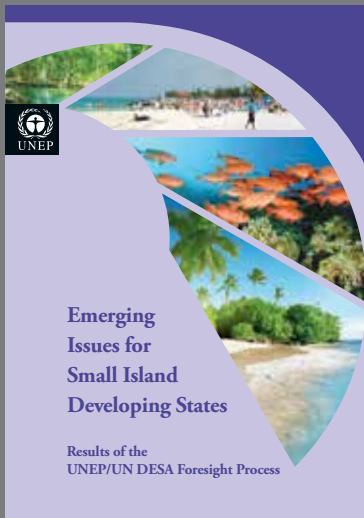
More than **50 of the top 200** businesses have set carbon intensity reduction goals in line with international recommendations.

In total, climate change is already costing us over **300 million euros** a year.

New coalitions are rapidly forming. The Corporate Leaders Group on Climate Change now has over 1,000 companies participating in over 60 countries. The B Team, a global group of leaders, is catalysing a better way of doing business for people and the planet. The United Nations Global Compact has 9,000 members, all committed to taking action. The Carbon Disclosure project is supported by 722 institutional investors with over \$7 trillion of assets under management. And the World Business Council for Sustainable Development, which has a global network of over 35,000 businesses, is stepping up with impactful, measurable, scalable, replicable and beyond-business-as-usual responses to our most important natural and social capital challenges.

But, though a huge champion of business action, I am also the first to argue that governments can no longer sit on the sidelines. They have already committed to keeping global temperature rises to below 2°C – but many, I fear, have not

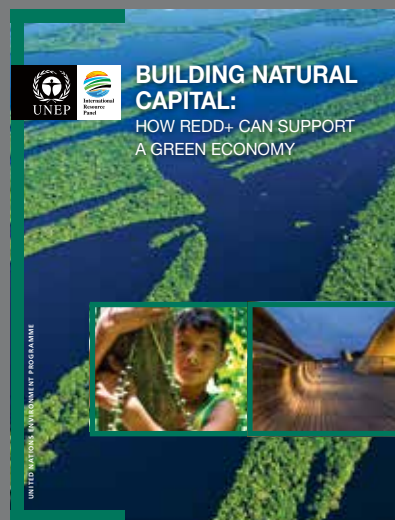
Publications



Emerging issues for small island developing states: results of the UNEP Foresight Process

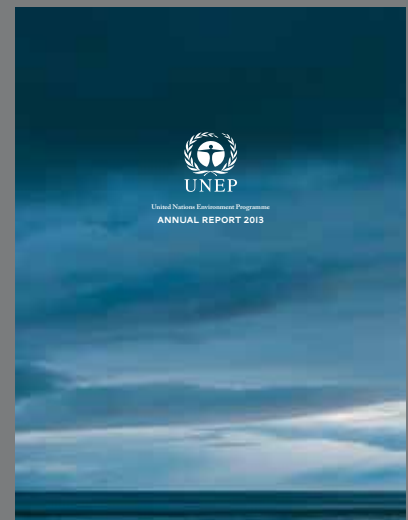
In 2013, UNEP identified priority emerging environmental issues that are of concern to small island developing states (SIDS). This report provides an overview of 20 issues critical to the sustainable development of SIDS. The findings reveal that SIDS are faced with several serious environmental challenges, mostly related to climate change, including sea-level rise and loss of biodiversity and ecosystem goods and services.

The report also describes opportunities that SIDS have to help them move towards a green economy. For example, they possess both unexploited terrestrial and oceanic natural resources such as minerals, potential pharmaceutical products, renewable energy resources and fish stocks. Renewable energy sources include wind, sun, ocean, wave, hydro and geothermal; and use of these resources offers an opportunity to widen access to sustainable energy and reduce the heavy costs of power. The report shows that SIDS have the potential to take a lead in defining models of sustainability and human well-being whilst moving towards a Green Economy.



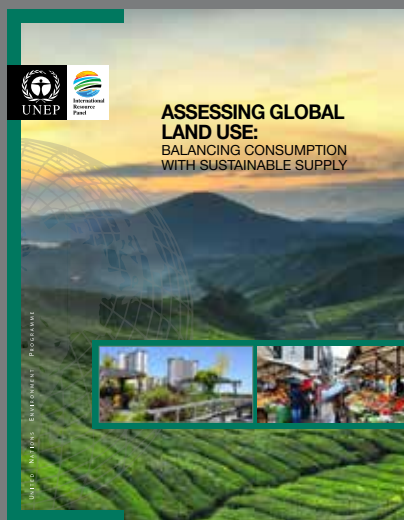
Building natural capital: how REDD+ can support a Green Economy

This report advocates placing REDD+ into a larger planning framework that should involve multiple influences (especially those driving deforestation, albeit sometimes inadvertently). This framework would go beyond forests to ultimately serve the needs of all sectors of society, e.g. agricultural, financial and urban. REDD+ would thereby add value to the many other initiatives that are being implemented within these sectors. No longer simply a pilot effort, REDD+ would take its place as a critical element in the drive for a green economy.



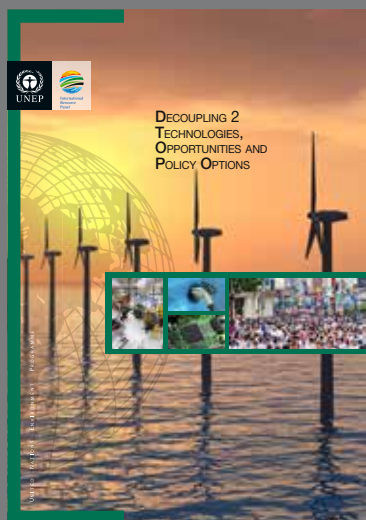
UNEP 2013 Annual Report

The 2013 Annual Report highlights UNEP's work in 2013, a year in which the organization's Governing Council met under universal membership for the first time and the strengthening process agreed in the previous year began in earnest. The report focuses on UNEP's achievement in the key areas of Climate Change; Disasters and Conflicts; Ecosystem Management; Environmental Governance; Harmful Substances and Hazardous Waste; and Resource Efficiency. It also highlights the key role UNEP plays in providing environmental leadership to the UN system and the international community: for example, in 2013, nations adopted the Minamata Convention on Mercury, the first new global multilateral environmental agreement in almost a decade.



Assessing global land use: balancing consumption with sustainable supply

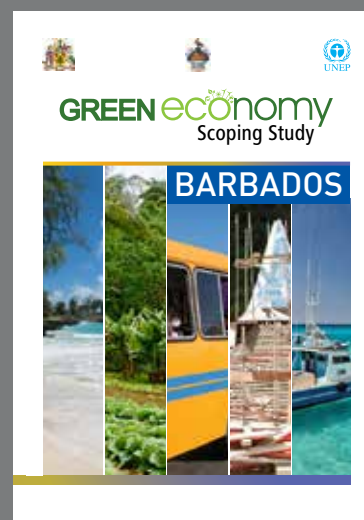
This report provides a global assessment of the increased pressures on natural resources for food, fuels and fibre, identifying the main drivers and providing innovative, practical options to mitigate their impacts. The report explains how the growing demand for food and non-food biomass could lead to a gross expansion of cropland in the range of 320 to 850 million hectares by 2050; a fact not compatible with the imperative of sustaining the basic life-supporting services that ecosystems provide. The report explores how the production and consumption of biomass can be made more sustainable across a range of scales, from the sustainable management of soils on the field to the sustainable management of global land use.



Decoupling 2: technologies, opportunities and policy options

In the light of the acknowledgement by policy-makers that there is an urgent need to decouple resource use and environmental degradation from economic growth, this report examines several policy options that have proved to be successful in helping different countries to improve resource productivity in various sectors of their economy. It highlights examples that demonstrate significant progress towards decoupling economic growth from resource use and mentions two policy proposals that are illustrative of the type of combined policy that is needed.

The report shows that efficient technologies do exist for both developing and developed countries to significantly reduce resource intensity and, where feasible, achieve the absolute decoupling of resource use.



Barbados's Green Economy scoping study

The inclusion of green policy objectives in Barbados can be traced to the National Strategic Plan (2006–2025) and the budget speech of 2007. The process was given further impetus in 2009 when the then Prime Minister laid down the challenge of committing Barbados to become the “most environmentally advanced green country in Latin America and the Caribbean”. It was against this backdrop that the Government engaged the United Nations Environment Programme (UNEP) in the establishment of a partnership to support the country’s transformation.

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Rachel Kyte: Break from the past

The United Nations Environment Assembly offers a chance to bring the drive for low-carbon, resilient growth to the centre of policymaking.



Rachel Kyte

*Vice-President and Special
Envoy for Climate Change,
World Bank.*

“Coming together is a beginning; keeping together is progress; working together is success.” Henry Ford.

Policy-makers are looking to the first session of the United Nations Environment Assembly (UNEA) – as a freshly minted global environmental authority – to set a global sustainable development agenda that integrates the social, economic and environmental drivers of change and prioritizes actions that will have the greatest impact.

While climate change is not formally on the agenda, its impacts and opportunities must run through all discussions. The momentum of climate impacts intensifies the threat to ecosystems and economies, and the costs of failing to act are staggering. Globally, weather-related losses and damage have risen from an average of about \$50 billion a year in the 1980s to close to \$200 billion a year in the last decade, making climate-resilient and disaster-resilient development critical.

In the poorest countries, the World Bank Group estimates, climate change will increase the cost of development by 25–30 per cent. The impacts could roll back decades of

developmental gains and push millions of people back into poverty within our lifetimes.

The world’s top scientists have warned of increased risks of a rapidly warming planet to our economies, environment, food supply, and global security in the latest UN Intergovernmental Panel on Climate Change (IPCC) report. Despite efforts at reduction, global greenhouse gas emissions rose faster in the last decade than in the previous three, threatening a temperature rise of 3.7°C to 4.8°C above pre-industrial times by the end of this century.

The IPCC says that with substantial technological, economic, institutional, and behavioural change, we can still limit that increase to 2°C, but the sooner we start to tackle the problem, the better our chances of fixing it and, importantly, the lower the cost.

The good news is that this sense of urgency is increasingly being shared by key decision makers beyond the environmental community. Finance ministers attending a recent meeting with the leaders of the World Bank Group, International Monetary Fund and United Nations, didn’t quibble about the science – they talked about risks to economic and financial stability, policy tools they could use to ramp up their low-carbon growth, and the help they need in investing in resilience. They know that they must lead action at home that secures low-carbon, resilient growth and delivers jobs.

This is a decisive year. In September the Secretary-General of the United Nations will host a climate summit in New York to build the political momentum and ambition needed to



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In the poorest countries, climate change will increase the cost of development by 25–30 per cent.

We are challenging governments and oil companies, national and independent, to join industry leaders and commit to zero gas flaring worldwide by 2030. This would reduce emissions by about 350 million tons annually, equivalent to taking some 70 million cars off the road.

reach a global agreement in 2015. At the World Bank Group, we are working with others to identify key actions that can begin to match the magnitude of the challenge.

- We are encouraging countries, sub-national jurisdictions, and companies to join a growing coalition of first movers to **put a price on carbon**, a necessary signal for investment in low-carbon, resilient growth. Such a price should be part of any package of policies to scale up mitigation. Without it, getting the response we need across the private sector will be very hard.
- As part of getting prices right, countries need domestic fiscal and regulatory policies that **drive energy efficiency** through economies, including through building, lighting and fuel-efficiency standards
- The world needs critical **investment in low carbon, resilient and livable cities**. Ministers should promote fiscal policies that provide consistent and predictable fiscal transfers to city governments and vibrant local capital markets. Whenever possible, cities should be given autonomy to access private financing flows, allowing mayors – already acutely aware of the risks and opportunities of climate change – to go further, faster.
- We are asking countries to join us to work on goals for making agriculture climate-smart, by **enhancing agricultural productivity, bolstering farmers’ resilience and reducing greenhouse gas emissions of agriculture**. We especially hope that international organizations and donors will support African governments who are leading the way on this.
- We are challenging governments and oil companies, national and independent, to join industry leaders and commit to **zero gas flaring worldwide by 2030**. This would reduce emissions by about 350 million tons annually, equivalent to taking some 70 million cars off the road.
- We are calling for a **doubling of the green bond market to \$20 billion by September**, followed by even bigger targets set for Lima and Paris.

Last November, at the climate conference in Warsaw, governments agreed to seal a new international agreement by 2015 that would be applicable to all countries and would start bringing global greenhouse gas emissions down. Current emission-reduction pledges are not enough to prevent a 2°C temperature rise, which will impact growth and development for many of our client countries.

Throughout this year and next, the World Bank Group will be working closely with governments to provide the data, evidence, and analysis necessary for them to set meaningful national emission-reduction targets within their low-carbon growth and resilience planning – and for developed countries to step up support for the most vulnerable.

Two years ago at the United Nations Conference on Sustainable Development – where UNEA was born – the World Bank Group made the case for inclusive green growth as the pathway to sustainable development. In *Our Planet's*

Rio+20 issue I described a tale of two Rios where – outside the formal negotiations – countries, companies, civil society organizations, the scientific community, and cities acted on their own, with aligned interests towards benefiting the poor and the environment. This practical and independent leadership can also be seen today in the climate agenda.

The past two years have seen bold leadership from countries and companies, but emissions are still rising and the poor are still suffering. Our action and ambition is still not commensurate with the challenge.



The current pathway of carbon pollution is a mass failure of global markets and global governance. Environment ministers gathering at UNEA must work with finance ministers to bring this agenda to the centre. Many partners are waiting to help address this issue of future economic and financial stability.

In more than 20 years of sustainable development and climate diplomacy there have been many successes and watershed moments. But there has been a perpetual struggle over how to communicate risk and opportunity, urgency

and action to other constituencies, especially those that can spur behavioural change at scale. Time is running out. With evidence of the need for change and even many of the steps we need to take clearly delineated, communicating “why act?” or even “why wouldn’t you act?” must become fundamental.

UNEA offers us a potential break from our past. Part of its sustainable development leadership must be a disciplined focus on the policy measures that will have the greatest impact, for all of us. ▲



UNEP Landmarks

Regional Seas Programme

The Regional Seas Programme, which this year celebrated its 40th anniversary, has been described as one of UNEP's "Crown Jewels".



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Launched in 1974, just two years after the 1972 United Nations Conference on the Human Environment, which created UNEP, it was an early success for the new institution and has proved to be one of its most significant and long-lasting achievements.

The programme aims to address the accelerating degradation of the world's oceans and coastal areas through the sustainable management and use of the marine and coastal environment, by engaging neighbouring countries in comprehensive and specific actions to protect their shared marine environment. One of its earliest successes was the Mediterranean Action Plan. Today it is hard

to imagine but in the mid-1970s that sea – the crossroads of European, African and Asian civilizations for 4,000 years of recorded history – was so heavily polluted many feared it might die.

Today, more than 143 countries participate in one or more of the 18 Regional Seas Conventions and Action Plans around the world.

Many long-term and unique issues keep the Regional Seas Programmes relevant to their member states. The Regional Seas Conventions and Action Plans provide a platform for implementing marine and coastal policies regionally and nationally. Regional Action Plans, which

form the basis for the programme, are usually adopted by high-level intergovernmental meetings and implemented, in most cases, in the framework of a legally binding Regional Seas Convention and specific protocols, under the authority of the respective contracting parties.

These Regional Seas Conventions and Action Plans serve two major objectives: To be the principal platform for implementing global conventions, Multilateral Environmental Agreements (MEAs) and global programmes or initiatives regionally, and to provide UN agencies or global programmes with an existing mechanism to implement their activities on a regional scale.

The Conventions

There are 18 individual regional seas programmes in the following regions: The Wider Caribbean, East Asian Seas, Eastern Africa, Mediterranean, North-West Pacific, Western Africa, Black Sea, North-East Pacific, Red Sea and Gulf of Aden, ROPME Sea Area (Persian Gulf and Oman Sea Area), South Asian Seas, South-East Pacific, Pacific, Arctic, Antarctic, Baltic Sea, Caspian Sea, North-East Atlantic.



The Regional Seas Conventions and Action Plans have:

*Today, more than **143** countries participate in one or more of the 18 Regional Seas Conventions and Action Plans around the world.*



provided a regional cooperation framework that mobilises countries to address transboundary issues



improved management of coastal zones



reduced pollution in coastal water



cast light on marine litter and reduced it in some areas



designated regional networks of Marine Protected Areas

Trevor Manuel José María Figueres David Miliband: Reckoning on the high seas

Oceans need collective action to reverse decline.



Trevor Manuel



José María Figueres



David Miliband

*Co-chairs,
The Global Ocean
Commission*

The global ocean faces multiple threats and is suffering alarming ecosystem decline. Science informs us that the pressure on it is predominantly human inflicted. It is our collective responsibility to act now, and decisively reverse this condition. Failure to do so would be an unforgivable betrayal.

The Global Ocean Commission, an independent initiative, aims to turn the tide by reversing the cycle of declining ocean health, boosting its resilience and moving towards a cycle of recovery. Leading marine experts have helped us identify the most important drivers of ocean decline, and together we have devised an ambitious, yet practical, package of targeted proposals to deliver restoration. They will require strong commitments and partnerships among governments, civil society, the private sector and science.

We must all grasp both the ocean's immense importance and value to humanity, and the huge pressures it faces. We have already come a long way. It is no longer the forgotten link in global discussions and the public is increasingly aware that it is vital for our planet's life cycles. We now need to build on this

progress as the ocean, and particularly its high seas, remains chronically undervalued and neglected. Everyone must come to know that the ocean produces half the oxygen we breathe; that it shields us from the impacts of climate change by absorbing 90 per cent of the extra heat we generate; and that it provides food and jobs for tens of millions of the world's poorest people.

It must also be known that we continue to strip the ocean of its living resources. Ninety per cent of large predatory fish are already gone. Our carbon emissions are causing unprecedented rates of ocean acidification and warming. And governance and regulatory systems are way behind what science tells us is needed, and are failing to manage this great global commons sustainably and equitably.

As a result, wild-west-style lawlessness extends over the high seas, which cover no less than 45 per cent of the surface of the planet. The beneficiaries are the very few states and businesses with the capacity – mainly thanks to subsidies – to exploit resources that should be the common heritage of humankind. The victims are the poor, whose fish stocks dwindle and who are excluded from the global race to access the fish, minerals, energy sources and genetic materials that the high seas can yield.

We will all be victims if we do not combat the drivers of ocean decline: rising demand for resources, including fish, minerals and energy; technological advances that enable their extraction over wider and deeper areas; declining fish stocks caused by overcapacity and illegal fishing; loss of biodiversity and habitat due to climate change, destructive fishing and pollution; and weak, fragmented and poorly implemented high-seas governance.

A continuing inability to manage the ocean justly and responsibly is one of the great failures of contemporary international governance. Rectifying it, however, could stand as one of the great achievements of our modern age.

Realising this, is giving rise to an inspiring growing global consensus on the need for change. At the Rio+20 summit, states committed “to address, on an urgent basis, the issue of the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction including by taking a decision on the development of an international instrument under UNCLOS (the UN Convention on the Law of the Sea)”.

The Global Ocean Commission – like a growing majority of countries – actively advocates negotiating an implementing agreement under UNCLOS that allows the designation of high seas Marine Protected Areas (MPAs), agrees to common targets, and establishes mechanisms to advance implementation and compliance, including through prior environmental assessment. This is necessary if the convention is to change from being a 20th century device, no longer fit for purpose, into a universal legislative framework for the whole ocean that can deal with new and emerging pressures.

The Commission is also demanding a stand-alone Sustainable Development Goal (SDG) for the ocean within the Post-2015 UN Sustainable Development Agenda, thus confirming that its health is a top global priority. We recommend that this incorporates clear targets and indicators aimed at sustainable fishing, MPAs, reducing biodiversity loss and eliminating plastics pollution. Since the livelihoods of over 3 billion people are estimated to depend on marine and coastal biodiversity, there can be no question that the ocean deserves the visibility and resources that a dedicated SDG will bring.

The Commission also recognizes the importance of the “blue economy” to the sustainability of the high seas and calls on all countries both to accelerate progress on ocean governance by working within the United Nations system and to develop capacity for ocean states to engage more robustly with the national, regional and global ocean governance processes – all of which affect the value derived from the ocean.

These are just a sample of the actions in the Global Ocean Commission’s rescue package for the high seas. They should be supported by a new independent Global Ocean Accountability Board to benchmark progress and maintain pressure.

It is reckoning time. The well-signposted dangers accumulating beneath the waves need to be brought to the surface. There is a unique opportunity for change, through near-simultaneous negotiations on the proposed UNCLOS implementing agreement, the post-2015 UN goals, and the next generation of climate change commitments to be agreed in December 2015. It must not be missed! If we continue to plunder the high seas, there will be an inevitable “tragedy of the commons”, a degraded, unproductive ocean. This is not an option. We need a healthy ocean if humanity is to survive and we now have the capacity to secure it on our watch. ▲

The well-signposted dangers accumulating beneath the waves need to be brought to the surface.

Proven steps can be taken to reverse current trends in fisheries and restore stocks to levels where they would produce even more to feed a growing population. The Commission proposes the logical step of insisting that mandatory International Maritime Organization numbers and tracking – already required for merchant vessels – are extended to all fishing vessels in the high seas longer than 24 metres or heavier than 100 gross tonnes. This would help close the market for illegal fishing.

*Wild-west-style lawlessness extends over the high seas, which cover **no less than 45%** of the surface of the planet.*



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Mary Robinson: Opening a world of opportunity

*The role of climate justice in protecting
the planet and alleviating poverty.*



Mary Robinson

*President of the
Mary Robinson
Foundation – Climate
Justice*

The United Nations Environment Assembly is a welcome addition to the calendar of key events that will help shape the international agreements on global development and climate over the next 18 months. It brings the environment to centre stage, breaking new ground in its aim of allowing environmental issues to have a similar status to those of peace, security, finance, health and trade. With representatives from 193 UN member states and major groups participating, it provides an opportunity for a truly open and inclusive dialogue on the steps needed to set equitable and ambitious targets and agreements in the Post-2015 Development Agenda, while remaining cognisant of the work of the United Nations Framework Convention on Climate Change-facilitated climate negotiations.

Halving poverty rates over the last 14 years, as set out in the Millennium Development Goals, is a significant achievement. But 1.2 billion people still live in extreme poverty. Over the coming decades, the number of the world's inhabitants is set to escalate rapidly, reaching nine billion by 2050. A continuation of the current "business as usual" approach would lead to these nine billion people living in a world which could be 4°C warmer than pre-industrial levels – a world beset

with increasing extremes of temperature, heat waves, rainfall and drought.

Climate change is already undermining the right to development for the poorest and most vulnerable countries and communities. World Bank President, Dr Jim Yong Kim, has warned that a lack of action on this global crisis "threatens to roll back decades of sustainable development". The Fifth Assessment Report of Working Group II of the Intergovernmental Panel on Climate Change also highlights the poverty risks associated with future climate change – outlining those associated with warmer and wetter conditions in Africa, increasing floods and droughts destroying essential crops in Asia, and existing resources for the poorest in urban areas being stretched to capacity by unpredictable weather shocks.

As President of the Mary Robinson Foundation – Climate Justice, I have advocated making climate change a core component of sustainable development in the Sustainable Development Goals (SDGs). Next year provides the global community with a unique opportunity to act with the required equity, ambition and urgency on climate and development issues, with deadlines set for both the Post-2015 Development Agenda, which includes the SDGs, and the climate negotiations process in Paris in December.

The world needs these international processes because, now more than ever, transformational leadership and action is required and they provide the means to set clear strategies. The Fifth Assessment Report highlights the devastating impacts climate change will have on people in an increasingly

Ignoring climate change is no longer an option. Instead, the United Nations Environment Assembly can signal that we are determined to set a course for a safe world of sustainable development.

warming world – impacts that can only be averted if such action is taken. The climate summit in September provides an opportunity for both governments and the private sector to raise the level of ambition and human solidarity so that we can change the narrative on climate change to one of shared opportunity in working towards a carbon-neutral future.

The processes of the Post-2015 Development Agenda and climate negotiations set an overall framework for global environmental governance through their inextricable links and shared objectives. The climate convention was created by the Rio Declaration in 1992 and the SDGs were born out of Rio+20. They share a heritage and a purpose, although their roles are different. While the climate change convention has the task of agreeing a legally binding international agreement to limit carbon emissions and avoid dangerous climate change, the Post-2015 Development Agenda has the broader remit of creating a framework of operations for the complex sustainable development challenges that need to be addressed at international and national level. The United Nations Environment Assembly can provide the governance structure that helps to align these two processes to good effect.

Climate Justice can inform these processes through acknowledging the links between climate change, equity and sustainable development – links that are made in the Intergovernmental Panel on Climate Change’s Working Group III Fifth Assessment Report, which states, “the climate threat constrains possible development paths, and sufficiently disruptive climate change could preclude any prospect for a sustainable future” therefore, “a stable



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climate is one component of sustainable development” and, “there are synergies and trade-offs between climate responses and broader sustainable development goals, because some climate responses generate co-benefits for human and economic development, while others can have adverse side-effects and generate risks”.

Climate Justice links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly.

Climate change is a threat, but responding to it opens up a world of opportunity. The transition we need to make towards a carbon-neutral world will provide jobs, a healthier planet, greater well-being and if we do it properly, greater equality. But we need leadership at the political level to put in place an international framework that enables us to make the transition rapidly, effectively and for the benefit of all.

Ignoring climate change is no longer an option. Instead, the United Nations Environment Assembly can signal that we are determined to set a course for a safe world of sustainable development. We owe our grandchildren and great-grand children this opportunity. We owe it to them to act. ▲

1.2 billion people still live in extreme poverty.

Carlos Lopes: Powering Africa's industrialization and agricultural revolution with renewable energies

Africa's economic growth requires development of plentiful renewable energy sources.



Carlos Lopes

*Executive Secretary,
Economic Commission
for Africa*

Africa remains one of the most vulnerable continents to climate change, and its level of economic development and low adaptive capacity compounds this situation. The current dynamic growth of the continent is mostly accredited to increased commodity prices, and a surge in investment and domestic demand. Now the time has come for structural transformation, particularly industrialization.

Industrialization is closely linked to energy since construction and manufacturing are energy intensive. Currently, the continent's 1 billion citizens account for only 4 per cent of the total global energy consumption while representing 15 per cent of the world's population; however, by 2035 that energy consumption is projected to increase by 93 per cent. According to the 2013 World Energy Outlook, about 600 million Africans live without access to electricity; and in rural sub-Saharan Africa, the electrification rate is only 19 per cent. If current energy demands are not met, Africa's aspirations will be a pipe dream.

Although Africa has abundant fossil fuels, industrialization based on fossil fuels is harmful to the environment and aggravates

climate change. The dilemma facing African countries is to industrialize while avoiding technologies that will increase global warming. A new set of business opportunities can be explored to avoid the risks of current trends while positioning Africa into the future.

Africa has renewable energy potential to produce clean energy to meet its growing needs and allow for development and industrialization. The continent's hydropower capacity of 1852TWh per year can satisfy its needs through power pooling and cross-border power trade. Africa has an average uniform 325 days of bright sunlight per year, receiving 2,000 kilowatt hours per square metre per year. The wind and wave power potential along the west coast exceeds 3,750 kilowatt hours. Significant geothermal potential in the Eastern Rift Valley stretches to about 3,700 miles in length, with a potential in Kenya alone estimated at 10,000 megawatts.

Yet, in spite of this huge potential, the African continent loses 2–3 per cent of its GDP due to the lack of reliable energy sources. Nigeria is a good illustration as it loses at least 2 per cent of its GDP growth annually due to a deficit infrastructure. Indeed, some energy-rich countries have had challenges in meeting their needs. Nigeria should be able to generate more than 4,000 megawatts of energy for its 170 million people, when gas flaring has been going for 50 years at a cost of about \$2 billion to \$3 billion every year.

Africa cannot escape the obligation of developing these huge sources of hydro, solar and wind power and geothermal energy. Countries should move towards efficient utilization of biomass to produce clean energy that will insulate people and economies from climate related shocks and stress. By investing in the long-term energy solutions of cleaner technologies, mini-grids or stand-alone off-grid installations in local or rural areas that are cost effective, African countries can significantly benefit in the longer term, while avoiding problems developed nations are currently facing.

Equally, investing in renewable energy could lead to increased production in agriculture as well as the creation of new and better jobs. Industrialization in the agricultural sector is key to Africa's transformation since agriculture employs the majority of Africa's work force. In the absence of modern energy systems, the continent experiences significant post-harvest losses and does not have adequate transport and distribution infrastructure to allow smallholder farmers to maximize returns on their investments. Climate change will continue to affect all four elements of food security, i.e., food availability, food access (physical and economic), food consumption, and stability.

Renewable energy has the potential for agribusiness to embrace small- and medium-scale entrepreneurs. Through the deployment of solar and biomass-based technologies, clean energy can propel the agricultural value chain. The use of solar energy low-heat/drying applications, wood- and domestic waste-produced electricity and other energy forms have the potential to make agricultural productivity more affordable and accessible, as well as optimize productivity.

With increased numbers of SMEs involved across the agricultural value chain, the pace of rural transformation can be hastened through job creation, thus improving rural incomes, raising agricultural productivity through irrigation and improved



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Africa has renewable energy potential to produce clean energy to meet its growing needs and allow for development.

About **600 million** Africans live without access to electricity.

Africa has an average uniform **325 days** of bright sunlight, receiving 2,000kwh of energy per square metre per year.

The African continent loses **2% to 3%** of its GDP due to the lack of reliable energy sources.

technologies and eventually ensuring food security. The rate of expansion of agriculture into new areas will be reduced as productivity increases per unit area thus reducing the rates of deforestation and greenhouse gas emissions.

For more than 20 years Africa has been dubbed the “hungry continent”, with the Horn of Africa facing severe droughts for the past 60 years, affecting more than 13 million people. It is evident that the transformation of Africa would be contingent on a stable agricultural base and an industrial agricultural pathway.

Africa's rapid urbanization could rest on a stronger foundation if smallholder farmers could maximize their growth potential



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and use agricultural trade as an opportunity to feed the markets. Africa's fast-growing population, set to reach 2 billion by 2050, means that agricultural yields have to significantly grow. Current productivity, at an average of 1.5 tonnes per hectare, is the lowest in the world.

Exploring the frontiers between energy and agriculture will be an important contribution towards transformation since energy access is not only a problem in itself, but also an obstacle in addressing the food crisis on the continent.

The transition to renewable energy development needs to take into account problems related to limited finance, inappropriate technologies, limited human skills and dysfunctional policies. The question is not whether Africa can adopt such a pathway; the question is whether Africa is ready.

Most existing energy policies in numerous countries suggest that the current policies are unable to accelerate the development of renewable energy resources. There is a need for countries to establish investor-friendly policies, which would provide a level playing field for potential investors. For example, this would mean phasing out subsidies to fossil fuels and addressing perceived risks and sustainability of investments. In addition, the rationalization of electricity tariffs towards phasing out fossil fuel subsidies and introducing peak-load pricing would assist in accelerating the exploitation of renewable energy resources.

Africa's path towards industrialization offers the world a unique possibility to re-look at value chains with climate change in mind. Industrial production closer to where the commodities are reduces CO2 emissions. Starting new industries allows for cleaner technological platforms. Inclusive policies reduce poverty and promote better consumption patterns. Renewable energy promotes green options. All of the above are in Africa's favour if and when the opportunities are seized. ▲

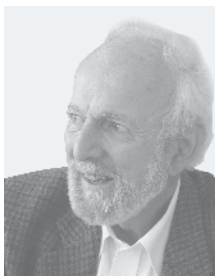
Ashok Khosla Ernst Ulrich von Weizsäcker: Sustaining our resources – by choice or by chance?

*The world ignores the warning of
science at its peril.*



Ashok Khosla

*Co-chair, International
Resource Panel*



**Ernst Ulrich von
Weizsäcker**

*Co-chair, International
Resource Panel*

Once again, alas, the time is out of joint. Severely out of joint. Worse, this is no longer just an insight of a great bard regarding the political situation of a small medieval kingdom. It is a millennial, global reality confirmed by a wide range of evidence from whole armies of the world's best scientists.

Prince Hamlet's indecision led to the destruction of a royal family. If today's leaders do not heed the warnings of science, civilization – even life on Earth – could be at stake.

The planetary sickness confronting us today results from the massive imbalance between the rapidly growing pressures and demands of our economies and the ability of our fragile and finite resource base to satisfy these. On virtually every front, the symptoms are clear – and many represent societal and economic diseases that are a direct threat to our life-support systems.

The spectacular improvements in our lives over the past two hundred years have not come without cost. Close to one half of humanity lives outside the mainstream economy. Few

societies today have escaped the widespread scourges of growing pollution; waste accumulation; rapid, dysfunctional urbanization; social alienation; drugs; terrorist threats and general insecurity. Dozens of species become extinct each day and our actions may well lead within a human lifetime to a deadly change in the global climate.

There is growing evidence that the production systems and consumption patterns of our economies cannot be sustained for much longer. Rampant unemployment with accelerating inflation; rising costs and growing scarcity of basic needs such as energy, water and materials; declining crops; wildly fluctuating food prices and widespread hunger – these are the flip sides of many “successful” economies today, no less in many industrialized countries of the North than in the low-income nations in the South.

Among all these global issues, the sustainable management of natural resources is now widely recognized as being among those needing the highest and most urgent attention. Given our very limited resource endowment, the global economy can only flourish and continue to bring benefits to everyone on the planet, now and in the future, if we substantially change the way we consume our resources and manage our wastes, choose our technologies and production systems, design our institutions and relate to nature.

While societies, quite rightly, pursue policies and actions to improve the lives and well-being of their citizens, they will have to adopt approaches that “decouple” the rate at which we use environmental resources from the rate at which we improve human well-being. In doing so, they will also have to give full attention to the issues of growing depletion and scarcity, equitable access, security of availability, environmental impacts, technologies for recycling and reuse, opportunities for substitution and others, which can ensure the sustainability of the resource for use by future generations.

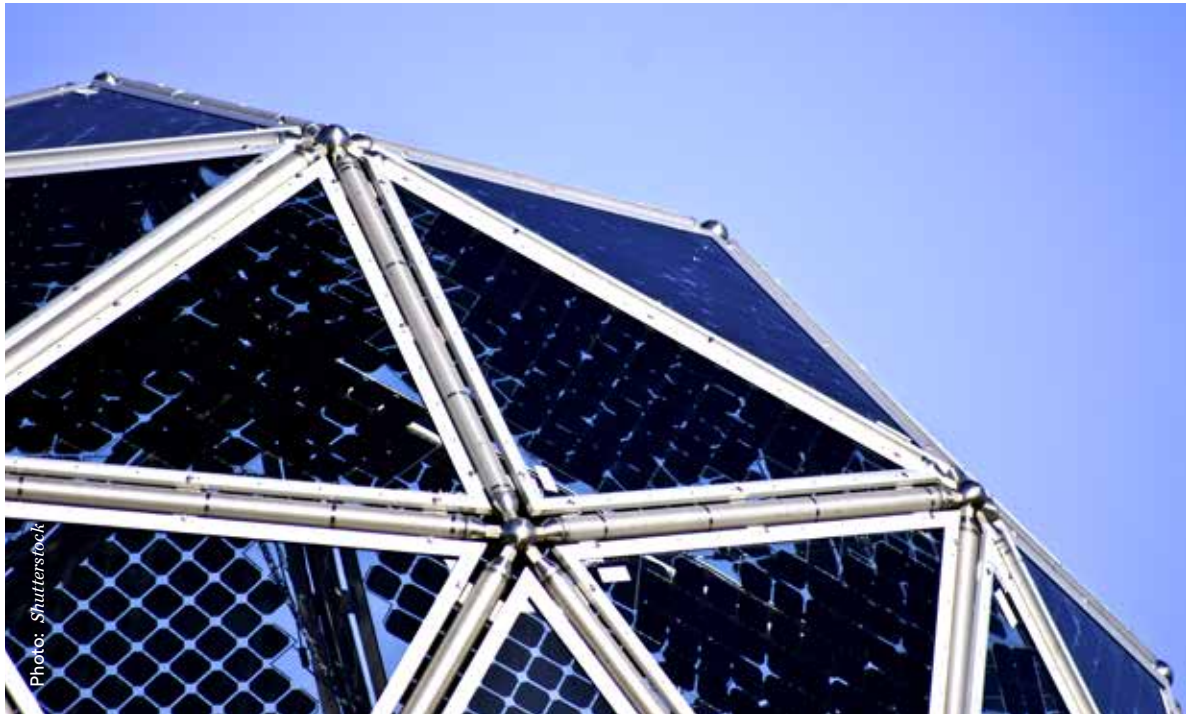


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Can we design a future that works for everyone?

Cutting down on today's profligate consumption of material products and thus reducing the need for natural resources in day-to-day life should now certainly be the highest priority of all – for decision makers and the public. This does not mean that we have to go back to the Stone Age. An average Swiss citizen is emitting three times less CO₂ and using substantially lower quantities of material than an average American, and yet Switzerland's GDP per capita and quality of life is no less than that of the US.

There is, however, a universal tendency to resist change in lifestyles, so other options are even more urgently needed: reducing the waste in our production systems – in industry, in agriculture, in transport and in energy delivery – options that are not substitutes for reducing what consumers use but complement it.

Systemic failures, such as sudden changes in climate, accelerated loss of biodiversity and rapid growth of poverty and population can only be solved by systemic solutions that address the deeper, underlying causes of these failures. Only thus can they be solved together; where possible, to get maximum all-round benefits at least cost; when necessary, to minimize the likelihood of ameliorating one while worsening the others. And as many of them are global, they often need a response at the international level.

Over the four decades that have elapsed since the United Nations Conference on the Human Environment took place in Stockholm in 1972, numerous global summits and major conferences have taken place, each trying to find technical, financial and political solutions to such issues as new ones seem to mushroom out on the international community year by year. It is to the credit of national governments that they

have made some attempt to address these issues in successive negotiating processes. However, the lack of success, overall, suggests that there is a need for rethinking and redesigning these processes to deal with the complexity of the problems and to design effective solutions to these.

The key lies in gathering the highest-quality scientific knowledge and applying it at the policy and action level. An effective mechanism for achieving this is to establish platforms for scientists, governments, business and civil society to work closely together in identifying emerging issues and designing widely acceptable, policy-relevant responses. The International Panel on Climate Change and the Intergovernmental Platform for Biodiversity and Ecosystem Services are two such platforms.

It is in this context that the International Resource Panel (IRP) was set up in 2007 by the United Nations Environment Programme. Its mandate is to evolve a deeper understanding of the role played by natural resources in the economy and to find ways to decouple the growth in their use from rising economic prosperity. The IRP is unusual in that it not only identifies emerging problems and analyses these but also tries to propose sustainable solutions to them. The panel itself consists of some 35 experts on resource issues. It is guided by a steering committee comprising representatives of governments, international agencies and global civil society and serviced by a secretariat provided by UNEP. For each topic selected by the panel and steering committee, a working group that includes non-panel members is set up to prepare an in-depth report, which is then subjected to a rigorous peer-review process and published widely.

The topics covered by the panel so far include decoupling, biofuels, metals, environmental impacts of products, cities, water, land and soils. The pipeline of reports to be issued in the coming year includes the resource issues in greenhouse gas mitigation technologies, REDD+, environmental impacts embodied in trade, and food systems. ▲



Making trash a home

Gregory uses what he collects to build small, one-room shelters for the homeless.

Artist Gregory Kloehn trawls through illegally dumped trash, but not for the reason that most people would think. He isn't homeless. In fact, he is trying to help the homeless of Oakland, California and develop his craft at the same time. Instead of building sculptures that he would sell to rich people, he decided to focus his efforts on helping house the homeless population in California.

He uses what he collects to build small, one-room shelters for the homeless. The "little homeless homes" are about the size of a sofa. Each of the homes is built with a pitched roof, so rain will run right off of them. They also have wheels – so their owners will be able to wheel them around if they need to. He's thought about starting classes, teaching others how to make them. "A lot of people who hear about what I'm doing want to get involved," he said. "Maybe we meet someplace and put a couple homes together."



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UNEP

Goodwill

Ambassadors

Committed environmentalists play an important role in highlighting global issues and campaigns.



**Li
Bingbing**

China

Li Bingbing, one of China's most popular actresses, is well known for her achievements both on and off the screen. Throughout her life, Li has been involved in charitable efforts where she can "practice what she preaches" and promote the need to lead a responsible life. Although Li's philanthropic efforts have included various causes, activities and beneficiaries over the years, she focuses on

carbon emissions reduction and environmental protection.

On account of her widespread fame, Li's calls to action have received tremendous support from the public. She has demonstrated personal environmental commitment through her L.O.V.E Green movement, which promotes an environmentally friendly, low-carbon lifestyle among her fans in China.

In addition to her own personal efforts, Li has partnered with numerous corporations to create change and make a positive environmental impact in China. She recently worked with Shenzhen Development Bank to promote a new line of environmentally friendly credit cards. She worked with Timberland Co. to unveil the "Green Great Wall", which aims

to plant at least two million trees in Northern China over a 10-year period. In 2008, she secured corporate donations and raised nearly \$3 million for those in the earthquake-stricken areas of the Sichuan Province. A graduate of the Shanghai Drama Institute, Li Bingbing made her film debut in 1999 with the movie, *Seventeen Years*. In 2005, she starred in the romantic comedy film *Waiting Alone*, which received three Chinese Academy Award nominations, including Best Picture and Best Actress.

Last year, she visited Kenya to highlight the threat to elephants posed by a surge in ivory poaching and is at the head of efforts in her country to stem the demand. "It may surprise people to learn that one elephant is killed every 15 minutes for its ivory," she says.



**Gisele
Bündchen**

Brazil

Gisele Bündchen, among the world's top supermodels, is recognized for her long-standing and passionate commitment to the environment. During her unprecedented modelling career, Gisele has been the face of countless global campaigns including: Apple Inc., Christian Dior, Dolce & Gabbana, Louis Vuitton, Nivea, Givenchy, Versace, Victoria's Secret and Ralph Lauren. She is one of the most well-known models in the world, having

appeared multiple times on covers and in editorials of many magazines. With a truly global reach, Gisele uses her fame to bring awareness about protecting the planet to people across continents and from all walks of life.

While growing up in Brazil, Gisele witnessed the beauty of nature, as well as the destruction of forests and its affect on the surrounding communities. Her involvement with socio-environmental causes began years ago when she spent time with an Indian tribe on the Xingu River in the Amazon Rainforest. During her visit, Gisele witnessed the problems faced by the tribe due to water pollution and deforestation.

From fashion to fanfare, Gisele finds a way to share her environmental passion in various aspects of her life. Aside from having designed a footwear line to raise awareness, she had a

"green" blog with the aim of "reflecting on socio-environmental issues that we can do something about". Gisele had also launched a cartoon called "Gisele and the Green Team" to inspire girls to be environmentally responsible. In May 2009, she hit the red carpet to co-host the Rainforest Alliance's annual gala to honour leaders in sustainability and in 2014 she became a board member of the institution.

Gisele was designated a goodwill ambassador for the United Nations Environment Programme in 2009 and since then she has been helping the UN to call attention to environmental issues. In her role as a goodwill ambassador, she has been the face of a number of UN campaigns, and undertaken field missions in Brazil and Kenya.



Don Cheadle

USA

Don Cheadle, an award-winning American actor, rose to prominence in the late 1990s and the early 2000s for his supporting roles in the Steven Soderbergh-directed films *Out of Sight*, *Traffic*, and global blockbuster, *Ocean's Eleven*. In 2004, his lead role as Rwandan hotel

manager Paul Rusesabagina in the genocide drama film *Hotel Rwanda* earned him an Academy Award nomination for Best Actor. He also starred in, and was one of the producers of *Crash*, which won the 2005 Academy Award for Best Picture.

Don was appointed a goodwill ambassador for the United Nations Environment Programme (UNEP) on 5 June 2010, World Environment Day (WED). The designation was announced in Volcanoes National Park in Rwanda during the global WED 2010 celebrations, where he took part in the traditional Kwita Izina gorilla-naming ceremony. The renowned actor's trip to Rwanda was especially meaningful given

his ties to the country through his role in *Hotel Rwanda*.

He said, "I would love it if we were able to live in a world that is in harmony with its environment. But it is money over people, money over environment, money over everything. We need to educate people on the environment and draw clear connections now – it is not disparate pieces, it really is a chain of life. We have to connect the dots."

To take individual action where he can, Cheadle owns a solar home, uses filtered versus bottled water and drives a hybrid automobile.



Ian Somerhalder

USA

Ian Somerhalder is an actor and environmentalist best known for his work in the Warner Brothers international hit TV Series *The Vampire Diaries* and the ABC critically acclaimed drama *Lost*. Ian has been supporting environmental causes for many years and, in 2010, launched the Ian Somerhalder Foundation.

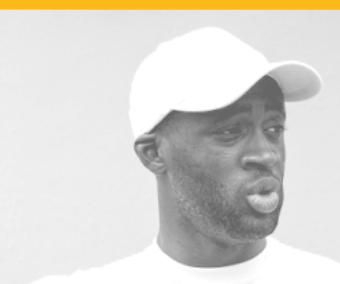
Growing up in rural Louisiana, Ian was steeped in the magnificence of nature. So when the oil from the Deepwater Horizon spill came ashore in 2010, Ian – the son of a building contractor and massage therapist in the small town of Covington, which lies close to coastal wetlands and marshes – was affected particularly strongly.

"What I assimilated through that experience stays with me every single day," he told *Our Planet*. "I remember my feet planted into the ground as I surveyed the earth around me witnessing the unthinkable devastation caused by the spill, when it hit me: I was overcome with vulnerability. Everywhere around me echoed a sense of helplessness – from the creatures suffocating to the families drowning in debt and looking into their

future with despair. I knew right then that I never wanted to feel this sense of absolute vulnerability again."

The Ian Somerhalder Foundation makes up a large part of Ian's philanthropic work, distributing funds and resources towards global environmental conservation, green energy development, deployment and educational tools. It also aims to create awareness about deforestation and supports efforts to end animal cruelty.

Ian's most recent environmental project is the ground-breaking climate change documentary series, *Years of Living Dangerously*, produced by Titanic director, James Cameron. The series sends Ian and other celebrity correspondents to report on real-life stories of climate change from around the world.



Yaya Touré

Côte d'Ivoire

Gnégnéri Yaya Touré, commonly known as Yaya Touré, is an Ivorian international football star who plays as a midfielder for Premier English League club, Manchester City, and the Côte d'Ivoire national team, The Elephants.

Touré is renowned for combining great vision, passing ability and power with technique. He began his playing career at Ivorian club ASEC Mimosas (Côte d'Ivoire), where he made his

debut aged 18. He was voted African Footballer of the Year for 2011 and 2012.

When he is not in the field, Touré has an interest in social and environmental activities. He is supporting several youth associations and is involved in the protection of the forest in his country of origin.

"I became a UNEP goodwill ambassador to spread the message that poaching – and other forms of wildlife crime – is not only a betrayal of our responsibility to safeguard threatened species, but a serious threat to the security, political stability, economy, natural resources and cultural heritage of many countries," he said.

In 2007, Touré moved to Barcelona, playing over 100 matches for the club, and was part of the historic 2009 Barcelona team that won six

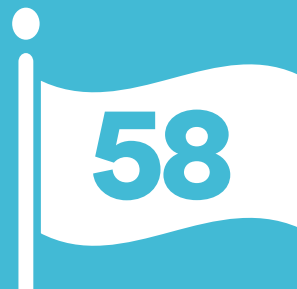
trophies, including the Champions' League, in one calendar year. Touré then moved to Manchester City in 2010.

Touré has a distinguished international career with 74 caps for Côte d'Ivoire, representing the team in their first appearance in a FIFA World Cup in the 2006 competition, and in 2010. His key strengths are his passing and shooting ability. He is known for immense physical presence, which is often combined with lung-bursting runs from midfield, and has consequently been referred to as a "human train" and a "colossus" by various pundits.

How **UNEA** differs from the **Governing Council/Global Ministerial Environment Forum**



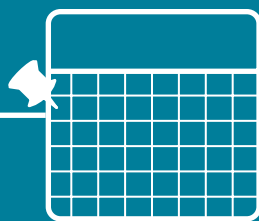
All **193** countries of the UN plus other interested countries and organizations form **UNEA**



58 UN countries formed the **Governing Council**



UNEA meets every **second year**



The **Governing Council** met **every year**

Decisions are taken about UNEA's policies by ministers at the end of every **UNEA meeting**



Ministers met during the **Governing Council** annual meetings



The **UNEA Bureau** comprises **10 members**, two from each UN geographic region

x2
more members



The **Governing Council Bureau** comprised **5 members**

Participants should have more say in the environmental policies and decisions that UNEA takes than they did with the Governing Council

Additional annual meetings

Representatives of governments will meet with UNEP to review UNEP's progress and plans before giving them to UNEA for approval

Purpose of the two-day meeting for ministers

In addition to ministers' responsibilities in the Governing Council meetings, the UNEA meetings allow them to:

1. Provide policy guidance and responses to new environmental issues.
2. Set the global environmental agenda.
3. Look at how to improve policies through discussion and exchange of ideas.
4. Organise discussions on environmental issues between concerned groups.
5. Assist partnerships to develop that will help to achieve environmental goals.