



Comparative
Analysis of Green
Public Procurement
and Ecolabelling
Programmes in
China, Japan,
Thailand and the
Republic of Korea:
*Lessons Learned
and Common
Success Factors*



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EXECUTIVE SUMMARY

This report compares Green Public Procurement (GPP) programmes from four leading Asian countries (China, Japan, Korea and Thailand) to understand what are the frameworks and key success factors that result in high impact green and sustainable procurement. This reports looks at their commonalities and differences with a goal to inform more effective implementation of green procurement policies and programmes across Asia. China, Japan, Korea and Thailand were selected as illustrative Asian examples because each country has made great efforts to institutionalize green public procurement through legislation, ecolabelling programmes, setting priority green public procurement products, and delivering green public procurement promotion and incentive programmes.

This comparative study of green public procurement frameworks and programming should help multiple stakeholders who are involved in planning, designing and implementing sustainable consumption and production strategies. First, it will be beneficial for other countries in the region, that may be in the early stages of promoting and implementing green public procurement. Second, it will give practitioners insights into the tools and approaches used to implement and promote green public procurement. It also presents several success factors that underpin strong green public procurement programming. All four countries have found ways to overcome programme challenges by focusing on building a strong infrastructure of policy, tools and capacity building. These are key lessons that should inform new green public procurement planning.

This comparative analysis was performed as an initiative of the **Asia Pacific Green Public Procurement and Ecolabelling (GPPEL) Network**, under the United Nations Environment Programme's (UN Environment) project, "Strengthening the capacities and improving the knowledge on green public procurement and ecolabelling in the ASEAN+3 region." This project is funded by the **Korea Environmental Industry and Technology Institute (KEITI)** and the **China Ministry of Environmental Protection** and aims to develop the network of green public procurement stakeholders in Asia-Pacific.

ABOUT THIS REPORT

This analysis is based on a review of the different elements of green public procurement programming in each country, including the legal framework governing procurement for environmentally preferred products, national ecolabelling programmes, guidelines and procedures, priority product categories, as well as green public procurement enforcement and monitoring practices. The report is comprised of four main sections and a series of appendices as outlined below:

Section 1 is an Executive Summary of significant findings and implications for the ongoing development of green public procurement programmes in the region.

Section 2 presents a short summary of the state of green public procurement in each of the four countries.

Section 3 presents the comparison of the green public procurement and ecolabelling practices for each country, and highlights common approaches or notable differences in how green public procurement is being managed.

Section 4 presents the key conclusions from the comparative study and implications for international stakeholders involved in developing green public procurement strategies, policies and implementation programmes.

Appendices A, B, C, and D present detailed information on the state of green public procurement and ecolabelling in China, Japan, Korea, and Thailand, respectively. For each country, the study covers:

1. Green public procurement and ecolabelling policies and legislations.
2. Tools and approaches used for the green public procurement (e.g. product criteria/labelling, training, etc.).
3. Results and impacts of green public procurement programmes.
4. Challenges and successes in the promotion and implementation of green public procurement.

Appendix E provides a table detailing in-depth comparative information for the four countries. It can be consulted to provide supporting details for the information presented in Section 3.

THE CONTEXT FOR GREEN PUBLIC PROCUREMENT (GPP) AND ECOLABELLING

Globally, and certainly in the Asia Pacific region, significant efforts are being made to implement sustainable public procurement (SPP).¹ Sustainable Public Procurement is one of the five programmes of the “**10-Year Framework of Programmes**” on Sustainable Consumption and Production (SCP). Green public procurement, whereby public agencies consider environmental risks and impacts alongside typical evaluation factors such as price, quality, and service, is usually the foundation of a sustainable public procurement programme. More and more national governments are seeing how green public procurement can build a “greener economy”, reduce risks, save money as well as deliver environmental and often other social benefits. Ecolabelling, in turn, can facilitate this process by providing a reliable and easy way to verify a product’s environmental performance and by stimulating the market for “green” products.

GREEN PUBLIC PROCUREMENT: KEY CONCEPTS AND CONTEXT

In most countries, the public sector is the largest overall purchaser of goods and services. Public spending accounts for an average of 12% of GDP in OECD countries and up to 30% in developing countries². Conscious efforts at “greening” procurement can significantly contribute to the development of markets for green products and services, as well directly support environmental goals such as natural resource conservation, packaging reduction, energy efficiency, greenhouse gas reductions, etc. Key environmental considerations in the Asia Pacific region include pollution reduction, improved energy and resource efficiency, and the reduction of waste and hazardous materials.³

Green public procurement increases the credibility of public procurement by demonstrating that decision-makers are considering all potential economic, social and environmental factors when determining best value. In other words, green public procurement supports better decision-making. Leadership by central governments is critical to encouraging industry and consumers to also shift to more sustainable patterns of consumption.

1 Sustainable public procurement is a “process whereby public organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst significantly reducing negative impacts on the environment.” It has become ever more important in current efforts to address climate change.

2 UN Environment DTIE (2012). The Impacts of Sustainable Procurement: Eight illustrative case studies. Retrieved from <http://www.unep.org/resourceefficiency/Portals/24147/scp/procurement/docsres/ProjectInfo/StudyonImpactsofSPP.pdf>

3 Low Carbon Green Growth Roadmap for Asia and the Pacific Retrieved from <http://www.unescap.org/sites/default/files/33.%20FS-Green-Public-Procurement.pdf>

Green public procurement is a subset of sustainable public procurement and these terms are sometimes used interchangeably. The countries profiled herein have focused their sustainable public procurement work mainly on environmental aspects, so this report typically refers to green public procurement programming and activities.

ECOLABELS

As per the working definition promoted by the Global Ecolabelling Network,⁴ “Ecolabelling” is a voluntary method of environmental performance certification and disclosure. Ecolabels identify products and services that are more environmentally preferable than their traditional alternatives”⁵.

In EU countries and Asia, ecolabels provide a convenient reference for products that offer various environmental features and benefits, as such they are an important green public procurement implementation tool. Each of the green public procurement programmes profiled in this report, uses ecolabels to help purchasers identify and select products with lower environmental impacts.

OVERVIEW OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA, JAPAN, KOREA AND THAILAND

In Japan, the Republic of Korea, and Thailand there are specific laws regarding the promotion of Green Public Procurement. While China does not have a single umbrella legislation for green public procurement, various ministries and agencies have enacted regulations for the promotion of environmental labelling and energy conservation.

All four countries have legislation for ecolabelling. Japan, through its Ministry of Environment, was the first country in Asia to develop a framework for ecolabelling guidelines. The framework provides appropriate and easily recognizable environmental information for ecolabelling. The other countries have also followed with their own ecolabelling programmes.

All the ecolabels frameworks are voluntary and focus on Type I environmental labelling, which, as per the definition given by the International Standards Organization (ISO)⁶, means that certification is based upon independent third-party certification that environmental performance standards are being met. In all four countries, ecolabelling criteria consider the general overall life cycle of a product. Ecolabels provide a fair and transparent basis for setting green product criteria within public procurement bids and as a means of verification for compliance with the criteria. Accordingly, they are an extremely important tool for enabling green public procurement. This study found that green public procurement and ecolabelling programmes are delivering tangible positive impacts in each of the four countries and are a key mechanism to reduce environmental impacts, especially CO₂ emissions.

CHALLENGES FOR GREEN PUBLIC PROCUREMENT IN CHINA, JAPAN, KOREA AND THAILAND

Green public procurement programming is well developed in each of the four countries, but in all cases stakeholders are working to continuously improve their programmes and deepen the impact (and benefits) that can be realized through strong and effective green public procurement. Understanding the challenges facing those working on programme implementation, and particularly the mechanisms to overcome those challenges, will provide helpful insights into how to develop implementation strategies that will achieve stronger impacts. The most frequently cited challenges associated with green public procurement include:

4 **The Global Ecolabelling Network (GEN)** is a non-profit association of leading ecolabelling organizations worldwide. GEN was founded in 1994 to help protect the environment by improving, promoting, and developing the ecolabelling of green products and sustainable services.

5 The Global Ecolabelling Network. Ecolabelling Around the World. Retrieved from http://www.abnt.org.br/rotulo/pt/pdfs/GEN_Rio_presentation.pdf

6 ISO (2012). Environmental labels and declarations: How ISO standards help. Retrieved from <http://www.iso.org/iso/environmental-labelling.pdf>

- **Higher costs:** Price differences for green products were often cited as a significant barrier; particularly when lowest price or ‘cheapest costs’ is the primary determinant of a successful bid.
- **Lack of staff awareness on green public procurement:** Many public-sector staff lack the technical knowledge or confidence to effectively carry out green public procurement directives; although training can address the issue, it can be challenging when there are high turnover rates within procurement staff.
- **Decentralized and fragmented public procurement:** procurement is often decentralized or fragmented, and green public procurement directives are often applied inconsistently by internal client departments or business units (e.g. green public procurement often only applies to particular expenditure categories, or is optional altogether).
- **Lack of availability of sustainable or environmentally preferable products in the marketplace:** some countries reported limited options (especially local options) when it came to purchasing more environmentally preferable products.
- **Lack of adequate monitoring and evaluation systems:** countries find it challenging to enforce accountability and track impacts due to a lack of systems for monitoring and evaluating progress, and a lack of clearly established goals against which to track progress.

COMMON SUCCESS FACTORS FOR HIGH IMPACT GREEN PUBLIC PROCUREMENT AND ECOLABELLING PROGRAMMES

All four countries have found ways to address programme challenges by focusing on building a strong infrastructure of policy, tools and capacity building. Several common success factors have been identified based on their experiences. These are presented briefly below:

1. **Strong central government support drives performance:** In all four countries, there is strong central government support and/or legislation for green public procurement. Strong implementation support (e.g. policy, resourcing) at the central governmental level is critical for green public procurement and ecolabelling programmes to have measurable impact.
2. **Ecolabelling schemes simplify the green public procurement process for staff:** Ecolabelling programmes were usually established before the widespread uptake of green public procurement programmes. In each case, ecolabelling programmes were used as a technical basis for developing the product criteria applicable to priority product categories. This reduces the cost of redeveloping green public procurement criteria across procurement agencies and makes it more efficient to implement a green public procurement programme. It also sets a consistent standard for product performance in the marketplace.
3. **Green public procurement guidelines and procedures clarify expectations for staff:** In all four programmes, the main implementing agency for green public procurement has developed guidelines and procedures to facilitate the implementation of green public procurement. This helps clarify for staff when to apply green public procurement principles, ecolabels or other tools within the procurement process.
4. **Build capacity within procurement staff:** In all four countries, the implementing agency provides training for procurement staff to help them better understand the green procurement process.. The delivery of training helps staff to become more knowledgeable about how to use green public procurement tools and to follow guidelines or procedures. It also builds their confidence in promoting green public procurement with other internal procurement stakeholders.
5. **Monitoring systems improve social and environmental impacts:** Ultimately, green public procurement is about shifting the marketplace to promote green products and support more sustainable lifestyles. Measurements and targets need to be established to ensure material progress is being made year over year. Although monitoring and evaluation continues to be a challenge, as some eco-efficiencies can be difficult to measure (e.g. the reduction in resourcing

from reduced packaging, or the financial savings from less toxic products), all four countries have developed some basic systems to track green public procurement progress.

- 6. Communication and promotion is critical:** Procurement agencies, suppliers and consumers all need to show buy-in for more environmentally friendly products. Their potential concerns about cost and performance can be addressed through targeted promotion and communication activities that help build the business case for green public procurement and ecolabelled products. In Japan and Korea 'green' product or 'eco' product exhibitions are held, which serve as a forum to showcase more sustainable products and raise awareness about green products among public procurers as well as consumers.



1.0 REGIONAL STATUS OF GREEN PUBLIC PROCUREMENT PROGRAMMING

1.1 OVERVIEW OF THE GREEN PUBLIC PROCUREMENT AND ECOLABELLING CONTEXT IN CHINA

Since 2002, the Chinese government has enacted several policies and regulations to facilitate the promotion and implementation of green public procurement. Green public procurement in China is led at the national level by the National Development and Reform Commission (NDRC) and Ministry of Environmental Protection (MEP), with market coordination and financing support from the Ministry of Commerce (MOC) and Ministry of Finance (MOF).

In the Chinese context, green public procurement is primarily implemented using a framework provided by ecolabels and energy labels. Two lists, namely the Energy Conservation Products List (ECP) and Environmental Labelling Products List (ELP) currently play an important role in the green public procurement process and create a bridge between the government as the purchaser, and businesses in their role as suppliers. The use of these product lists has greatly facilitated green public procurement implementation. Going forward, the Chinese government plans to expand its green public procurement programme to more local government bodies. China is also continuing to develop its monitoring and evaluation framework for green public procurement.

1.2 OVERVIEW OF THE GREEN PUBLIC PROCUREMENT AND ECOLABELLING CONTEXT IN JAPAN

Japan is the pioneer in Asia in developing a well-established framework for green public procurement. Policies and regulations for the promotion and implementation of green public procurement have been developed and enacted in Japan since 1989. The Ministry of the Environment (MOE) is the main government agency managing green public procurement. The Green Purchasing Network (GPN), a non-profit organization with 2,400 member organizations from businesses, local governments, and NGOs, is another agency supporting the government with the implementation and promotion of green public procurement, particularly in the areas of training and awareness-raising.

Under the “*Act on Promoting Green Purchasing*”, green public procurement is mandatory for government agencies across a wide array of product categories. Public procurement in Japan is undertaken in a decentralised way by each Ministry or Department, so there is no national procurement agency designated to manage green public procurement implementation. A monitoring system has been developed for green public procurement, and is carried out by the Ministry of Environment (MOE).

1.3 OVERVIEW OF THE GREEN PUBLIC PROCUREMENT CONTEXT IN THE REPUBLIC OF KOREA

Since the 1990s, Sustainable Consumption and Production (SCP) policies have been introduced in the Republic of Korea to support sustainable and resource-efficient production practices. Sustainable consumption and production activities have typically had a focus on the creation of new markets for green products and services.

As part of the sustainable consumption and production programming, green public procurement has been introduced and implemented at the national level with a wide range of supports (e.g. policies, tools and procedures). To achieve successful implementation of green public procurement, the Ministry of Environment, in collaboration with the Korea Environmental Industry and Technology Institute (KEITI) and the Korean Public Procurement Services (PPS), introduced several initiatives. The most prominent include the development of green public procurement guidelines based on ecolabelling criteria, the establishment of a “Green Products Information Platform” (GPIP) for purchasers, and a nation-wide online monitoring system that has helped guide successful implementation.

1.4 OVERVIEW OF THE GREEN PUBLIC PROCUREMENT CONTEXT IN THAILAND

Since 2005, the Royal Thai Government has adopted strategies, plans and policies to direct Thailand’s development towards sustainability. In 2005, the Pollution Control Department (PCD) within the Ministry of Natural Resources and Environment (MNRE) introduced green public procurement in Thailand.

Two Green Procurement Promotion Plans have been developed since 2008 for the promotion and implementation of green public procurement. The main objective of the Green Procurement Promotion Plan of 2008-2011 was to increase government spending on environmentally preferable products and services. In the 2nd Green Public Procurement Promotion Plan (2013-2016) the target groups were expanded to local authorities, private-sector businesses, and the general public.

The Pollution Control Department has initiated the implementation of green public procurement in the public sector and has carried out several activities under the plan, including training workshops and seminars for procurement staff and the implementation of a voluntary monitoring system to assess the progress towards policy targets for green public procurement. Thailand has very well-developed targets and metrics related to its Green Public Procurement Promotion Plan in terms of training workshops and other critical elements of green public procurement programming.



2.0 COMPARATIVE ANALYSIS OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA, JAPAN, REPUBLIC OF KOREA AND THAILAND

The development of green public procurement and ecolabelling programming in China, Japan, Republic of Korea and Thailand (collectively termed, the “four countries”) has been influenced by the specific contextual differences in each country. However, there are notable similarities between the key mechanisms that are allowing green public procurement to be effectively implemented.

This comparative analysis covers various aspects of green public procurement and ecolabelling implementation, including: the legal framework in which green public procurement and ecolabels are proceeding, whether the green public procurement programmes are mandatory or voluntary, the product categories that are included, green public procurement criteria used in procurement and their links with ecolabelling programmes, implementation and monitoring mechanisms, results, challenges, and opportunities for continuous improvement and collaboration.

2.1 LEGAL FRAMEWORK

2.1.1 GREEN PUBLIC PROCUREMENT LEGISLATION

In Japan, the Republic of Korea, and Thailand, there are specific laws regarding the promotion of green public procurement. China does not have national legislation specifically for green public procurement. The relevant laws in each of the four countries are summarized below:

- **JAPAN:** In 2001, the “Green Purchasing Law” came into force, enacted by the central government of Japan. In 2007 the “Green Contract Law” was introduced with a focus on greenhouse gas emissions by the government of Japan.
- **REPUBLIC OF KOREA:** In 2005, the “Act on Promotion of Purchase of Green Products” was enacted by the Ministry of Environment.
- **THAILAND:** In 2008, the 1st “Green Public Procurement Promotion Plan” for the Central Government was approved by Cabinet Resolution. In 2012, the 2nd “Green Public Procurement Promotion Plan” (2013-2016) was drafted to expand the scope of green public procurement from central to local authority, private sector and general public.

2.1.2 ECOLABELLING LEGISLATION

Three of the four countries have formal legislation for ecolabelling. Japan, through its Ministry of Environment, was the first country in Asia to develop a framework for ecolabelling guidelines. The framework provides appropriate and easily recognizable environmental information for ecolabelling. Korea and China have also followed with their own ecolabelling programmes. The evolution of these programmes is outlined below:

- **Japan:** green public procurement activities started with the creation of the “Eco Mark” ecolabelling scheme in collaboration with the government (Environment Agency) in 1989. In 2001, the “Act on Promotion of Procurement of Eco-Friendly Goods and Services” was passed by the government of Japan. In 2008, the Ministry of Environment developed a new and updated framework for ecolabelling guidelines.
- **Republic of Korea:** In 1995, established the legal basis for the operationalization of ecolabelling through the Development of Support for Environmental Technology Act, which was amended and replaced by the Support for Environmental Technology and Environmental Industry Act in 2011.
- **China:** In 2006, “Recommendations on the Implementation of Environmental Labelling in Government Procurement” jointly issued by the Ministry of Finance (MOF) and the Ministry of Environmental Protection (MEP). Additionally, in China different state ministries and agencies have enacted regulations for the promotion of environmental labelling and energy conservation such as:
 - The 2004 Ministerial Regulation for the Implementation of Government Procurement for Energy Conservation Products (ECPs) by the Ministry of Finance (MOF) and the National Development Resource Center (NDRC);
 - The 2006 Ministerial Regulation of Government Procurement for Environmental Labelled Products (ELPs) by the Ministry of Finance (MOF) and the Ministry of Environment (MEP);
 - The 2007 Regulation on Compulsory Government Procurement for Energy Conservation Products by the State Council.
- **Thailand:** Although Thailand does not have formal legislation for ecolabelling, its Environmental Quality Management Plan (EQMP), which includes a strategy of shifting towards environmental-friendly production and consumption, has ecolabelled products as one of the indicators of successful implementation.

2.1.3 GREEN PUBLIC PROCUREMENT IMPLEMENTATION STRUCTURE

In China, green public procurement follows a centralized top-down procurement structure. Central government institutions formulate the policy framework and the sub-central government entities carry out the government procurement. In Japan and Thailand, the green public procurement structure is decentralized. In Japan, as per the Green Purchasing Law, central and local governments are required to develop their own green public procurement policies and programmes.

The Republic of Korea has both centralized and decentralized procurement structures in which green public procurement activities are carried out. Korea has a unique system for public procurement called “Korea Online E-Procurement System” (KONEPS) through which most of the centralized direct purchases are made. KONEPS also operates an online shopping catalog of green products. The system provides comprehensive information on products, including applicable ecolabels and prices. Green procurement data from different procurement agencies is aggregated through the Green Product Information Platform (GPIP).

2.2 WHO LEADS THE GREEN PUBLIC PROCUREMENT IMPLEMENTATION?

Green public procurement activities in each country have typically been led by one of the central government ministries. In most cases, this is the Ministry of the Environment (MOE); however,

it might also include the Ministry of Finance (MOF) or another ministry with an environmental or financial mandate (see Table below). These ministries often have committees with responsibilities for the promotion and implementation of green public procurement.

Table 1: Government Stakeholders Leading Green Public Procurement Implementation

COUNTRY	MINISTRIES AND INSTITUTIONS LEADING GREEN PUBLIC PROCUREMENT IMPLEMENTATION
CHINA	Ministry of Environmental Protection (MEP) National Development and Reform Commission (NDRC), Ministry of Finance (MOF) and Ministry of Commerce (MOC)
JAPAN	Ministry of Environment (MOE)
REPUBLIC OF KOREA	Ministry of Environment (MOE) Korea Environmental Industry and Technology Institute (KEITI)
THAILAND	Ministry of Natural Resources and Environment (MNRE) Pollution Control Department (PCD)

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

2.2.1 GREEN PUBLIC PROCUREMENT POLICY TARGET GROUPS

Each country has its own unique audience towards which green public procurement policies and plans have been targeted. In Japan and the Republic of Korea, green public procurement is expected of both the public and private sectors. The target groups for green purchasing policies in these countries are the central and local governments, as well as the private sector and consumers.

In China, the target groups for the policy are central and local governments, and organizations and agencies using public funds. In Thailand, the 1st Action Plan on the Promotion of Green Purchasing directed the policy at central and local governments. In the 2nd Action Plan (still in draft) the private sector and consumers are also included as target groups.

2.3 MANDATORY VS. VOLUNTARY PROGRAMMES

Green public procurement is mandatory for all central government agencies in Japan and Korea. In China, it is mandatory within certain designated product categories. In the Republic of Korea, central and local governments and public organizations are obliged by the Act of 2005 to submit a green public procurement implementation plan for the year and the performance records for the previous year to the Ministry of Environment. Furthermore, as per the Act, state agencies are directed to purchase green products and services for which ecolabelling criteria exist.

In China, only the 9 designated products on the Energy Conservation Product (ECP) list are mandatory for procurement by central governments, while the procurement of designated products from the Environmental Labelling Products (ELP) list is voluntary. In Thailand, the law only encourages procurement of environmentally-friendly products; green public procurement is conducted on a voluntary basis by central government agencies.

Table 2: Mandatory vs Voluntary Green Public Procurement Programming

COUNTRY	GREEN PUBLIC PROCUREMENT MANDATORY	GREEN PUBLIC PROCUREMENT VOLUNTARY
CHINA	Purchase of energy-labelled products for the central government	Purchase of environmentally labelled products for the central and local government
JAPAN	For the central government	
REPUBLIC OF KOREA	Submission of implementation plan and performance records for the central government	
THAILAND		For the central government

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

2.4 GREEN PUBLIC PROCUREMENT GOALS AND TARGETS

One of the ways in which countries communicate the importance of green public procurement to public purchasers is to set measurable targets for the work. Targets for green public procurement come in various forms (e.g., increasing the number of bid solicitations that incorporate sustainability criteria, or the dollar value spent on sustainable products and services, or the reduction of specific environmental impacts, etc.). The four countries are at varying stages in their development of green public procurement targets.

No quantitative targets for green public procurement have been established at the national level by a central agency in China, Japan, or the Republic of Korea. However, in Japan and Republic of Korea, as per their respective green public procurement laws, each ministry and agency sets its own targets for green public procurement and reports the achievement to their Ministry of Environment every fiscal year.

In Thailand, even though green public procurement is carried out on a voluntary basis, the government has set specific targets for green public procurement, such as the increase in government spending on environmentally preferable products and services, and the total number of departments implementing green public procurement.

2.5 ECOLABELS

Ecolabelling schemes have been developed in each of the four countries to promote sustainable consumption and production and support green public procurement. All the ecolabels are Type I environmental labels⁷ and are voluntary. In each country's ecolabelling system, overall product life cycle impacts are considered when developing the product performance criteria.

⁷ For more information on Type I environmental labels refer to [ISO Standard 14024:1999 Environmental labels and declarations – Type I environmental labelling – Principles and procedures](#)

Table 3: Ecolabel Programmes

	ECOLABEL	LOGO
CHINA	China Environmental Labelling Scheme	
JAPAN	Eco Mark	
KOREA	Korea Ecolabel	
THAILAND	Thai Green Label Scheme	

Source: UN Environment Workshop Malaysia (Dec. 2015). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

In China and the Republic of Korea, there has been a significant increase in the number of product categories certifiable under the ecolabelling programs, as well as the number of products certified with ecolabels. China currently has the highest total number of ecolabelled products (see Figure 1).

Fig.1 China Environmental Labelling Scheme⁸

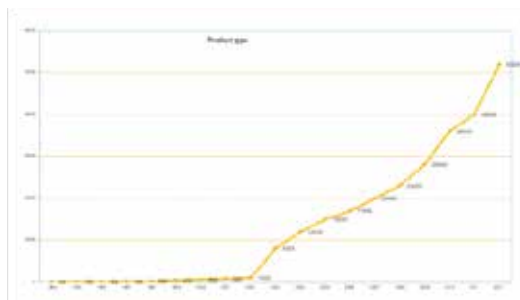
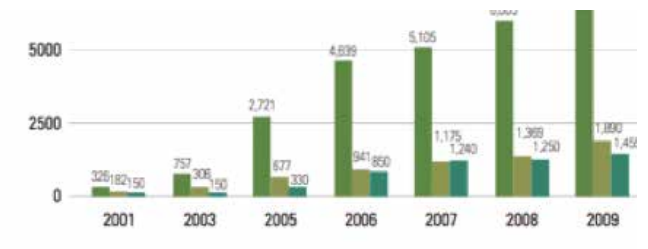


Fig 2. Korea Ecolabel Scheme



⁸ Environmental certification center of Ministry of Environmental Protection in China. Government public procurement and environmental labelling in China. Retrieved from; <http://www.ecomark.jp/pdf/China.pdf>

2.6 PRODUCT CATEGORIES AND CRITERIA FOR GREEN PUBLIC PROCUREMENT

2.6.1 PRODUCT CATEGORIES FOR GREEN PUBLIC PROCUREMENT

Each country has chosen specific product categories that are covered by their green public procurement programmes.

Table 4: Product or Service Categories within National Green Public Procurement Programmes

	CHINA	JAPAN	KOREA	THAILAND
TOTAL NUMBER	44	21	169	17
PRODUCT CATEGORIES COMMON TO THE FOUR COUNTRIES' GREEN PUBLIC PROCUREMENT PROGRAMMES				
OFFICE EQUIPMENT	✓	✓	✓	✓
PAPER	✓	✓	✓	✓
IT EQUIPMENT	✓	✓	✓	✓
HOUSEHOLD APPLIANCES	✓	✓	✓	✓
VEHICLES	✓	✓	✓	✓
FURNITURE	✓	✓	✓	✓
LIGHTING	✓	✓	✓	✓
EXAMPLES OF OTHER CATEGORIES COVERED BY GREEN PUBLIC PROCUREMENT PROGRAMMES				
CAFETERIA SERVICES		✓		
CLEANING SERVICES				✓
CONFERENCE SERVICES				✓
FIRE EXTINGUISHERS		✓		
HOTELS			✓	✓
PASSENGER TRANSPORTATION		✓		
RECYCLED PAPER			✓	
RECYCLED PLASTIC PRODUCTS			✓	
RECYCLED FIBER			✓	
SOFTWARE	✓			
UNIFORMS		✓		
WINDOWS	✓			

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

2.6.2 PRODUCT CRITERIA FOR GREEN PUBLIC PROCUREMENT

In all four countries, green public procurement product criteria are based on the environmental attributes of the products. However, in Thailand, economic aspects are also considered, and in China, social aspects (especially labor and safety), are considered in addition to environmental impacts.

Table 5: Types of Sustainability Considerations as part of Green Public Procurement Criteria

	Consideration of Environmental aspects for green public procurement criteria	Consideration of social aspects for green public procurement criteria	Consideration of economic aspects for green public procurement criteria
CHINA	✓	✓	✓
JAPAN	✓		
KOREA	✓		
THAILAND	✓	✓	✓

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

PRODUCT CRITERIA FOR GREEN PUBLIC PROCUREMENT AND LINKS TO ECOLABELLING

Ecolabelling schemes are used as a technical basis for green public procurement programmes in all four countries, thus avoiding the proverbial “reinvention of the wheel”. Ecolabels are certification schemes that have been introduced in each country and are now well established, and form a strong foundation on which each country is building its green public procurement programme. Linking green public procurement with ecolabelling schemes reduces the administrative and technical costs of developing detailed customized environmental specifications for each product category; as well as the responsibility for keeping them up to date.

In Japan, ecolabelling criteria are widely used as the basis for green public procurement,⁹ while in the Republic of Korea green public procurement product criteria are explicitly based on the ones set by the Korea Eco-label, the Recycled Mark and/or on compliance with other environmental criteria set by the Ministry of Environment for products such as refrigerators, LCD, digital cameras, etc.

9 Current Status and International Contribution of Green Public Procurement (GPP) and Ecolabels in Japan : Hideki Nakahara http://www.env.go.jp/policy/hozen/green/kokusai_platform/symposium/key01.pdf

Table 6: Product Criteria and Ecolabels

GPP CRITERIA	
CHINA	<ul style="list-style-type: none"> – Energy Conservation Label – Environmental Labelling Scheme
JAPAN	<ul style="list-style-type: none"> – Eco Mark
KOREA	<ul style="list-style-type: none"> – Korea Ecolabel – Recycled Mark – Other environmental criteria set by the Ministry of Environment
THAILAND	<ul style="list-style-type: none"> – Green Cart – Thai Green Label – Green Leaf

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

In China, green public procurement is based on the Energy Conservation List and Environmental Labelling Products List.

Thailand has developed a list of criteria for green public procurement products called “Green Cart”, which is based on the Thai Green Label (for products) and the Green Leaf (for hotels).

2.6.3 PRODUCT CRITERIA TOOLS FOR PROCUREMENT STAFF

In Japan, the Republic of Korea, and Thailand, green public procurement guidelines for purchasers are published on the websites of the respective implementing agencies. In Japan, the Green Purchasing Network (GPN), which is supported by the Ministry of Environment, publishes an online database of eco products and green public procurement guidelines on its website (<http://www.gpn.jp>), which is available to general consumers in addition to procurement officers.

Table 7: Online Channels for Green Public Procurement Tools, Guidelines and Resources

Country	Database of Green Public Procurement Products	Database of Ecolabelled Products	Green Public Procurement Guidelines
CHINA	<p>Ministry of Finance (MOF) at http://www.MOF.gov.cn</p> <p>Ministry of Environmental Protection (MEP) http://www.mep.gov.cn</p>	<p>Ministry of Environmental Protection (MEP) http://www.mep.gov.cn</p> <p>Centre of China Government Procurement http://www.ccg.gov.cn</p> <p>China Green Procurement Net www.cgpn.org</p>	
JAPAN	<p>Ministry of Environment (MOE) via GPN and Green Purchasing Network (GPN)</p>	<p>Eco Mark Eco-products database http://www.gpn.jp/econet/</p>	<p>Ministry of Environment (MOE) http://www.env.go.jp/en/laws/policy/green/3.pdf</p> <p>Green Purchasing Network (GPN) http://www.gpn.jp/guideline/index.html</p>
KOREA	<p>Korea Environmental Industry and Technology Institute (KEITI)</p>	<p>Korea Eco-label Korea Environmental Industry and Technology Institute (KEITI)</p>	<p>Korea Environmental Industry and Technology Institute (KEITI) http://gd.greenproduct.go.kr</p>
THAILAND	<p>Pollution Control Department (PCD)</p>	<p>Thailand Environment Institute (TEI)</p>	<p>Pollution Control Department (PCD) http://www.pcd.go.th/info_serv/envi_greenProduct.html</p>

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

2.7 GREEN PUBLIC PROCUREMENT TRAINING

2.7.1 CAPACITY BUILDING OF PROCUREMENT STAFF

In each country, the lead green public procurement implementing agency provides training for procurement staff to help them become more confident in applying green public procurement policies, new procedures and developing criteria that include environmental considerations. Green public procurement is creating new knowledge expectations for procurement staff. In Japan the Green Purchasing Network (GPN) provides additional training for purchasers. In Thailand, road shows and trainings are organized via provincial hubs for procurement staff.

Table 8: green public procurement Training Programmes

Country	Provision of training for procurement staff by the government	Government agency in charge of training for staff	NGOs or other organization providing staff training
CHINA	✓	Ministry of Finance (MOF)	
JAPAN	✓	Ministry of Environment (MOE)	Green Purchasing Network (GPN)
REPUBLIC OF KOREA	✓	Korea Environmental Industry and Technology Institute (KEITI) affiliated with Ministry of Environment	
THAILAND	✓	Pollution Control Department (PCD) within Ministry of Natural Resources and Environment (MNRE)	

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

2.8 INCENTIVES AND APPROACHES TO PROMOTE GREEN PUBLIC PROCUREMENT

Fiscal Incentives:

Green products sometimes come with a higher upfront cost, which represents a real fiscal challenge for governments, especially when budgeting or accounting practices make it difficult to apply a total cost of ownership model to determine long-term costs. None of the four countries have specific national policies that explicitly support paying a premium for green products instead of picking the lowest cost option.

China and the Republic of Korea offer fiscal incentives to public agencies for conducting green public procurement. In China, price subsidies are given to public offices or organizations for procuring green vehicles. While in the Republic of Korea, annual performance bonuses are awarded

to public institutions and local governments based on the extent to which they are practicing green public procurement. In Thailand, rewards are given to offices with good green public procurement performance and to manufacturers or service providers that consistently deliver green products or services.

Promoting Innovation in the marketplace through award programmes

In Japan, **Eco Products Awards** are given to suppliers to promote environmentally friendly products and services. In the Republic of Korea, the **Korea Eco-Business Awards** are given to organizations or individuals contributing to the development of eco-friendly consumption and production and to mitigating climate change.

Eco-Product Exhibitions

In Japan and the Republic of Korea, eco-product exhibitions are held featuring environmentally friendly products and technologies. These exhibitions also serve as a platform to raise awareness about sustainable consumption. In Thailand, the Green Cart exhibition is held to raise awareness about green public procurement among businesses and the public.

2.9 MONITORING MECHANISMS

In Japan, Republic of Korea, and Thailand, there are established monitoring systems for green public procurement, whereby all the agencies report their results back to the main implementing agency.. The results for each country are compiled and published by the implementing agencies on their respective websites.

Table 9: GPP Monitoring Systems

Country	Monitoring system	Electronic platform for monitoring and reportin	Institution/ Ministry in charge of monitoring and reporting
CHINA	✘	✘	✘
JAPAN	✔	✘	Ministry of Environment (MoE)
KOREA	✔	✔	Korea Environmental Industry & Technology Institute (KEITI)
THAILAND	✔	✔	Pollution Control Department (PCD)

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

In Thailand, the Pollution Control Department oversees a monitoring system for green public procurement and uses an electronic platform for managing green public procurement information. In the Republic of Korea, the Korea Environmental Industry and Technology Institute, which is affiliated with the Ministry of Environment, oversees the monitoring system for green public procurement. The tracking of green public procurement data is done through KONEPS, while the reporting is performed through the Green Procurement Information Platform (GPIP) linked to KONEPS. In China, a monitoring system for green public procurement is still under development.

2.10 GREEN PUBLIC PROCUREMENT RESULTS ACHIEVED

Agencies implementing green public procurement: At 70%, Japan has the highest percentage of agencies implementing policies for green public procurement, especially in cities and in 47 prefectures. In the Republic of Korea, as of 2012, there are 870 umbrella organizations comprising about 30,000 subsidiary organizations that are implementing green public procurement policies. In that same period in Thailand over 170 governmental agencies had implemented green public procurement.

National budgets for green public procurement implementation: For the fiscal year 2014, the Japanese government allocated a budget of 20 million yen (approximately \$160,00 USD) for the review and revision of the Basic Policy on Promoting Green Purchasing. In Thailand, the Republic of Korea, and China the government has not allocated a specific budget for green public procurement implementation. Instead, programme costs are embedded within other operating budgets.

National budgets for ecolabelling: In Japan, as of 2014, the budget allocated for the ecolabelling programme is 2,160,000 USD. The budget for the development of ecolabelling criteria is 510,000 USD.

In the Republic of Korea, the annual budget for the ecolabel programme is 6,000,000 USD. The budget allocated for the development of ecolabelling criteria is 1,600,000 USD.

In China, there is no national budget for the development of ecolabelling criteria; instead, the cost is covered by standards research organizations.

National expenditures on green products: In China, the Republic of Korea, and Thailand, the total expenditure on green products is measured (in Japan it is not measured). In Korea, the total public expenditure in green public procurement has increased from 254 billion KRW (254 million USD) in 2004 to 2.2 trillion KRW (2.2 billion USD) in 2014.

Table 10: Total Expenditure on Green Products

Country	(US Dollars; approximate figures)
CHINA	28 billion USD on products with environmental labelling 2014 17 billion USD on products with Energy Conservation labelling in 2012
KOREA	13 million USD
THAILAND	21 million USD
JAPAN	Current data not available

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

Number of ecolabelled products managed within green public procurement: Although Japan was the first country to establish a green public procurement programme, the Republic of Korea has the largest number of product categories for green public procurement, namely 169.

The total number of certified products for green public procurement is the largest in China with over 93,000 products within 44 product categories. The introduction of the green public procurement policy for products listed as Environmental Labelling Products and Energy Conservation Products has greatly influenced the green public procurement market, as evidenced by a significant increase in the number of companies manufacturing certifiable products. In the case of Japan, there are 270 products certified under 21 product categories for green public procurement.

Table 11: Product Categories and Certified Product Totals

	No. of product categories certified for green public procurement
CHINA	44
JAPAN	21
REPUBLIC OF KOREA	169
THAILAND	17

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

Scope of Ecolabelled Products: China has the highest number of certified ecolabelled products with over 200,000 products, a number that has been growing since the regulation for ecolabelled products was introduced in 2006. Due to the green public procurement policy for products with the China Environmental Labelling, all levels of state agencies, institutions and organizations are required to give priority to purchasing labelled products. Moreover, since environmental labelling is used as a technical specification in the procurement process, the demand for products with environmental labelling has increased, leading to an increase in the market size of environmentally friendly products.

The Republic of Korea has the highest number of product categories covered by ecolabels, at 156. The Act of 2005 has been instrumental in stimulating the development of ecolabelled products in both quantity and quality by leveraging the public demand. Moreover, the Korean Public Procurement Service (PPS) gives preference to products bearing the Korea Eco-label when reviewing bids for centralized procurements conducted by PPS. Public awareness about Korea Eco-label has also risen from 30% in 2007 to 50% in 2013. Thus, the number of product categories covered by the Korea Ecolabel has increased.

Table 12: Ecolabel Product Categories and Certified Product Totals

	No. of product categories for ecolabel	No. of ecolabelled products
CHINA	98	200,000
JAPAN	58	5,400
REPUBLIC OF KOREA	156	16,650
THAILAND	72	550

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

Number of procurement staff trained in green public procurement: Korea is the only country in which the number of trained procurement staff is monitored. In Korea, more than 12,900 procurement staff have been specially trained in green public procurement.

2.11 ENVIRONMENTAL AND ECONOMIC BENEFITS OF GREEN PUBLIC PROCUREMENT

Environmental Benefits: In Japan, the Republic of Korea, and Thailand, the environmental benefits of green public procurement are calculated in terms of reduction in CO₂ emissions. In China environmental benefits are estimated for specific product categories.

The Republic of Korea has reported the largest reduction in CO₂ emissions due to green public procurement activities, reaching 3.71 million tons. This estimation of CO₂-equivalent reductions was conducted for 19 ecolabelled product groups, including electronic goods, construction materials, office furniture, and paper products, for which lifecycle assessment data was used to estimate the environmental impacts of green public procurement.

As per the statistics of 2014, economic benefits gained from the purchase of green products were estimated to amount to 382 million USD. GHG emission reduction from green public procurement is calculated for 19 product categories, and in 2014 the total amount of GHG emission saved was estimated to be 543,000t.

Table 13: CO₂ Reductions Attributed to Green Public Procurement Initiatives

	CO ₂ Reductions
JAPAN	412,390t
REPUBLIC OF KOREA	543,000t
THAILAND	25,685t
CHINA	Not yet measured

Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.



3.0 SUMMARY AND CONCLUSIONS

Rapid economic development and population growth in the Asia Pacific region have naturally led to increased production and consumption. This has resulted in increased regional wealth, but it has also had significant adverse effects on the environment, resulting in resource depletion, pollution, environmental degradation and contributions to climate change.

Green public procurement offers a pathway to improved environmental stewardship but it is still an evolving practice. Governments need to shorten the time to reach high-impact green public procurement programming by studying approaches and applying lessons learned and best practices. By comparing green public procurement implementation approaches across four regional leading governments can gain valuable insight into the common factors that result in green public procurement programmes that deliver tangible benefits in terms of environmental and financial savings.

3.1 COMMON SUCCESS FACTORS FOR HIGH IMPACT GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN ASIA

This study has shown that Asia Pacific governments now have several years of experience planning and implementing green public procurement and ecolabelling programmes to reduce environmental impacts and ultimately lead the way to more sustainable consumption and lifestyles. This represents a body of experience and knowledge that can inform best practices and the future design and implementation of green public procurement programmes. All of the countries reviewed in this study share a common core commitment to green public procurement legislation, which gives a clear direction to the purchasing of green products, as well as the use of ecolabelling programmes as the basis for creating transparent and green product criteria. A commitment to priority product areas provides a framework to structure green public procurement efforts. As monitoring and evaluation schemes improve, this will help ensure that green public procurement programmes are delivering significant results and achieving sustainability targets.

All four countries have found ways to overcome challenges faced in the implementation of their green public procurement programmes by focusing on building a strong network of policies, tools, and staff capacity. The following is a summary of the common success factors that emerged from their experiences:

- 1. A strong legal framework and central government support is essential:** There is strong government support for green public procurement programming in Japan, Korea, Thailand, and China. Leadership in implementation at the central governmental level is key in the successful promotion of green public procurement and ecolabelling programmes. Each of these governments has national green public procurement policies and/or strategies related to promoting a green economy, energy efficiency or GHG emissions reductions.
- 2. Clear product criteria simplify the green public procurement process and accelerate implementation across agencies:** All four countries have selected priority products for green public procurement taking into consideration regional environmental concerns and other elements of the local context (e.g. in Thailand, products were selected based on high common usages amongst government agencies). In each case, environmental criteria are identified and matched against a list of green product categories. Governments have published product categories and criteria on the website of the main implementing agency. In Japan, implementation work is

supported by the Green Purchasing Network, which has a database of eco-products and green public procurement guidelines on its website. Due to this easy access to information for eco-products, it is easier for procurement staff to make “greener” choices during the procurement process.

3. **Ecolabelling schemes simplify the green public procurement process for staff and promote green markets:** Ecolabelling programmes were often established before the initiation of green public procurement programmes. In each case, ecolabelling programmes were used as a technical basis for the development of their green public procurement programmes. In most of the countries, ecolabelling criteria are taken as de-facto criteria for the evaluation of green public procurement products, except in Thailand where they have developed specific criteria to use in their evaluation process that is separate from the criteria laid out by ecolabelling schemes.
4. **Building the capacity of procurement staff and other stakeholders is critical:** In each country, the implementing agency provides training for procurement staff to help them better understand the green procurement process. In Japan the Green Purchasing Network (GPN) also provides training for the procurement staff, in addition to the main implementing agency. The creation of guidelines and delivery of training sets clear expectations and helps staff to become more knowledgeable.
5. **Communication and promotion is critical at first and must be ongoing:** Implementing green public procurement effectively means adding new elements to the procurement process. This requires change management strategies that realize that there will be challenges to implementation and stakeholders need to be coached to lend support. In China and the Republic of Korea, fiscal incentives are given to the public agencies that implement green public procurement. In Japan and Korea eco-product exhibitions are held which serve as a forum to showcase green products and raise awareness about green products among procurers as well as consumers.
6. **Monitoring systems are necessary to ensure positive social and environmental impacts:** In order to make meaningful progress monitoring and evaluation systems that are practical and effective must be put in place to track programming over the medium to longer term. Monitoring and reporting mechanisms have been established in each country and are evolving to be more effective and complete. In China, monitoring systems for green public procurement are still in their early development stage.

3.2 LOOKING AHEAD AND OPPORTUNITIES FOR COLLABORATION

In addition to the four countries this study has focused on, other Asian countries are also making progress on implementing green public procurement and ecolabelling programmes to reduce environmental impacts and promote sustainable lifestyles as envisioned under the 10YFP on Sustainable Consumption and Production patterns. While the programmes of these countries have started to show positive results, momentum must be maintained. Countries can streamline their approaches based on the lessons learned included in this study.

Regional collaboration in Asia Pacific is already well underway through the Asia Pacific Green Public Procurement and Ecolabelling (GPPEL) project (also known as “Strengthening Capacity and Improving Knowledge of Green Public Procurement and Ecolabelling in the Asia Pacific Region”), which brings together a network of green public procurement stakeholders in Asia Pacific through digital and in-person forums, including webinars, a LinkedIn forum and in-person trainings that took place in Kuala Lumpur in 2015 and in Beijing in December 2016.

Asia Pacific regional activities on green public procurement are also being driven by the SPPEL project (“Stimulating the Demand and Supply of Sustainable Products through Sustainable Public Procurement and Ecolabelling”). The Asian Institute of Technology, a research institution supporting the SPPEL project in Asia Pacific, has recently produced a report titled “Key Opportunities for Pilot Products in the Region, with Policies and Challenges”. This report reviews trade agreements and policies in the Asia-Pacific region to understand opportunities and challenges related to sustainable public procurement and ecolabelling and to identify priority products for the development of mutually-recognized criteria or standards, also known as Common Core Criteria (CCC).

In the future, there are likely opportunities to harmonize the general green public procurement and ecolabelling requirements amongst Asian countries, furthering the work accomplished by the AIT study to develop Common Core Criteria. This could improve the efficiency of green public procurement implementation and, more importantly, send a consistent signal to suppliers, thus further developing the market for green products and services. Ongoing economic integration of ASEAN+3 is a great opportunity and platform to further green public procurement and ecolabelling activities in this region, and to reap the benefits that these practices can offer.

Asian countries need to adopt sustainable consumption and production practices to mitigate the adverse environmental impacts of rapid economic development and population growth. Many countries in Asia are trying to reduce the environmental impacts using green public procurement programmes; their efforts are proving that green public procurement can deliver significant results and promote a “green” economy. Further success for these programmes will come from more collaboration between multiple stakeholders, and governments’ support to develop, implement, monitor and evaluate successful green public procurement policies. By working together governments and agencies can catalyze the transition to more sustainable forms of production and consumption.



APPENDIX A: GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA

Since 2002, the Chinese government has implemented several policies and regulations to facilitate the promotion and implementation of green public procurement. Green public procurement is primarily practiced using ecolabels and energy labels. Two lists, namely the Energy Conservation Products List (ECP) and Environmental Labelling Products List (ELP) currently play an important role in the green public procurement process and provide a bridge between governments, businesses and consumers. Going forward, the Chinese government plans to expand its green public procurement programme to local government bodies across the country.

A.1 REGULATORY AND POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA

According to its 12th National Five Year Plan (2011-2015), the Chinese government aims to achieve two major energy targets:

- **Reduction in carbon emissions levels by 17%** and
- Increase in the share of **non-fossil fuel energy to 15%** of primary energy consumption.

Green public procurement is considered an important tool to meet the twin national goals of **savings in energy consumption and reduction in emissions**. The aim of green public procurement policies is to reduce environmental impacts of products throughout their entire life cycle.

The first procurement legislation governing Chinese public procurement system, viz. the “Bidding Law” was approved in 1999 with the initiation of a **nation-wide reform of public procurement** and establishment of procurement systems.

The **concept of green public procurement** started in China with the “**Government Procurement Law**” of 2003. According to the law, the government should give priority to products that are environmentally friendly and will be resource efficient¹⁰. Subsequently, **a series of “green” procurement policies were initiated**

- In October 2006, the Ministry of Finance (MOF) and the Ministry of Environmental Protection (MEP) jointly issued the **Environmental Labelling Product (ELP)** list for government procurement as per the “*Recommendations on the Implementation of Environmental Labelling Products in Government Procurement*”.
- On September 27th, 2010, the Ministry of Environmental Protection issued the “**China Environmental Labelling**” standards for low-carbon products, initiating the **low-carbon product certifications** in China¹¹.

¹⁰ Yuhua Qiao and Conghu Wang. China Green Public Procurement Program: Issues and Challenges in its Implementation, Retrieved from <http://www.ippa.org/IPPC4/Proceedings/07GreenProcurement/Paper7-6.pdf>

¹¹ Zhang Xiaodan. Environmental Certification Center of MEP, China Environmental Labeling Program and Green Public Procurement: Retrieved from (<http://www.mepcec.com>)

Moreover, green public procurement was included in “The Twelfth Five-Year Plan (2011-2015) for National Economic and Social Development of PRC.” Sustainable public procurement, referred to as green public procurement in Chinese context, is thus practiced using the two purchasing lists of environmental labelling products and energy conservation products¹².

Table A.1: Green public procurement and ecolabelling policies in China¹³

YEAR	LEGISLATION/REGULATION	ISSUING AUTHORITY	RELEVANCE
1999	Bidding/Tendering Law	Procurement regulation for State Owned Enterprises (SOEs)	Established bidding system for public procurement
2003	Government Procurement Law (GPL)	Initiated by the Ministry of Finance and implemented by National Procurement Centre (NPC).	16th Article of the law stipulates that all levels of the government should give priority to products that are environmentally friendly and resource-efficient for procurement
2004	Ministerial Regulation for Implementation of Government Procurement for Energy Conservation Products (ECPs)	Issued by Ministry of Finance (MOF) and National Development and Reform Commission (NDRC)	Higher preference to Energy Conservation Products in government procurement.
2006	Ministerial Regulation of Government Procurement for Environmental Labelled Products (ELPs)	Issued by Ministry of Finance and Ministry of Environmental Protection (MEP)	Higher preference for Environmental Labelling Products in government procurement.
2007	Regulation on Compulsory Government Procurement for Energy Conservation Products	Regulation by State Council	Mandatory for government agencies to procure Energy Conservation products such as air conditioners, fluorescent lamps, televisions, electric heaters, computers, printers, monitors, urinals and water faucets.
2008	Energy Conservation Law	Law by State council	Public institutes should give preference to Energy Conservation products.
2009	Promotion of Circular Economy Law	Law by State Council	Preferential procurement status is granted to products that are energy/water/material saving, environmentally friendly and renewable products.
2010	China Environmental Labelling standards for low-carbon products	Issued by Ministry of Environmental Protection (MEP)	Low-carbon product certification is launched with the release of the first batch of criteria for four product groups: refrigerators, washing machines, multifunction copiers, and all-in-one printers.

Source: Adapted from UN Environment workshop on Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries. Malaysia 2015

12 UN Environment/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production (CSCP). Sustainable Public Procurement in Urban Administrations in China: How the Government as Consumer Can Drive Sustainable Consumption and Production. Retrieved from http://wupperinst.org/uploads/tx_wupperinst/SUPP-Urb-Booklet.pdf

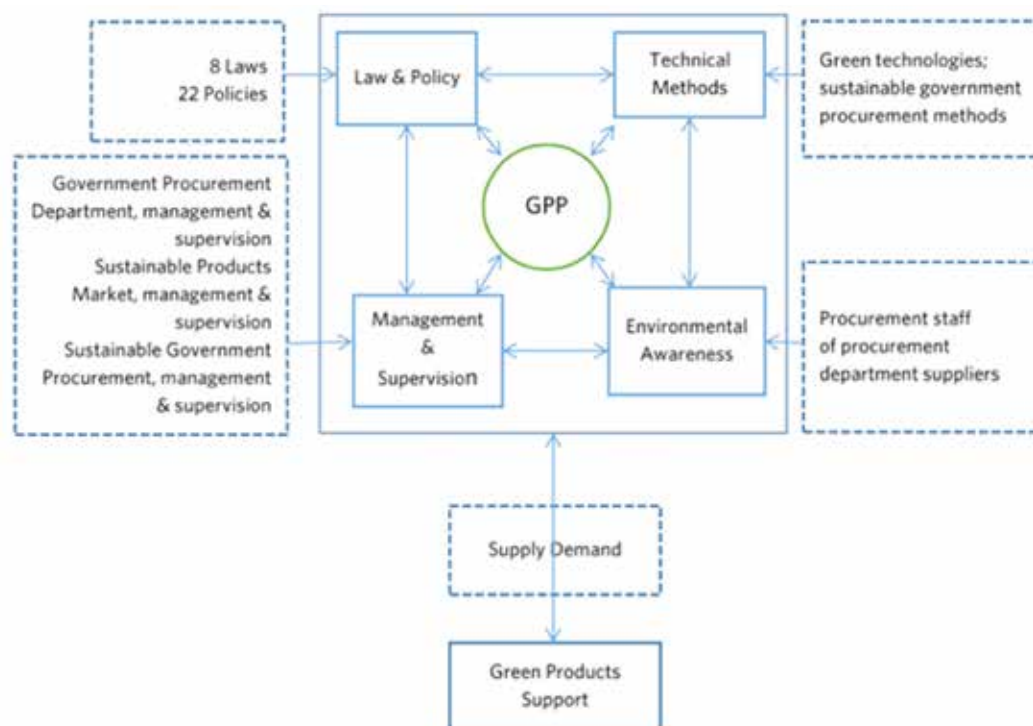
13 HU Bo, YI Shui (31 October 2014). Status Report of China's Green Government Procurement, Retrieved from https://www.google.fr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiCv6vnxsNRAhVCuRoKHWz8DOYQFggoMAA&url=http%3A%2F%2Fsp-platform.iclei-europe.org%2Ffileadmin%2Ftemplates%2Fsp_platform%2Flib%2Fsp_platform_resources%2F%2Ftools%2Fpush_resource_file.php%3Fuid%3Dce35fa4b&usg=AFQjCNHpf5XJOMpYkofN2dZ-94I6kSlp7g

A.2 INSTITUTIONAL FRAMEWORK OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA

The institutional structure for green public procurement in China is a **centralized and multilevel system**.

- The central government institutions formulate the policy framework and allocate the budgets for green public procurement to sub-central government entities for carrying out government procurement. The **procurement budget** for each entity is **audited and approved by the Ministry of Finance**.
- The **government procurement centres** are the key agencies responsible for the implementation of government procurement.
- The green public procurement is primarily based on ecolabelling and energy conservation certification lists, which are **administered independently by designated agencies**.

Figure A.1: Structure of the green public procurement system in China



Source: Ministry of Finance, 2014b; China Green Purchasing Network, 2014

At the national level, the **National Development and Reform Commission (NDRC)** and the **Ministry of Environmental Protection (MEP)** are the **leading and governing institutions for green public procurement practices**.

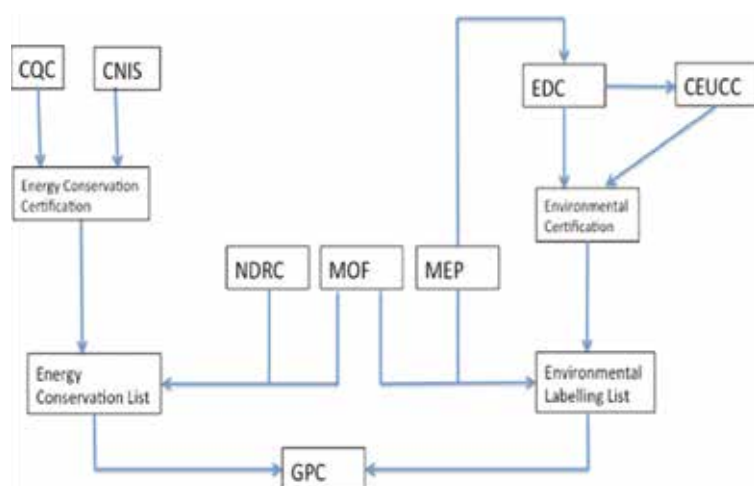
The **Ministry of Commerce (MOC)** and the **Ministry of Finance (MOF)** provide support in **market coordination and financing** for green public procurement.

The roles of the key agencies are described below.

- **MINISTRY OF FINANCE (MOF):** The **Ministry of Finance** is responsible for development of **Centralized Purchasing (CP) Catalogue** and implementation of the **Energy Conservation list (ECL)** as well as the **Environmental Labelling Products (ELP) lists**. The Ministry of Finance promotes the Green Procurement Program in collaboration with the National Development and Reform Commission (NDRC) and Ministry of Environmental Protection (MEP). Moreover, **it supports several local government departments in setting up their own central procurement centres**. It also works with the financial departments of local governments to handle supplier complaints.

- **MINISTRY OF ENVIRONMENTAL PROTECTION (MEP):** The Ministry of Environmental Protection is the **administrative agency for the China Environmental Labelling Program**. The Ministry of Environmental Protection is the owner of the logo for China Environmental Labelling and **approves and issues China environmental Labelling standards**. The Ministry of Finance and the Ministry of Environmental Protection jointly manage the implementation and publishing of the Environmental Labelling Products list.
- **NATIONAL DEVELOPMENT AND REFORM COMMISSION (NDRC):** Since 2005 the National Development and Reform Commission has been the leading body for an **inter-ministerial coordination platform**¹⁴ established by the State Council. The National Development and Reform Commission supervises the activities of all government agencies and state-owned enterprises (SOEs) related to Government Procurement Law (GPL) and the Bidding Law (BL). It also manages and publishes the energy conservation products (ECP) list together with the Ministry of Finance.
- **GOVERNMENT PROCUREMENT CENTRES (GPCS):** GPCs **coordinate and implement the green procurement** for Energy Conservation Product and Environmental Labelling Products products **as per the latest procurement list**. Procurement centres check whether the offered product models are listed in the compulsory categories. The **bidding evaluation experts** are required to check for the **designated product models** and manage the transfer of general policy guidelines into practical operation by GPC's.
- **CHINA QUALITY CERTIFICATION CENTRE (CQC):** It is responsible for the implementation of the **Energy Conservation Certification Scheme** and for the development of Energy Conservation Product List along with the National Development and Reform Commission.
- **CHINA ENVIRONMENTAL UNITED CERTIFICATION CENTRE (CEC):** It is the sole authorized certification organization for China Environmental Labelling. It is responsible for the development of **certification schemes** and **Environmental Labelling Products list** along with the Ministry of Environmental Protection.
- **ENVIRONMENTAL DEVELOPMENT CENTRE (EDC):** A scientific research institution directly under the Ministry of Environmental Protection, the EDC is the main institution responsible for the development of China Environmental Labelling standards, and is the supervising institution of the logo of China Environmental Labelling.

Figure A.2: Institutional framework of green public procurement





Source: HU Bo YI Shui. Supported by ADEME (Agence de l'Environnement et de la Maîtrise de l'Énergie) (31 October, 2014.) Status Report of China's Green Government Procurement. Retrieved from https://www.google.fr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKewimM3cnRAhXBVROkHXSXHCUYQFggoMAA&url=http%3A%2F%2Fsp-platform.iclei-europe.org%2Ffileadmin%2Ftemplates%2Fsp_platform%2Flib%2Fsp_platform_resources%2F%2Ftools%2Fpush_resource_file.php%3Fuid%3Dce35fa4b&usq=AFQjCNHpf5XJOMpYkofN2dZ-94I6kSlp7g

14 The Inter ministerial platform includes ministries such as the Ministry of Supervision, Ministry of Finance, Ministry of Construction, Ministry of Railway, Ministry of Communication, Ministry of Information Industry, Ministry of Water Resource, Ministry of Commerce, General Administration of Civil Aviation and the Legislative Office of the State Council

The Energy Conservation Product and the Environmental Labelling Products lists are managed by different agencies as shown in table A.2.

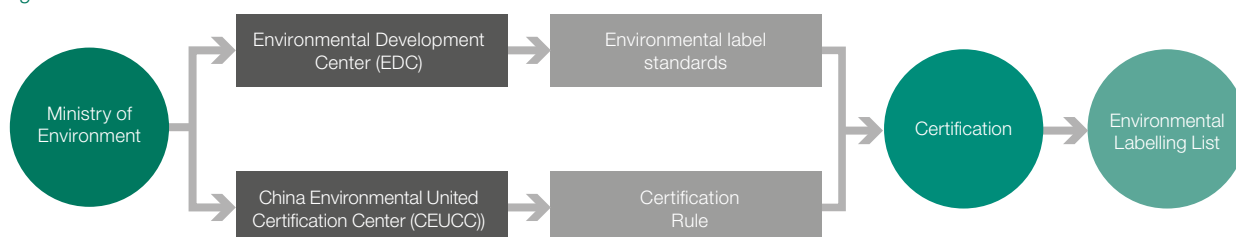
Table A.2: Key features of the two procurement lists

Name	Energy Conservation Product Procurement List	Environment Label Product Procurement List
Certification scheme	 Energy Conservation Certification	 China Environmental Labelling
Certification authority	China Quality Certification Center (CQC)	China Environmental United Certification Center (CEC)
Supporting ministries	Ministry of Finance, National Development and Reform Commission, AQSIQ	Ministry of Finance, Ministry of Environmental Protection
Compulsory or preferential	Some products are compulsory	All products are voluntary
Started from	2004	2006
List updating frequency	Twice a year	Twice a year
List latest version	18th	16th
Available at	http://www.energylabel.gov.cn/en/About_cscc.html	http://kjs.mep.gov.cn/zghjbz/index.htm
No. of certified products	67,000	around 200000

A.2.1 ENVIRONMENTAL LABELLING PRODUCTS LIST

The Ministry of Environmental Protection (MEP) is the authority in charge of the **ecolabelling programme** in China. The Ministry of Environmental Protection, along with the Environmental Development Center (EDC), **develops and publishes standards** for China Environmental Labelling. The **Environmental Labelling Products List** is developed from products that meet China Environmental Labelling (CEL) standards. The **China Environmental United Certification Center (CECC)** is responsible for the implementation of the **China Environmental Labelling** scheme. The scheme works on a voluntary basis and the **label is valid for 3 years**.

Figure A.3:

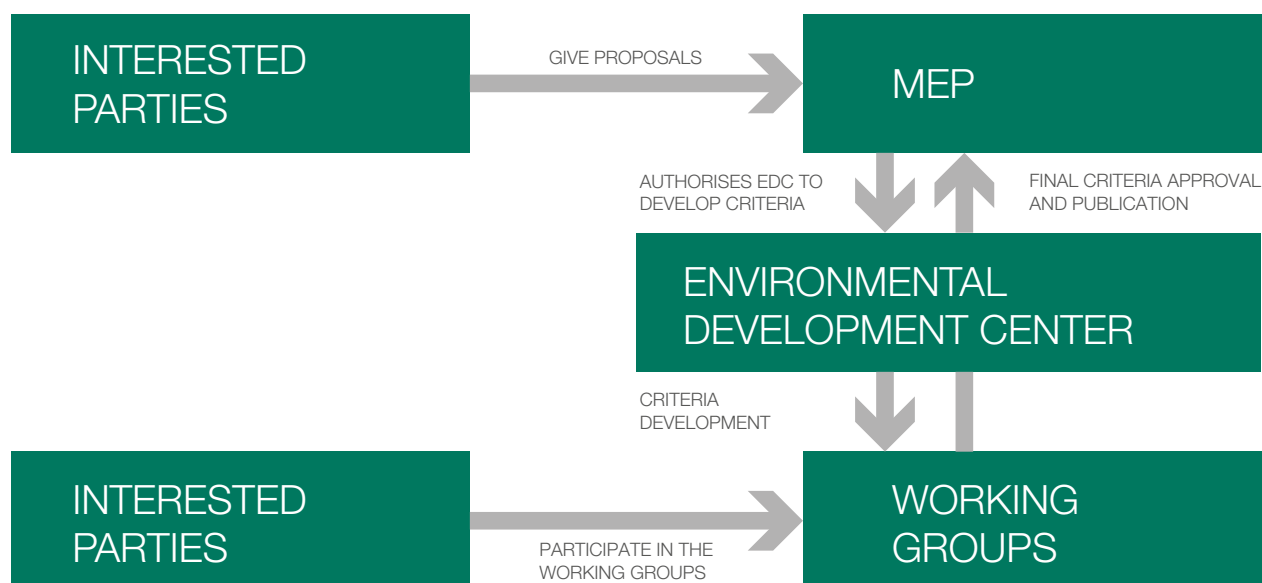


After the enforcement of Government Procurement Law and the implementation of the Chinese Green Public Procurement Programme, a total of 16 Government procurement Environmental Labelling Products Lists were issued.

The Environmental Labelling Products List is developed based on the [State Council Regulation of 2006](#) and on the following considerations:

1. Products in the Environmental Labelling Products Lists should be certified by the [Environmental Labelling product certification](#) organization.
2. The products must have enough production capacity, mature technology, and reliable quality.
3. There are adequate supply systems and good aftersale service of the products¹⁵

Figure A.4:



Source: Government public procurement and environmental labelling in China. Environmental certification center [slides], 2013.

Six major areas have been identified for eco-labelling, namely the implementation of environmental conventions, recycling, improvement of regional environmental quality, improvement of household environmental quality, protection of human health, and conservation of resources and energy.

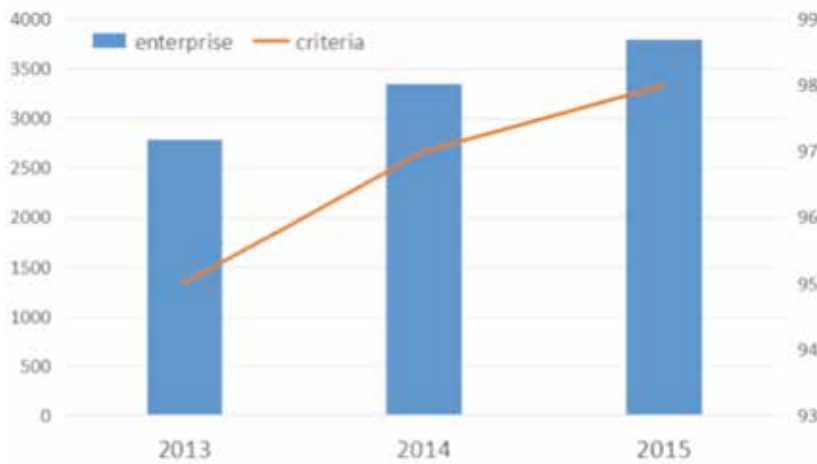
Since the regulation in 2006, the number of product categories in the Environmental Labelling Products List **expanded from 14 to 74 in 2015**. The number of **participating companies increased from 81 to 1,516** and models of certified products increased from **800 to 115,071**.

As of December 2014, the Ministry of Environmental Protection issued **98 standards** for China Environmental Labelling. The production value of these labelled products reached 90 billion RMB (about 14,171,400,000 USD)¹⁶. Nearly 4,000 manufacturers have applied and received the China Environmental Labelling certification. Furthermore, more than 200,000 types of products within 98 categories have been certified, including automotive, electric products, construction materials, etc.

15 Source: UN Environment workshop on Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries. Malaysia 2015

16 Environmental certification center of Ministry of Environmental Protection in China. Government public procurement and environmental labeling in China. Retrieved from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015symposium/05China.pdf

Figure A.5: Evolution in the number of product criteria for the China environmental labelling certification and number of enterprises with certified products in China during 2013-15

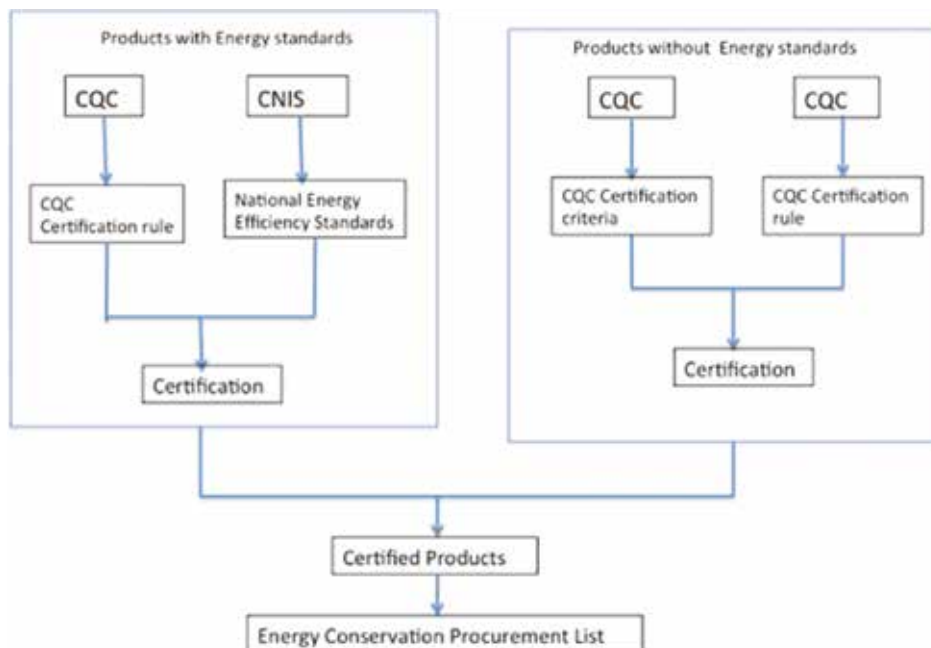


Source: UN Environment workshop on Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries. Malaysia 2015

A.2.2 ENERGY CONSERVATION CERTIFICATION PRODUCT LIST

The **Energy Conservation Product list (ECP)** was formally implemented in December 2004, when the Ministry of Finance and the National Development and Reform Commission jointly published the **Circular on “Opinion on Implementing Government Procurement of ECPs”** (Ministry of Finance and National Development and Reform Commission, 2004). Since 2008, the **China Quality Certification Center** has been responsible for the implementation of **Energy Conservation Certification Programme**.

Figure A.6:



Source: ??

The Chinese Quality Certification Center develops the technical specification based on the Energy Conservation Certification launched in 1998. The Energy Conservation Product List is divided into products with and without energy-efficiency standards. For products with efficiency standard, the minimum energy efficiency requirement for Energy Conservation certification is Tier 2. While for products without national efficiency standard, the Chinese Quality Certification Center develops voluntary technical specifications.

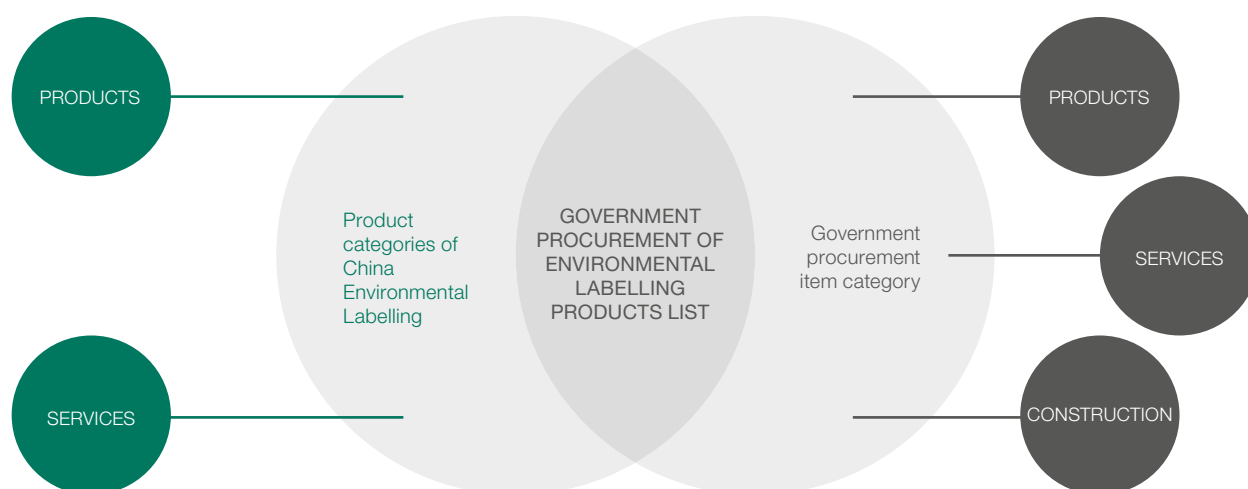
Even though the Energy Conservation Certification is **voluntary**, procurement from the Energy Conservation Product List is **compulsory for public procurement of designated categories**. The Energy Conservation certificate is valid for three years.

As of 2014, 16 versions of energy-saving government procurement lists have been released. They cover **28 categories** of products with about **67,000 types of products** by 808 manufactures.

A.2.3 SELECTION OF GREEN PUBLIC PROCUREMENT PRODUCT LIST

Green public procurement product categories are determined by the Chinese Quality Certification Center and the China Environmental United Certification Center (CEC) which **select qualified product models from their certified product database** considering environmental aspects. The Ministry of Finance and the National Development and Reform Commission or the Ministry of Finance and the Ministry of Environmental Protection make policy announcements about renewing green public procurement lists.

Figure A.7:



Source: UN Environment workshop on Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries. Malaysia 2015

As of 2014, the Ministry of Finance and Ministry of Environmental Protection have issued **16 Government Green Procurement lists** involving **74 product categories**, 1,516 companies with more than 115,071 kinds of models of products.

Some of the green public procurement product categories are mentioned in table A.3.

Table 15:

Computer equipment	Software	Printer	Display device	Duplicator	MFP board
Passenger cars (Sedan)	Bus	Household appliances	Fax and digital communication equipment	Television equipment	Furniture
Copy paper	Ink cartridge (including renewable)	Wood-based panels	Secondary processing material	Shelves	Cement, concrete products
Fiber-reinforced cement products	Lightweight construction material	Building ceramics	Building waterproofing roll material	Heat insulation	Architectural coatings
Wall coating	Waterproof coating	Doors	Window	Sealing fillers	Plastic products

A.3 IMPLEMENTATION MECHANISM OF GREEN PUBLIC PROCUREMENT IN CHINA

For procurement purposes, procurement from the **Energy Conservation Product List of 9 product categories** is **mandatory for all central government agencies** while the procurement of **other product categories** from Energy Conservation Products List is **voluntary**. The procurement from **Environmental Labelling Products list** is on a **voluntary** basis.

Currently, green public procurement is implemented only in **larger cities**, such as Guangzhou, Guiyang, Shenzhen, Tianjin, Shenyang, Beijing and Shenzhen.

Qingdao was the first city to issue a green procurement list and the first city to implement green public procurement in China. The finance and environmental protection departments in Qingdao have published a list of environmentally preferable products for procurement by all local government organizations.

Another example of green public procurement implementation is during Green Olympics in 2008. Green public procurement practices were widely used for acquiring construction materials, for designing Olympic facilities and provision of services.

The Ministry of Finance and the Ministry of Environmental Protection issue the product lists prepared by China Environmental United Certification Center (CEC) for procurement purposes. The policy announcements and product lists are **published on designated websites** and sent to local government agencies and procurement centers.

The local Government Procurement Centers (GPCs) play a central role in the implementation of green public procurement. It accepts the procurement request from users and coordinates procurement activities.

For the bidding of the procurement contract, the Government Procurement Centers select the members of the bidding evaluation expert committee. The experts are required to **check the bidding offer and the two procurement lists** when awarding the bid. The higher preferential products get price deductions and bonus points in the tendering evaluation.

The **price deduction methods** and **award of bonus points** vary across China as they are determined by the provincial or municipal policies. For example, in the lowest price evaluation method, the price of designated products will be reduced by a certain rate from the offered price. Thus, the evaluation price of designated product will be cheaper than its offered price.

GREEN PROCUREMENT IN JIANGSU

According to the central government's directions and initiatives of GPP, Jiangsu Province has been actively implementing GPP since 1998.

In 2013, Jiangsu's public procurement amounted to an annual total of 167.69 billion RMB, about 10% of the country's total expenditure on public procurement.

Most of the award decisions are based on whether the product exists in the designated procurement list and the low cost of the products. For awarding the contract, the **supplier evaluation** is also conducted based on following criteria:

- The product models should be **listed in the Energy Conservation Product List**.
- Supplier having **ISO 14001** certification for environmental labelling products as well as supplier having **ISO 9001** for services.
- **After-sale service** given by suppliers

To facilitate the implementation process, Ministry of Finance (MOF) regularly conducts **training of local government procurement agencies**. Local provincial procurement centres also organize training workshops as necessary.

The “**Environmental Labelling Products List**” is published by various agencies such as; Ministry of Finance (MOF) at <http://www.MOF.gov.cn>, Ministry of Environmental Protection (MEP) at <http://www.mep.gov.cn>, Centre of China Government Procurement at <http://www.ccgp.gov.cn> and China Green Procurement Net at www.cgpn.org. The list can be downloaded by the public and any procurement entity.

A.3.1 EFFORTS FOR THE PROMOTION OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA

The Government of China has initiated several activities to promote GPP and sustainable development such as;

- Since 1991, the government of China has annually organized “**National Energy Conservation Week**” every June. During the nationwide publicity week, several parts of China have conducted various types of activities to publicize the importance of energy saving.

GREEN PRINTING

The Ministry of Environmental Protection (MEP) and the General Administration of Press and Publication (GAPP) have signed a cooperation agreement on Environmental Labelling of Green Printing.

The “Green Printing” covered all the textbooks of middle and primary schools by the end of 2013. Till now, it has more than 993 participating printing companies while 500 million volumes of textbooks have been awarded China Environmental Labelling.

- Since 2003, China has cooperated with ecolabel certification agencies of Australia, New Zealand, Japan, South Korea, and Germany for **mutual recognition of ecolabels**. The cooperation has **facilitated the upgrading** of relevant Chinese industries, products, processes and technologies, and improved the international competitiveness of Chinese products.
- **Environmental Development Center** (EDC) affiliated with the Ministry of Environmental Protection has started various conferences and established the **Chinese Green Purchasing Network** (CGPN) for the promotion of green public procurement and sustainable consumption <http://www.cgpn.org/>. The website is available only in Chinese.

SUSTAINABLE PUBLIC PROCUREMENT IN URBAN ADMINISTRATIONS IN CHINA

The SuPP-Urb (Sustainable Public Procurement in Urban Administrations in China) project successfully introduced sustainable public procurement practices in the three Chinese target cities Lanzhou, Qinhuangdao and Tianjin. From 2009 to 2011, pilot cities namely; Tianjin, Qinhuangdao and Lanzhou received active support from the SuPP-Urb project and the EU SWITCH-Asia Programme.

By changing purchasing procedures for these pilot cities, it was possible to achieve positive results such as:

1. Strengthening of local markets for sustainable products and services
2. Promotion of local innovation for the effective reduction in CO₂ emissions by more than 105,000 tons
3. Decrease in resource consumption.

- “In 2009, the central government of China provided **price subsidies** for public offices or organizations that purchased **green vehicles**. These economic subsidies are 10% for vehicles with an overall environmental label (assumed to be 100% environmentally sound), 5% for those with over 50% ecolabelled parts, and 1% for those with less than 50% ecolabelled parts”¹⁷.
- In 2013, the Ministry of Finance (MOF) published the **General Plan for Construction for National Government Procurement Management and Trading Platform** (Government Public Purchasing Net, 2013). It includes a three-step plan to create a unified government procurement management and trading system. In August 2015, General Office of the State Council issued the Integration and Establishment of a Unified Public Resource Trading Platform, proposing to **form a public resource trading platform** with unified rules in the whole country before the end of June 2017.
- To mainstream sustainable public procurement in China, a project called “**Sustainable Public Procurement in Urban Administrations in China**” was implemented in **Tianjin, Qinhuangdao and Lanzhou** with the help of EU SWITCH-Asia Programme¹⁸.

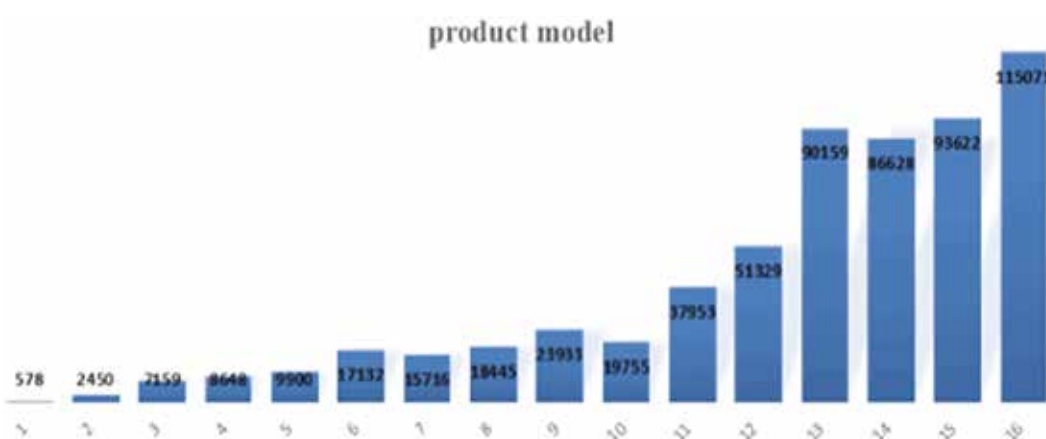
A.4 MONITORING MECHANISMS OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN CHINA

Green public procurement is still in initial stages in China. The evaluation and reporting method for the programme is yet to be standardised for all the government agencies and is still in the process of development. The Chinese government is in the process of establishing a monitoring system to ensure the promotion as well as successful implementation of green public procurement.

A.5 RESULTS ACHIEVED

The financial budgets and expenses on green public procurement have been increasing each year since the initiation of green public procurement programme. According to the statistics of 2014, the government **procurement of Environmental Labelling Products** reached **176.24 billion RMB** (around 27.97 billion USD), which accounted for 75.3% of the total products purchased by the government in the same category (e.g. paints, stationary, vehicles etc.).

Figure A.8: Growth in total number of environmental labelling products available across various categories on the Chinese Market



Source: UN Environment workshop on Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries. Malaysia 2015

17 Qinghua Zhu, Yong Geng, Joseph Sarkis (May 2013). Motivating green public procurement in China: An individual level perspective. *Journal of Environmental Management*. Retrieved from <http://www.spcclearinghouse.org/resource/motivating-green-public-procurement-china-individual-level-perspective>

18 Environmental certification center of Ministry of Environmental Protection in China. Government public procurement and environmental labeling in China. Retrieved from https://www.google.com.hk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUKewj_pp2776jMAhXBqaYKHenXAGkQFggrMAM&url=http%3A%2F%2Fwww.ecomark.jp%2Fpdf%2FChina.pdf&usq=AFQjCNFhc1FCXsTxBXhHzWPn19b531n8KA

According to the statistics of 2011, the procurement of energy conservation products reached **91.06 billion RMB**, which accounted for 82% of the total products purchased by the government in the same category while in 2012, the procurement of energy conservation products reached 16 billion EUR (about 17 billion USD), and accounting for 29% of government procurement for all the goods.

Table A.4: Results achieved

DESCRIPTION	NUMBER
Government Procurement for Environmental Labelling Products (billion RMB) in 2014	176.24 (about 27.97 billion USD)
Government Procurement for Energy Conservation Products (billion Euro) in 2012	16 (about 17 billion USD)
No. of product categories for Environmental Label	98
No. of product categories for Energy Conservation	28
No. of Environmental Labelled products	about 200000
No. of Energy Conservation Products	67,000

A.6 CHALLENGES FOR GREEN PUBLIC PROCUREMENT IN CHINA

- LIMITED PENETRATION AND SCOPE OF GREEN PUBLIC PROCUREMENT:** The extent and scope of green public procurement is currently rather limited and covers only **designated government agencies** from central ministries, provincial and local governments. In addition, current green procurement implementation is limited to only include **certified products**. **Engineering projects**, which are another major area of government procurement, is **excluded from the current green procurement** framework. Similarly, **state-owned enterprises** (SOEs) are not included in the current green public procurement framework.
- NARROW COVERAGE OF GREEN PUBLIC PROCUREMENT REQUIREMENTS:** For many of these agencies, the green public procurement requirements apply only for designated product **categories from environmental labelling products and Energy Conservation Product Lists** (for example, office equipment or printing services).
- INCOMPLETE POLICY FOR GREEN PUBLIC PROCUREMENT:** The policy framework of green procurement is not fully complete. There is **no specific Green Procurement law** in China but the related requirements were included in the government procurement law.
- COMPLICATED HIERARCHICAL STRUCTURE OF GOVERNMENT PROCUREMENT:** The **complicated government procurement hierarchy** creates confusion about green procurement. From central to local procurement, four to five different levels of procurement by implementing agencies are involved. There are also **numerous specialized departments** and differentiated procurement agencies. Thus, it prolongs the implementation time from top to bottom in the hierarchy of central government and decreases the efficiency.

5. **LACK OF MONITORING AND EVALUATION SYSTEMS:** Standardized or common tender documentation and **evaluation methods are required** which are needed for effective implementation of green procurement. Therefore, the monitoring system is **still in the development stage**.
6. **LACK OF AWARENESS ABOUT GREEN PUBLIC PROCUREMENT PRACTICES:** Procurement officers as well as users **have limited technical knowledge** in differentiating the products in terms of energy efficiency and environmental protection.

A.7 SUCCESS FACTORS

- The regulatory framework enacted by Ministry of Environment and Ministry of Finance provides clear direction on purchasing green products from the energy conservation product and EPL lists.
- The environmental labelling products list is updated regularly which saves work to set green performance standards for individual purchasing agencies.
- The Energy Conservation and China Environmental Labelling certifications have created strong incentives for product manufacturers to design and build create greener products, so it is achieving the goal of transforming the marketplace.

A.8 WAY FORWARD

Various activities need to be initiated to overcome the challenges faced during implementation of green public procurement programme. Some of the activities are described below.

- Promotion of green public procurement across all levels of the Government as well as local agencies will help in achieving the twin goals related to energy and environment of the 12th National Five Year Plan.
- More resources need to be provided to support public authorities in conducting green public procurement.

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4. A project supported by The Ministry of Environment of the People's Republic of China & by Korea Environmental Industry & Technology Institute (KEITI). "Strengthening the capacities and improving the knowledge on green public procurement and ecolabelling in the ASEAN+3 region". October (2013) Green Procurement Case of China Retrieved from <http://www.scpclearinghouse.org/resource/green-public-procurement-china-case-study-1> (24 April 2016)

5. Yuhua Qiao and Conghu Wang. China green public procurement program: issues and challenges in its implementation. Retrieved from <http://www.ippa.org/IPPC4/Proceedings/07GreenProcurement/Paper7-6.pdf> (24 April 2016)



APPENDIX B: GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN JAPAN

Japan has been a pioneer in developing a green public procurement framework, and first launched an ecolabelling programme branded Eco Mark in 1989, followed by a more formal green public procurement related Act adopted in 1994 under the name: “Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities”. Japan has a monitoring system for green public procurement run by the Ministry of Environment (MOE). The Green Purchasing Network (GPN), a non-profit organization with 2,400 member organizations from business, local government, and NGOs, is another agency supporting the government with the implementation and promotion of green public procurement, particularly in the areas of training and awareness-raising.

B.1 REGULATORY AND POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN JAPAN

Japan launched an ecolabelling scheme in the framework of the Eco Mark Programme in collaboration with the government (Environment Agency) in 1989. Since then various new regulations pertaining to green public procurement have been enacted as well including:

- In 1993, the “**Basic Environment Act**” (Act no. 91 of 19 November 1993) was enacted to promote the use of environmentally friendly goods and services, thereby reducing the environmental impacts.
- In 1994 the Japanese government published its “**Action Plan on Green Government Operations**”, which included **green public procurement commitments and reporting requirements**.
- In 1995, the Japanese government adopted the first “**Action Plan for Greening of Government Operations**” which defined the objectives and essential methods for achieving the greening of Public Procurement by the year 2000.
- In May 2000, the Central Government of Japan enacted the “**Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities**” (“Act on Promoting Green Purchasing”)¹⁹. Article 6 of the “Act on Promoting Green Purchasing” established a “**Basic Policy**” for promotion of green public procurement, identifying the priority product groups to be purchased with environmental attributes.
- In January 2001, the “**Act on Promoting Green Purchasing**” came into force. After this, the Japanese government issued a **Basic Policy that includes a list of 101 designated procurement goods** and their standards.
- On February 3, 2015, the **Basic Policy was revised with the addition of new items** such as smartphones, metal blinds, plywood form, and others to the procurement list. Thus, the total number of designated procurement items rose to **270**.

¹⁹ Ministry of Environment Japan. Act on Promotion of Procurement of Eco-friendly Goods and Services by the State and Other Entities Retrieved from <http://www.env.go.jp/en/laws/policy/green/1.pdf>

- In 2007, the Japanese government introduced the “Act on Promotion of Contract of National Governments and Other Entities Involving Due Care for Reduction of Greenhouse Gas Emission” (“**Act on Promoting Green Contracts**”) to complement the “Act on Promoting Green Purchasing”. The “Act on Promoting Green Contracts” applies to six types of contracts: electric power, automobiles, ships and vessels, energy service companies (ESCO’s), buildings, and industrial waste management. The Act has a focus on greenhouse gas reductions²⁰.

Figure B.1: Development of green purchasing in Japan



B.2 INSTITUTIONAL FRAMEWORK OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN JAPAN

Public procurement in Japan is undertaken in a **decentralised** way **by each procuring entity** independently. There is **no national procurement agency** designated to carry out green public procurement. However, there are central information sources and databases for companies to search for government-issued tenders.

Under the “Act on Promoting Green Purchasing”, green public procurement is mandatory for government agencies. The ministries and agencies are required to procure goods and services, which meet the “Evaluation Criteria”, specified by the Basic Policy.

B.2.1 INSTITUTIONAL FRAMEWORK FOR GREEN PUBLIC PROCUREMENT

The **Ministry of the Environment (MOE)** is the **main government agency** in charge of green public procurement in Japan. The Ministry of the Environment is responsible for the development and implementation of all the environmental policies and laws.

Since 2000, the Ministry of the Environment has convened an **advisory committee** to develop the list of **Designated Procurement Items** in the Basic Policy of the “Act on Promoting Green Purchasing”. The committee is set up every fiscal year and is comprised of academics, law experts, consumer representatives, representatives from the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport, and Tourism, and the Ministry of the Environment.

The Advisory Committee for Designated Procurement Items reviews the Basic Policy. It is also charged with ensuring that the criteria developed for green public procurement is adequate and appropriate. The Advisory Committee reviews the Evaluation Criteria and monitors the implementation of green public procurement.

20 United Nations Environment Programme, (2013). Sustainable public procurement: A global review Retrieved from [http://www.unep.org/resourceefficiency/Portals/24147/SPP_Full_Report_Dec2013_v2%20NEW%20\(2\).pdf](http://www.unep.org/resourceefficiency/Portals/24147/SPP_Full_Report_Dec2013_v2%20NEW%20(2).pdf)

Figure B.2



Green Purchasing Network (GPN) is another agency supporting the implementation and promotion of green public procurement. It was founded in February 1996 to promote green procurement in Japan. The Green Purchasing Network is a **non-profit organisation** having 2,400 member organisations from business, local government, and NPOs/NGOs as of December 2015. The **Japan Environment Association** serves as the secretariat of the Green Purchasing Network.

The main objectives of the Green Purchasing Network are twofold:

- a) To promote the **concept and practices of green procurement** in both government as well as the private sector.
- b) To **create a market** for environmentally friendly products and contribute to a sustainable society and economy through the implementation of green procurement.

Currently, green public procurement guidelines have been developed for **15 product categories** with over **15,000 certified products** in the database. The Green Purchasing Network publishes a data book providing the comparison of detailed environmental information on products (available in Japanese only). The Green Purchasing guidelines and product database can be found on the Green Purchasing Network website (<http://www.gpn.jp/guideline/index.html>). The Eco-product database is available at: <http://www.gpn.jp/econet/>

Along with the Ministry of the Environment and Green Purchasing Network, Eco Mark also plays an important role in the implementation of green public procurement. The **Eco Mark Office** is responsible for the **certification of this Type I Ecolabel**, which is widely used in green public procurement in Japan.

B.2.2 INSTITUTIONAL FRAMEWORK FOR ECOLABELLING



In Japan, the Ministry of the Environment is the main agency responsible for the **development of Ecolabelling guidelines based on international standards (ISO/JIS Q 14020, 14021)**. These guidelines are geared toward business entities and trade organizations that use environmental representations (ecolabelling) and to third-party organizations that provide accreditation (certification) systems.

Source: UNEP Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

The objectives of these guidelines are to:

- Provide beneficial information for consumers.
- “Establish institutions to provide appropriate environmental information, and develop mutual understanding with various other stakeholders that are concerned with environmental information,”²¹ including business entities and associations.

21 Ministry of Environment, JAPAN, (2008). Guidelines for Environmental Representations (Ecolabelling); A framework for providing the appropriate and easily recognizable environmental information Retrieved from <https://www.env.go.jp/en/policy/economy/ecolabelling/full.pdf>



The **Japan Environment Association (JEA)** manages the Eco Mark programme in accordance with the standards and principles of ISO 14020 and ISO 14024. Eco Mark is a Type I environmental-label.

Figure B.4

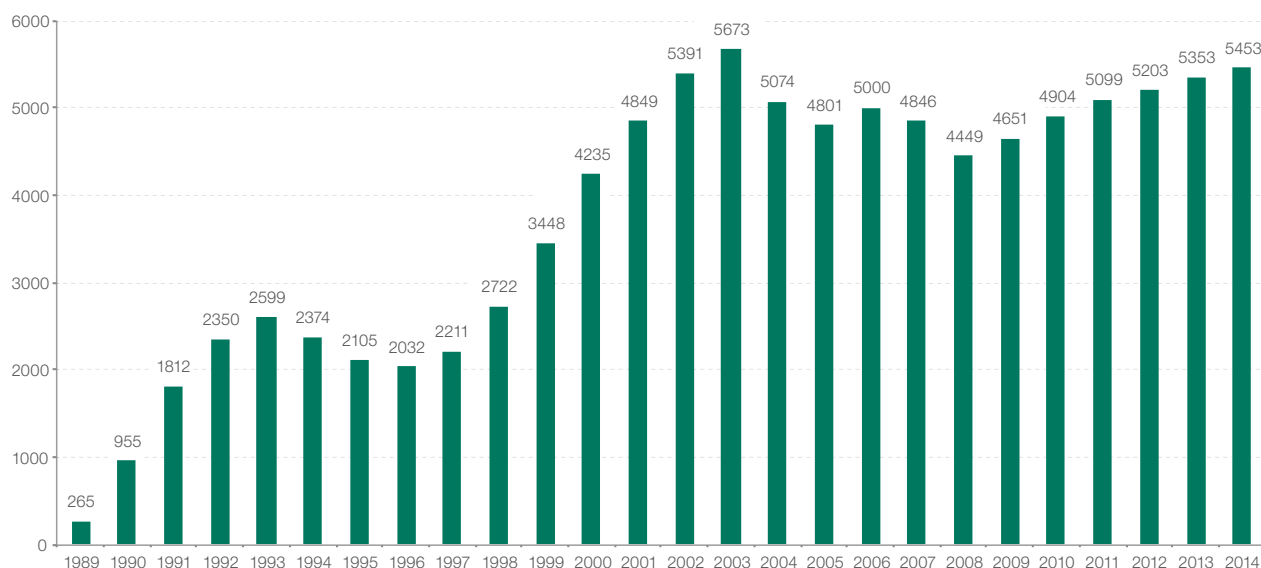


The **consultative bodies**²² of the Japan Environment Association develop the **draft criteria** for each proposed product category. Certification Criteria for each product category consider the entire **life cycle assessment** of the product.²³

The information regarding product categories and criteria is available on the Japanese website of the Eco Mark Office (<http://www.ecomark.jp/nintei.html>). As of 2014, 5,553 products had been awarded the Eco Mark in 59 product categories.

“Although ecolabels are not stipulated as requirement of green public procurement, practical use of environmental information of ecolabels including Eco Mark is encouraged in the preamble of the Basic Policy”. Since the criteria of the Eco Mark certification correspond to those of the Basic Policy in many product areas, the **Eco Mark programme is vs a basis for developing criteria for green procurement**²⁴.

Figure B.5: Evolution of Eco Mark certified products



Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

22 The consultative bodies of the Japan Environment Association are: the Steering Committee, Planning and Strategy Committee, Criteria Deliberation Committee, Product Certification Committee, and Product Category-Based Criteria Development Committee

23 Japan Environment Association (JEA) EcoMark Office Retrieved from <http://www.ecomark.jp/english/unei.html>

24 Basic Policy on Promoting Green Purchasing; February 2015. Retrieved from <https://www.env.go.jp/en/laws/policy/green/2.pdf>

B.2.3 DEVELOPMENT OF GREEN PUBLIC PROCUREMENT GUIDELINES

The national government’s “Act on Promoting Green Purchasing” **requires that all national ministries and agencies establish their own plan for Green Purchasing**. The governmental initiatives aim at enhancing voluntary actions by local governments, business enterprises and citizens.

Figure B.6



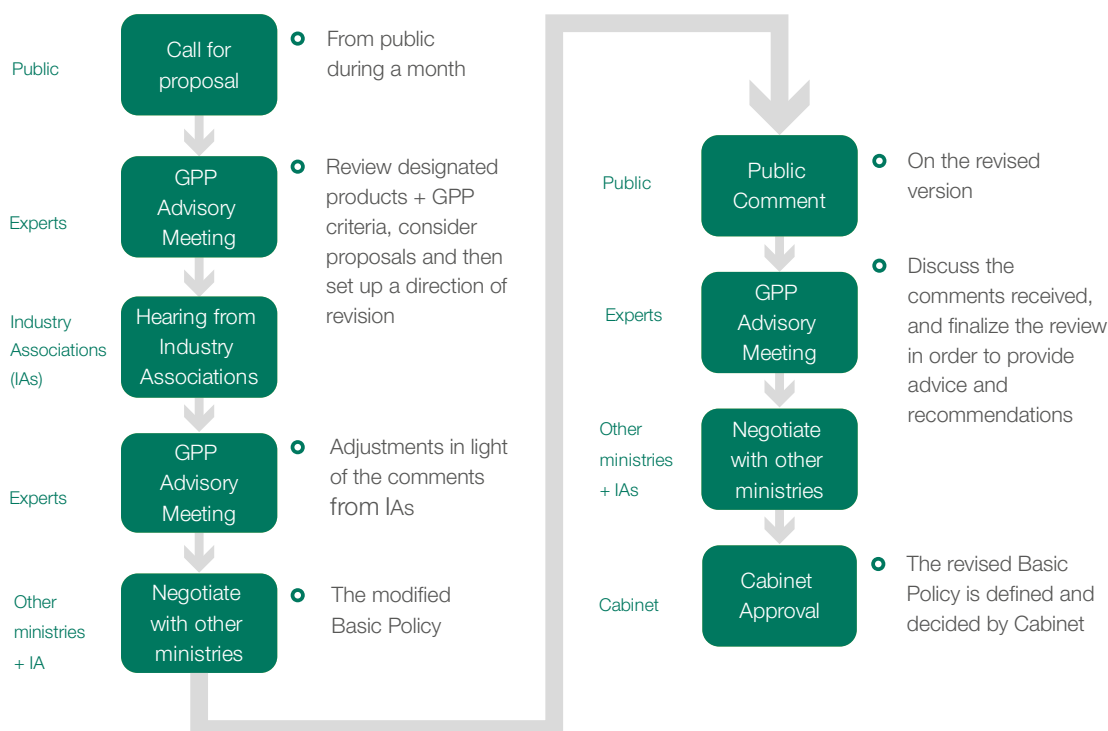
Guidelines for paper, copiers and printers were developed in 1996. The guidelines provided information about the important environmental aspects to be considered during procurement.

The Ministry of Environment prepares two types of green public procurement guidelines: “Green Procurement Guidelines for Government Purchasers” and “Guidelines of Green Procurement for Local Governments”.

The Green Purchasing Guidelines are revised every fiscal year. As per the 2015 revision of the Basic Policy, 21 product categories have been identified for Green Purchasing.

A total of 270 products are designated for Green Purchasing under these 21 product categories.

Figure B.7



Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

Table B.1: Designated product categories for green public procurement in Japan

Paper	Stationary	Office Furniture	Imaging Equipment	Computer	Office Equipment	Mobile Telephone
Home Electronic Appliance	Air Conditioner	Water Heater	Lighting,	Fire Extinguisher	Uniform and Work Clothes	Interior Fixture and Bedding
Work Gloves	Fibre products like tents and sheets, safety nets	Facility (solar generation, power system)	Stockpile for Disaster	Public-Works Project	Service (cafeteria, Passenger Transportation, illumination services, retail businesses, laundry and dry cleaning etc.)	Other
Vehicles						

B.3 IMPLEMENTATION MECHANISM FOR GREEN PUBLIC PROCUREMENT IN JAPAN

As per the “Act on Promoting Green Purchasing” (2001), green public procurement is **mandatory for all branches of the central government** and **voluntary for local governments** (i.e. prefectures, cities, towns, and villages). Accordingly, central government bodies are required to develop their own procurement policies. In addition, annual reporting of procurement practices to the Ministry of the Environment is mandatory for these bodies.

As of 2007, all central government ministries, 47 provisional governments, 12 designated cities are practicing green public procurement.

68% of 700 cities practicing green public procurement are obliged to comply with the Green Purchasing Law. 95% of all purchased products in the designated categories are “Green Products”.

For the fiscal year 2014, a budget of about 20 million yen (17 thousand USD) was allocated for the **review and revision of the Basic Policy** on Promoting Green Purchasing.

FIRST GPP GUIDELINES BY SHIGA PREFECTURE

In Japan, Shiga was the first prefecture to establish “Basic Purchasing Guidelines for Green Products”. GPP criteria were developed based on ecolabels (Eco Mark, Green Mark and Recycle Mark). green public procurement is carried out centrally for the prefecture.

Results:

- Number of designated products for green public procurement has increased from 50 to 168 including stationary, vehicles, furniture and clothing.
- 94% of all office stationery is green, including computers and copiers,
- 30 out of 100 cars are hybrid gas/electric.

The government doesn't set any overall quantitative green public procurement targets to be achieved. Instead, it requires each Ministry and incorporated administrative agencies to (i) define and develop a green public procurement policy or plan, setting **self-defined procurement targets** for the designated products and services and (ii) prepare a **summary of their green public procurement track record** and submit it to the Ministry of the Environment after the end of each fiscal year.

The implementation of green public procurement for goods and services is carried out as per the Basic Policy. During the procurement process, bids from suppliers are evaluated based on products **satisfying green public procurement criteria**. If products from suppliers do not satisfy the criteria, they are not permitted to participate in the bidding. The green public procurement evaluation criteria mainly include ecolabel (Eco Mark) criteria.

The contract award decisions are mainly based on environmental performance as well as the lowest cost of the designated product. However, for some product categories, the award criteria also consider life cycle costing, energy-saving and/or long-term uses of products.

To facilitate the procurement process, "**Green Procurement Guidelines for Government Purchasers**" are published and **shared on the website** of the Ministry of the Environment. They are circulated among the State and incorporated administrative agencies for better understanding of the green public procurement criteria.

The Japanese government organizes annual **briefing sessions for procurers**. Briefing sessions are also held after the revision of the Basic Policy on Promoting Green Purchasing. The Green Purchasing Network also conducts **training workshops** for the training of procurement staff.

B.3.1 EFFORTS FOR THE PROMOTION OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN JAPAN

- The Green Purchasing Network (GPN) organizes an **annual forum** of study meetings. The Green Purchasing Network initiates the establishment of local networks led by local governments and companies and gives "Green Purchasing Awards" to promote green purchasing.
- **The Eco-Product Exhibition**, co-sponsored by the Japan Environmental Management Association (JEMA), is held in Tokyo every year. It serves as a forum for large procuring entities such as local governments and companies to meet and conduct business negotiations, and to find new business partners, leading to the active expansion of "green markets" in Japan.
- Since 2004, the **Eco Products Awards** have been awarded by the Ministry of the Environment and other ministries to promote environmentally friendly products and services. These awards are given to eco-friendly, yet practical, creative, and socially acclaimed products.
- Since 2009 the "**Green Vehicle Purchasing Promotion Measure**" has provided **tax deductions and exemptions** for environmentally friendly and fuel-efficient vehicles. These promotional measures are given according to a set of stipulated environmental performance criteria, and are applicable to both foreign and domestically-produced vehicles.

B.4 MONITORING MECHANISMS OF GREEN PUBLIC PROCUREMENT IN JAPAN²⁵

In Japan, the monitoring mechanism for green public procurement is well established and takes place at two levels: the Central Governmental level and the Local Governmental level. Each ministry and incorporated administrative agency tracks the amount of procured goods and services that fall into the categories included in the Basic Policy. Each ministry and incorporated administrative agency is requested to **report to the Ministry of the Environment on the results**, including the amount of eco-friendly goods and services procured and the **ratio of Eco-friendly goods** to the

25 UN Environment(2016). Monitoring Sustainable Public Procurement Implementation Recommendations, Case study 2: Monitoring Green Public Procurement in Japan's Public Sector. Retrieved from <http://www.scpclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

total amount of goods and services. The results are compiled and published by the Ministry of the Environment on its website.

B.4.1 MONITORING AT THE CENTRAL GOVERNMENT LEVEL

To track the green public procurement progress at the Central Governmental level, two aspects are monitored:

1. Each Ministry and incorporated administrative agency is required to **track and report** the number of designated products purchased or services contracted in total and the number meeting the green public procurement criteria to calculate the following indicators:
 - a) Total **amount of designated products/services purchased** (in units) to assess the evolution in overall consumption based on industry data.
 - b) **Percentage of designated products** that comply with the environmental criteria, to evaluate the progress in the level of green purchases.

However, there is **no uniform data-tracking system**. The data tracking system is different from one organisation to the other and depends on their pre-existing systems and procedures.

To facilitate data reporting, the Ministry of the Environment has prepared a **standardised reporting form**. Each Ministry and incorporated administrative agency fills in the number of designated products/services purchased (in total and meeting green criteria). At the end of each fiscal year, each organisation submits the reporting form to the Ministry of the Environment. The Ministry of the Environment compiles and prepares aggregated results for the entire Central Government.

Figure B.8

GPP Monitoring System

● Reporting spreadsheet

平成26年度特定調達品目調達実績取りまとめ表 年間集計用

		Agency name				
		目標計画	目標計画	目標計画	目標計画	
Category	Items	① Target number	② Total amount of procurement	③ Amount of procurement of designated items	④ Procurement rate of designated items = ③/②	⑤ Achievement rate = ④/①
Paper(7)	Copier paper	%	0 kg	0 kg	%	%
	Forms	%	0 kg	0 kg	%	%
	Coated inkjet color printer paper	%	0 kg	0 kg	%	%
	Non coated printing paper	%	0 kg	0 kg	%	%
	Coated printing paper	%	0 kg	0 kg	%	%
	Toilet paper	%	0 kg	0 kg	%	%
	Tissue paper	%	0 kg	0 kg	%	%
Stationery (83)	Mechanical pencils	%	0 本	0 本	%	%
	Mechanical pencil lead	%	0 個	0 個	%	%
	Ball-point pens	%	0 本	0 本	%	%

Refer to https://www.env.go.jp/policy/green/g-law/archive/refer/h27_01.xls

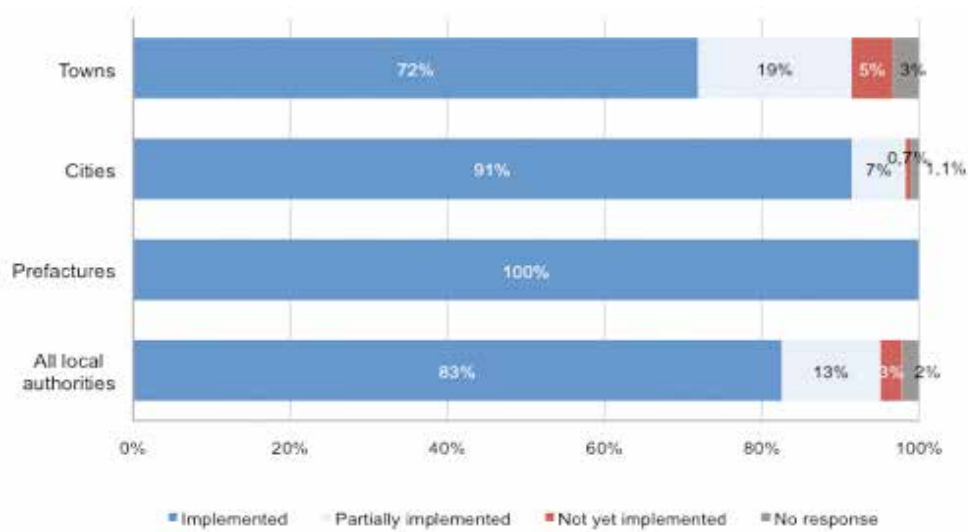
Source: UN Environment Workshop Malaysia (Dec. 2015) Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

With the information gathered on the quantities and ratio of green products purchased, the Ministry of Environment estimates:

- **Environmental impact** of green public procurement, based on the consumption and/or use of green products (this is at present under revision).
- **Share of green products in the market**, based on the percentage of green products over the total for each of the 10 designated product groups, which is also compared to the baseline of 2001. Each industry association provides the information about the market share of the products annually. The market share of green products is based on the data from the industry.

According to the data, all product groups monitored have increased their market share since 2001.

Figure B.9: Percentage of green products on the market

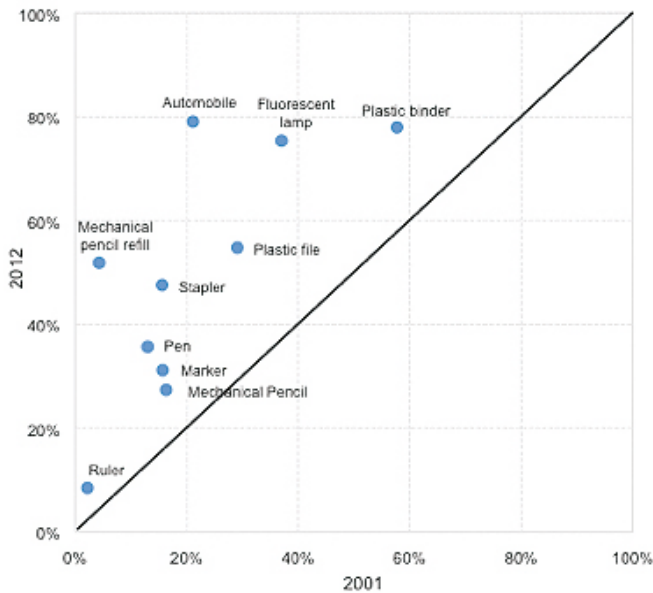


Source: Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations Case study 2: Monitoring Green Public Procurement in Japan’s Public Sector. Retrieved from <http://www.spcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

B.4.2 MONITORING AT THE LOCAL GOVERNMENT LEVEL

For local governments, monitoring is carried out based on a **survey conducted via a questionnaire**. The questionnaire is prepared to collect information about the efforts made by local authorities to implement and promote green public procurement. Based on the collected data from local authorities, the Ministry of the Environment prepares a general report on green public procurement results.

Figure B.10: Status of green public procurement implementation in local authorities (in 2012)



Source: Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations Case study 2: Monitoring Green Public Procurement in Japan’s Public Sector. Retrieved from <http://www.spcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

B.4.3 PUBLICATION OF DATA

Once all data has been compiled, the Ministry of the Environment creates two reports on green public procurement activities: one focusing on activities at the Central Government level, and the other focusing on the Local level. The reports are disclosed on the website of the Ministry of Environment (<http://www.env.go.jp/policy/hozen/green/g-law/shiryu.html>) in Japanese.

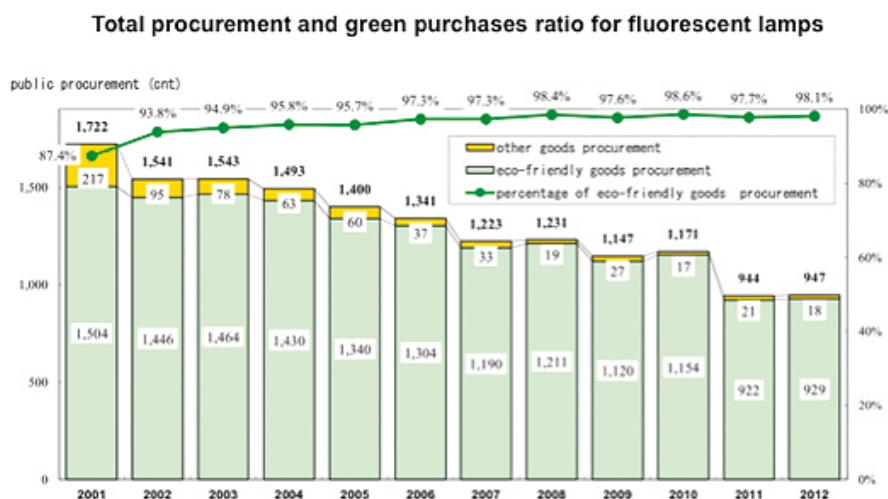
In addition, based on the information gathered through the surveys of local authorities, the Ministry of the Environment prepares the “Green Procurement Guideline for Local Governments”. The guide provides recommendations to implement green public procurement together with a collection of best practice case studies from Japanese local authorities (a total of 44 local authorities were included in the last update).

B.5 RESULTS ACHIEVED

All Ministries and agencies (100%) that are subject to the Act have published their green public procurement policies and summaries of their annual green purchases online. According to the questionnaire survey of local authorities, about 70% of local governments had made commitments to the implementation of green public procurement in 2014.

The market share of green products has increased for all green product groups since 2001 as shown in the above graph of “Percentage of Green Products in the Market”. As per the Cabinet Decision in February 2015, the total number of designated categories for green public procurement has increased to 21 product categories including 270 items.

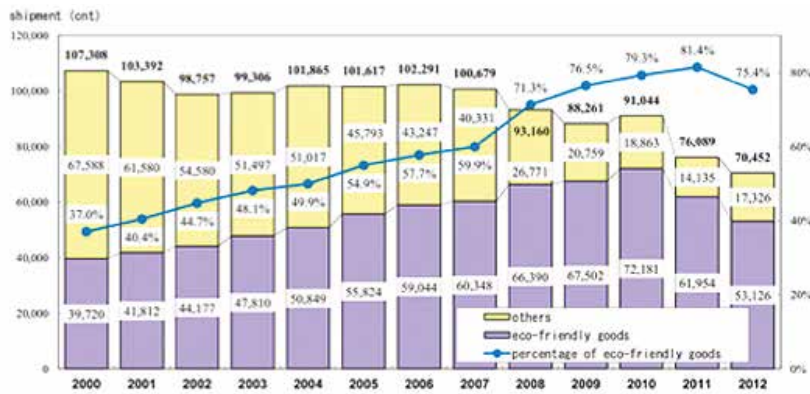
Figure B.11: Total procurement and green purchasing ratio for fluorescent lamps



Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations, Case study 2: Monitoring Green Public Procurement in Japan’s Public Sector. Retrieved from https://www.google.com.sg/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwjAqZi9tafMAhXIG6YKHZ38A2sQFggbMAA&url=http%3A%2F%2Fwww.scpclearinghouse.org%2Fupload%2Fpublication_and_tool%2Ffile%2F499.pdf&usg=AFQjCNFGZTcD_rMdbSY6WimSnMg7VyaYlw

Furthermore, as per the Ministry of the Environment’s estimates of carbon reduction for of 2013, the national government’s Green Purchasing policy resulted in a reduction of CO₂ emissions by 412,390t-CO₂, which is equivalent to the annual CO₂ emissions from 239,000 homes.

Figure B.12: Market share of eco-friendly fluorescent lamps



Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations Case study 2: Monitoring Green Public Procurement in Japan's Public Sector. Retrieved from <http://www.spcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation> (24 April 2016)

B.6 CHALLENGES AND SUCCESS FACTORS OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN JAPAN

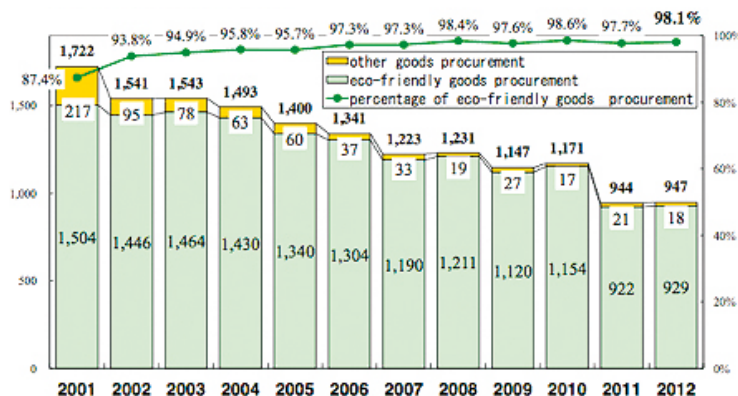
Several challenges were faced during the initial implementation stage of the Japanese Green Purchasing programme. However, over the past years, several innovative approaches were implemented to overcome these challenges:

1) **Higher cost of ecolabelled products:** In many instances, ecolabelled products are more expensive compared to conventional products of the same category, and the government procurement process typically favors the lowest priced item.

➔ Indeed, ecolabelled or “green” products can be expensive **in the initial period**, due to their superior environmental performance, and limited sales. However, when these products are well established in the market, and achieve **economies of scale**, their prices often decrease **to a level comparable with other non-labelled products**. By making the implementation of green public procurement **mandatory** at the central government level, the Japanese government **stimulated the demand for eco-friendly products**, including ecolabelled products. This created a large market for ecolabelled products, which could achieve economies of scale faster, and thus make their prices competitive.

Using Life-Cycle Cost analysis, the Japanese government has made efforts to raise awareness about the cost effectiveness of ecolabelled products over their useful life. For example: while the upfront cost of the fluorescent lamps is significantly higher than incandescent lamps; with the use of Life-Cycle Cost analysis it was observed that in the long run, the use of fluorescent lamp was much more cost effective, as well as being environment friendly. Hence the government decided to favor fluorescent lamps over incandescent lamps.

Figure B.13: Total procurement and green purchases ratio for fluorescent lamps

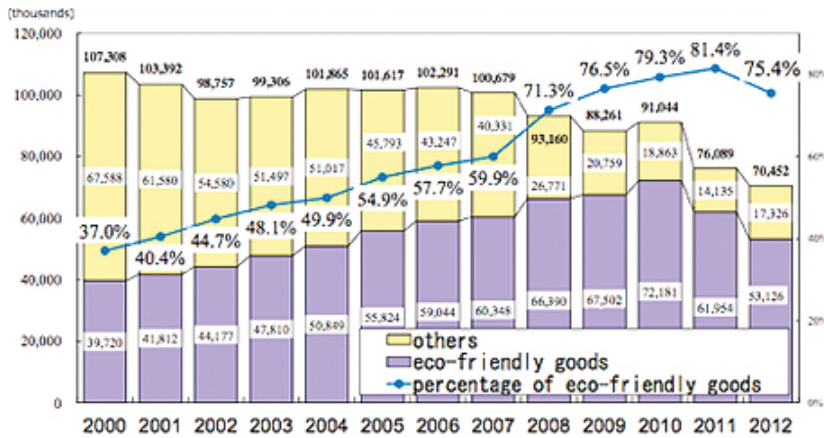


Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations, Case study 2: Monitoring Green Public Procurement in Japan's Public Sector. Retrieved from <http://www.spcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation> (24 April 2016)

2) **Availability of ecolabelled products in the market:** At times, the availability of ecolabelled products is limited in the market and quantities may not be adequate to meet the requirements of the tender.

➔ In Japan, this barrier was overcome by businesses making considerable efforts to develop eco-products, as they saw a big business opportunity in this area (as a result of green public procurement regulations). The activities of many environmentally conscious major companies and local governments stimulated competition and led to an increase in the number of ecolabelled products available on the market.

Figure B.14: Effect of GPP on the market. Market share of eco-friendly florescent lamps



Source: UN Environment (2016). Monitoring Sustainable Public Procurement Implementation Recommendations Case study 2: Monitoring Green Public Procurement in Japan's Public Sector. Retrieved from <http://www.scpclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation> (24 April 2016)

3) **Availability of information about ecolabelled products:** Initially, there was a lack of awareness and knowledge about ecolabelled products and their benefits amongst government staff and the general public.

A variety of initiatives and efforts by the government as well as voluntary organizations like the Green Purchasing Network facilitated information dissemination and awareness-raising about green public procurement and ecolabels. This included:

- **Mandatory green public procurement policy** of the government (and associated public disclosures) helped create awareness about ecolabelled products, as well as the benefits of green public procurement.
- With the backing from the Ministry of the Environment, the Green Purchasing Network (GPN) has succeeded in **involving a wide range of representatives from the business community, the public sector and NGOs in the green public procurement activities**, such as: sharing success stories during training seminars for procurement staff and the introduction of awards for green public procurement by the Ministry of the Environment and Green Purchasing Network.
- **The Green Purchasing Network's online database** of Green Purchasing Guidelines and eco-products helped to **facilitate the identification of green alternatives and the decision-making process** for procurement officers. It became easy to access product environmental information because of the Green Purchasing Network's database and Eco Mark's supplier catalog. This helped in raising awareness and increasing access to information about eco-products.

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APPENDIX C: GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THE REPUBLIC OF KOREA

(Co-authored by Ms. Hyunju Lee, Associate Researcher, Korea Environmental Industry and Technology Institute/KEITI)

Since the 1990s, Sustainable Consumption and Production (SCP) policies have been introduced in the Republic of Korea to support sustainable and resource-efficient production practices. Sustainable consumption and production activities have been practised with a focus on the creation of new markets for green products and services.

As a part of the Sustainable Consumption and Production programme, Green Public Procurement (GPP) has been introduced and implemented at the national level. To achieve successful implementation of green public procurement, the Ministry of Environment in collaboration with the Korea Environmental Industry and Technology Institute (KEITI) and Korean Public Procurement Services (PPS) have introduced several green public procurement activities. The most prominent activities include the development of green public procurement guidelines based on ecolabelling criteria, the establishment of a “Green Products Information Platform” (GPIP) for procurers, and a nation-wide online monitoring system for successful green public procurement implementation.

C.1 REGULATORY AND POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT IN KOREA²⁶

Since the early 1990s, the government of the Republic of Korea has shifted the paradigm of national development towards sustainable development to overcome the challenges of environmental degradation, depletion in resources, waste generation etc. In 1992, to promote sustainable development, the Ministry of Environment (MEV) first initiated an Ecolabel programme and selected four initial products groups for ecolabelling.

In 1994, Green Public Procurement (GPP) in the Republic of Korea was introduced under the “The Support for Environment Technology and Industry Act (formerly, “Act on Development and Support of Environmental Technology”). Per the Act, public institutions should give preference to green products when purchasing. The “Development of Support for Environmental Technology” Act was amended and replaced by the “Support for Environmental Technology and Environmental Industry Act” in 2011.

In 2005, the Ministry of Environment enacted the “Act on Promotion of Purchase of Green Products”. The act serves as the basis for the implementation of Green Public Procurement, voluntary agreements on green business procurement, and green store certifications. As per the Act, national governments, local governments, and public institutions are obliged to submit plans for green

²⁶ Ministry of Environment and Korea Environmental Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrieved from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015kentoukai_1st/ref60.pdf

public procurement with self-defined targets and performance reports for the purchase of green products. In addition, it requires the Ministry of Environment to establish five-year Action Plans for the Promotion of Purchase of Green Products.

According to the “Act on Promotion of Purchase of Green Products”, the first Action Plan for the Promotion of Purchase of Environmentally Friendly Products (2006-2010) was established to implement Green Procurement in the public sector using ecolabelling as an important tool. The first Action Plan for the Promotion of Purchase of Environmentally friendly Products estimated that the green public procurement market would reach 16 trillion won. The 2nd Action Plan (2011-2015) was established to raise awareness on sustainable lifestyles and boost green consumption among general consumers.

C.2 INSTITUTIONAL FRAMEWORK OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN KOREA

C.2.1 INSTITUTIONAL FRAMEWORK FOR GREEN PUBLIC PROCUREMENT²⁷

At the national level, the governing institutions pertaining to green public procurement are the Ministry of Environment (MEV), the Korea Environmental Industry and Technology Institute (KEITI), the Korean Public Procurement Service (PPS) and other public institutions.

Ministry of Environment (MEV): MEV is responsible for the overall management of green public procurement programme such as establishing laws and implementation plans for the promotion of green public procurement. It also supervises the actual green purchases of public institutions.

Korea Environmental Industry and Technology Institute (KEITI): KEITI lends policy support to encourage the purchase of green products through various activities such as:

- Managing the Green Product Information Platform (GPIP)
- Provide education and raise awareness of green public procurement
- Undertake public outreach and share best practices
- Monitor and evaluate green public procurement records at national level.

The Korea Environmental Industry and Technology Institute has appointed two researchers in charge of the green public procurement programme. The researchers perform various tasks related to green public procurement such as:

- Develop guidelines for the green public procurement programme
- Collection of procurement plans from the relevant ministries
- Monitoring and evaluation of the results of green public procurement
- Conduct training of procurers for green public procurement
- Collect and disseminate information to procurers regarding green public procurement best practices via workshops, newsletter, and publications.

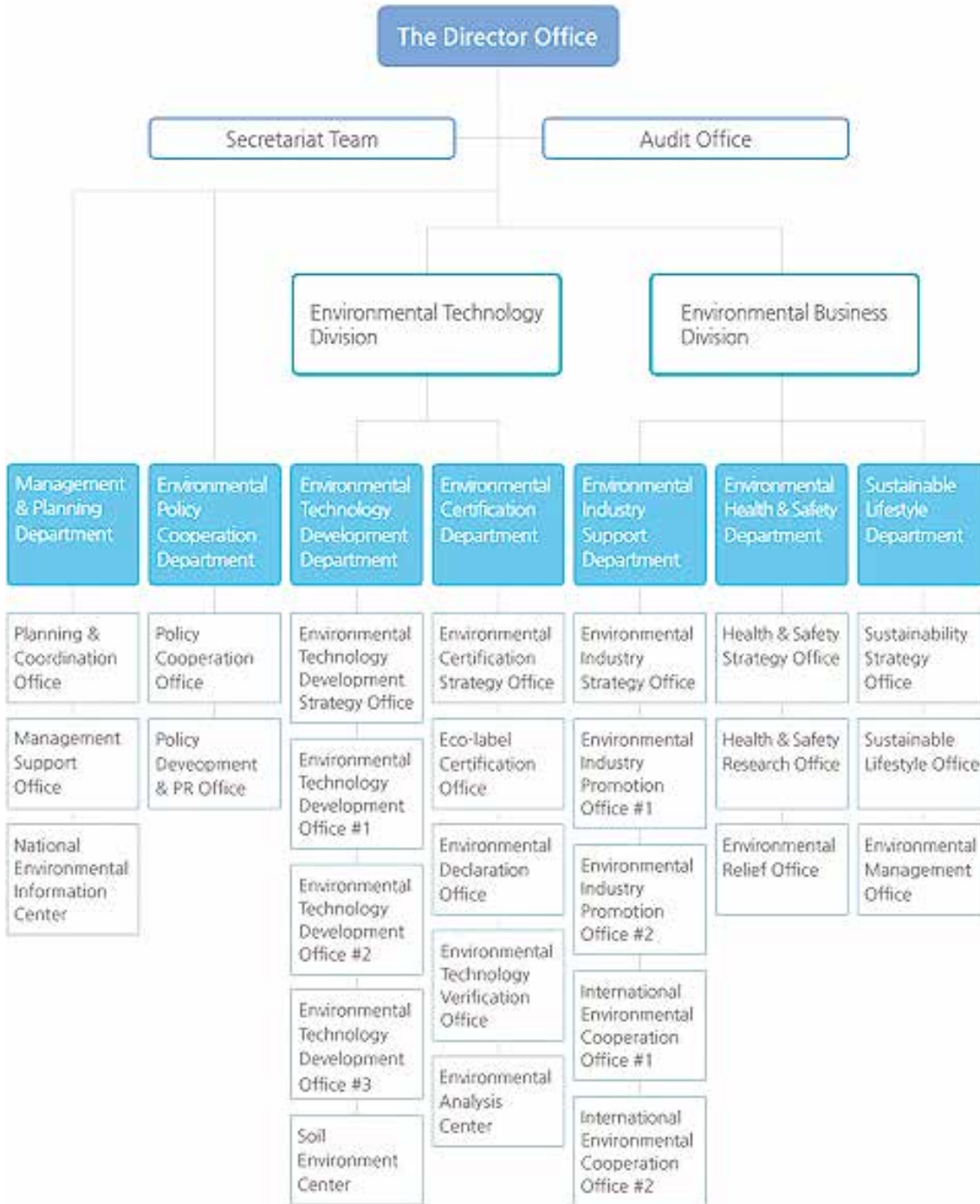
Moreover, the Korea Environmental Industry and Technology Institute has appointed three persons to the green public procurement help desk. The personnel in charge of the green public procurement help desk perform various tasks such as:

- Respond to queries from procurers

27 Ministry of Environment and Korea Environment Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrieved from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015kentoukai_1st/ref60.pdf

- Provide information to public procurers about:
 - List of green products
 - Purchase procedure for Green Products,
 - Monitoring process
 - Use and benefits of the Green Product Information Platform, etc.

Figure C.1: Organisational chart of Korea environmental industry and technology institute²⁸



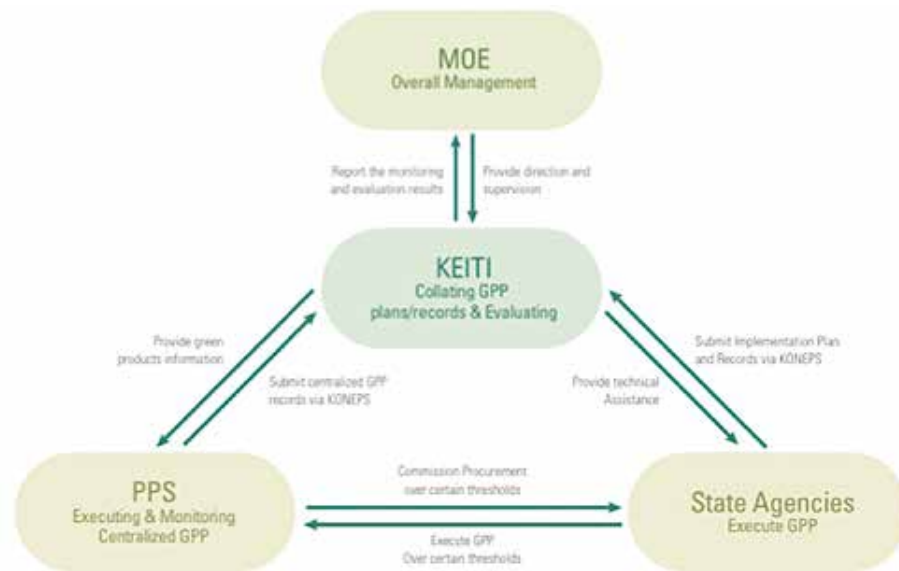
Source: Korea Environmental Industry and Technology Institute (KEITI)

28 Korea Environmental Industry and Technology Institute (KEITI) Retrieved from <http://www.keiti.re.kr/en/subPage.do?menuId=2070300000>

Korean Public Procurement Service (PPS): PPS is responsible for the communication of information compiled by the Korea Environmental Industry and Technology Institute to public institutions. It also operates an online procurement platform, the Green Products Information Platform (GPIP), to facilitate the actual purchasing of green products and coordinates the procurement records from each institution.

Public institutions: Public institutions develop an annual implementation plan with voluntary targets for green public procurement. They monitor and report green purchase records to the Ministry of Environment and institutionalize green public procurement systems.

Figure C.2: Institutional framework for green public procurement



Source: UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

C.2.2 INSTITUTIONAL FRAMEWORK FOR ECO LABELLING

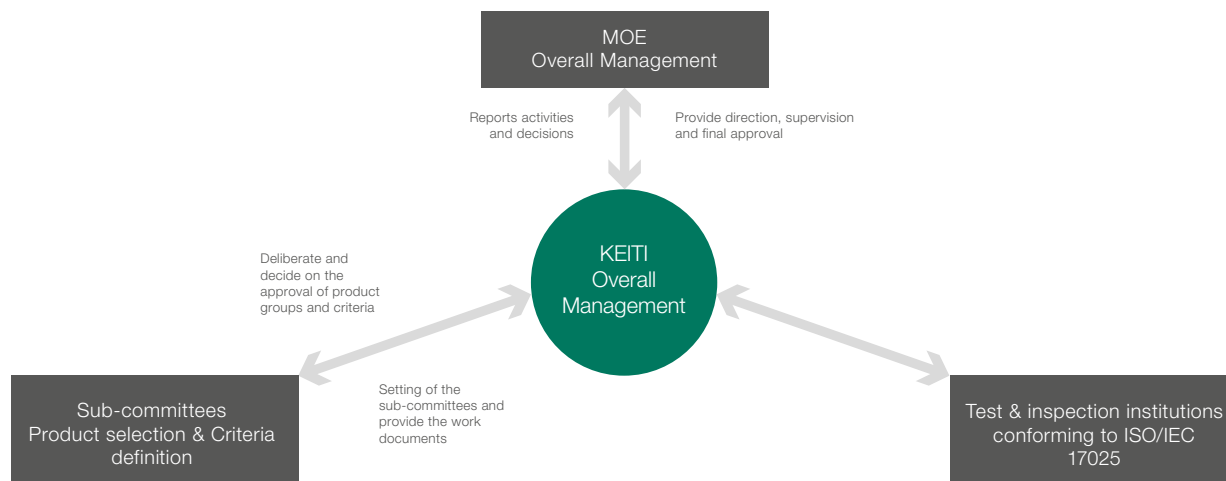
The Ministry of Environment (MEV) is the authority in charge for the overall management of ecolabelling activities, including the establishment and revision of relevant laws and regulations.

The Korea Environmental Industry and Technology Institute (KEITI) under the Ministry of Environment is another main agency responsible for the implementation and promotion of ecolabelling. The Korea Environmental Industry and Technology Institute is responsible for activities such as:

- *Establishment and revision of criteria per product group*
- *Certification of products*
- *Follow-up on the management of ecolabelled products*
- *Promotion of ecolabelling and certified products*²⁹

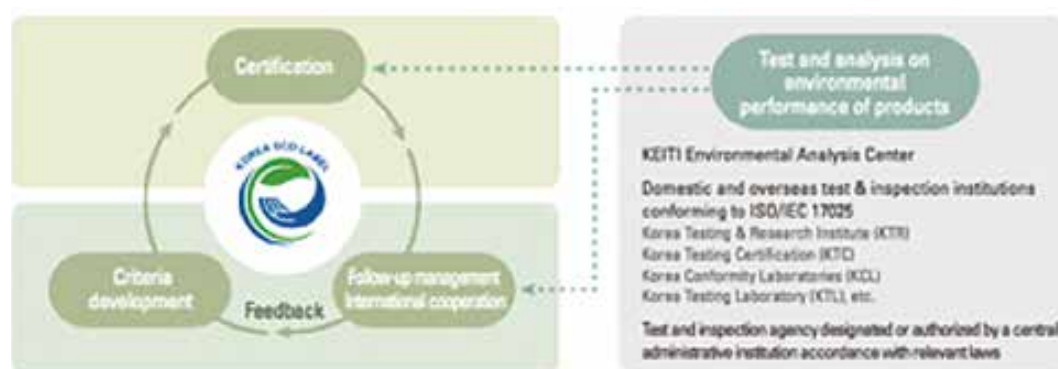
²⁹ Korea Environment Industry and Technology Institute (KEITI). Retrieved from <http://el.keiti.re.kr/enservice/enpage.do?mMenu=1&sMenu=2>

Figure C.3: Institutional framework for ecolabelling




Source: UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

Figure C.4: Institutional arrangement of the Korea Eco-label programme



Source: Ministry of Environment, Korea Environmental Industry and Technology Institute. (2015) Policy Handbook for Sustainable Consumption and Production of Korea

C.2.3 ECOLABEL CHARACTERISTICS AND DEVELOPMENT OF ECOLABEL CRITERIA³⁰

 Korea Eco-label is a Type I voluntary certification scheme. Korea Environmental Industry and Technology Institute is responsible for the implementation of the ecolabelling programme. The Korea Eco-label certifies 156 categories of products. Food, pharmaceuticals, agrochemicals and forest products are subject to different Acts for certification with environmental features.

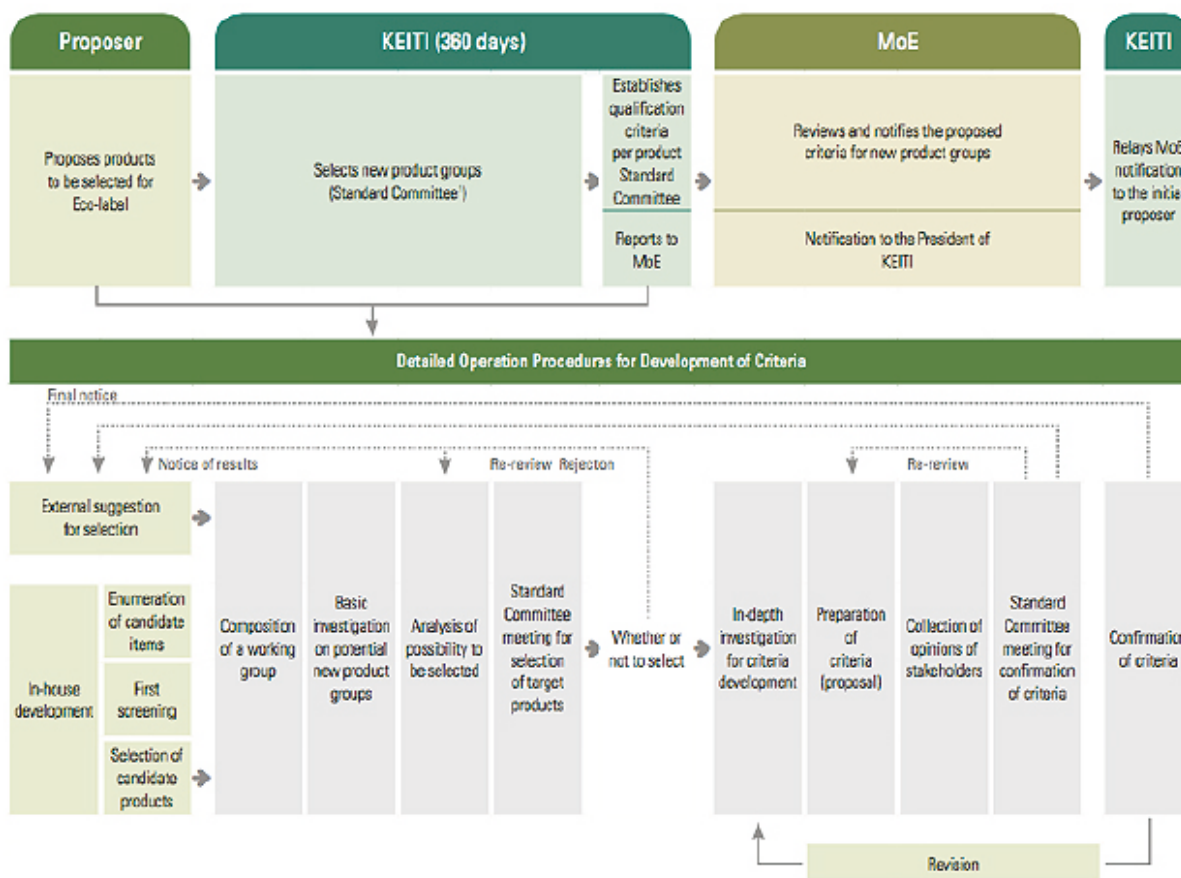
The Korea Environmental Industry and Technology Institute establishes the product criteria for the target product groups subject to the Korea Eco-label. Target product groups are proposed either through external or internal review that takes into account different criteria such as;

- Market size
- Quantitative measurability
- Necessity for environmental improvement
- Requirements of different stakeholders (government, manufacturers and concerned organizations)

³⁰ Ministry of Environment and Korea Environment Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrived from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015kentoukai_1st/ref60.pdf

Upon submission of a proposal for new product groups, a Standard Committee is established to review and decide on the approval of new product groups. The standard committee is divided into 2 categories: (i) to select the target product groups and (ii) to confirm the detailed qualification criteria per product.

Figure C.5: Selection process for target groups and development of criteria



Source: Ministry of Environment, Korea Environmental Industry and Technology Institute. (2015) Policy Handbook for Sustainable Consumption and Production of Korea

Upon the selection of target groups by the Standard Committee, the researchers develop the ecolabel criteria and prepare a draft of the certification criteria. The Standard committee reviews the draft criteria and takes into consideration the comments from the relevant stakeholders. A final version of the criteria is prepared by incorporating the comments and feedback from the stakeholders and is notified under the name of Ministry of Environment.

The ecolabel criteria take into account both environmental criteria, such as water and energy conservation, recycling, reduction of toxic substances emission, and biological safety, and product quality, equivalent to or higher than the Korean Industrial Standards (KS). Environmental criteria are set to attain the top 20-30% of environment-related standards among products of the same category. The information regarding product categories and criteria is available on the website of the Korea Eco-label <http://el.keiti.re.kr/enservice/enindex.do>.

As per the statistics of 2015, the number of Korea Eco-label certified products and companies producing certified products increased by 51 times and 15 times respectively compared to 2001. Public awareness about the Korea Eco-label rose from 30% in 2007 to 53.8% in 2015.

Figure C.6: Development procedure for Korea Eco-label criteria




Source: Ministry of Environment, Korea Environmental Industry and Technology Institute. (2015) Policy Handbook for Sustainable Consumption and Production of Korea

As of December of 2015, 16,647 products manufactured by 2,737 companies in 156 categories have retained their certification.

Table C.1: Market trends of Korea Eco-label certified products

	2001	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Number of certified products	326	757	2,721	4,639	5,105	6,005	6,531	7,904	7,777	9,140	10,436	13,352	16,647
Number of companies producing certified products	182	306	677	941	1,175	1,369	1,890	2,530	2,670	1,841	2,025	2,386	2,737

C.2.4 GOOD RECYCLED MARK

 In 1997, Good Recycled Mark was started for recycled waste. The Ministry of Trade, Industry and Energy is the main certification authority in charge of the label. The Good Recycled Mark certifies 15 categories of products under the “Act on Promotion of Saving and Recycling of Resources”. There are 239 certified products e.g. waste paper, waste plastic products, waste fibers, waste rubber products, etc.³¹

31 Im, Hyun-Jung Republic of Korea. Policy Approches for sustainable public procurement in Korea: Focusing on Enactement of Green Procurement Law. Retrieved from <http://www.un.org/esa/sustdev/sdissues/consumption/procurement/hyunjunggg.pdf>

C.2.5 DEVELOPMENT OF GREEN PUBLIC PROCUREMENT GUIDELINES³²

According to the Act of 2005, the products and services applicable for green public procurement are defined as:

1. Products certified or meeting the underlying criteria set by the Korea Eco-label
2. Products certified or meeting the criteria of the quality certification for recycled products (Good Recycled Mark)
3. Products complying with other environmental criteria set by the Ministry of Environment.

Table C.2: Types of green products selected for the green public procurement programme (as of December 2015)³³

	Korea Eco-label	Good Recycled Mark
Product Groups	156 (office supply, electronic appliance, construction materials, furniture, etc.)	15 (recycled paper, rubber, plastic, etc.)
Number of certified products	16,647 products	239 products
Number of manufacturers	2,364	196
Certified by	Korea Environmental Industry and Technology Institute	GR Institute
Certification Authority	Ministry of Environment	Ministry of Trade, Industry and Energy
Website	http://www.ecoi.go.kr	http://www.gr.or.kr

(Source: Korea Environmental Industry and Technology Institute)

The Korea Environmental Industry and Technology Institute (KEITI) under Ministry of Environment is responsible for the development of green public procurement guidelines for procurers to support green public procurement implementation. These guidelines provide different resources to help purchasers with implementation such as³⁴:

1. Purpose, legal basis, target organizations, working mechanism of green public procurement
2. Definition of green products
3. Coverage, exception, and process of green public procurement
4. How to develop and submit a green public procurement implementation plan and performance records
5. How to use online monitoring platform

32 Ministry of Environment and Korea Environment Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrived from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015kentoukai_1st/ref60.pdf

33 Sustainable Purchasing Leadership Council. Revised Feb 10 2015. Case Study Korea

34 UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

Green public procurement guidelines are developed annually in October and are uploaded on the Green Products Information Platform for procurers. (<http://gd.greenproduct.go.kr>)

Korea Eco-label criteria are reviewed periodically and revised such as when:

- a) A stakeholder submits a request for the revision of criteria, together with details of the reason for revision and proposal for revision
- b) The regulation criteria established by other relevant laws have become more stringent than the ecolabel criteria
- c) The certified product has lost its distinctive feature or market share
- d) Innovations are made in the technologies that are relevant to the product's environmental and quality aspects
- e) The current ecolabel criteria are required to be harmonized with international standards or other relevant regulations, including agreements on mutual recognition with foreign certification agencies.

C.3 IMPLEMENTATION OF GREEN PUBLIC PROCUREMENT IN KOREA

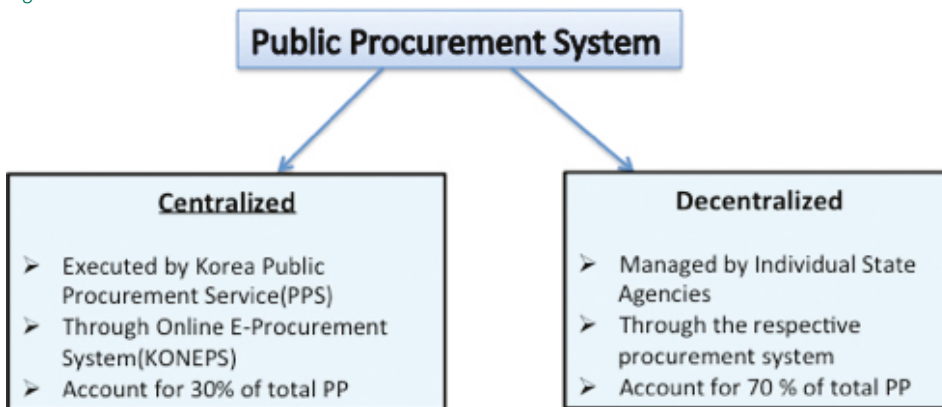
C.3.1 POLICY OBJECTIVES AND COMMITMENTS

Currently, the government has not set any quantitative targets for green public procurement. However, according to the “**Act on Promotion of Purchase of Green Products**” of 2005, each state agency is mandated to submit and publish an implementation plan for green public procurement on an annual basis, set its own voluntary targets (e.g. estimated amount of green purchase and percentage of green purchase in relation to the total purchase of the year) and report on their progress to the Ministry of Environment.

C.3.2 PUBLIC PROCUREMENT SYSTEM

Public procurement in the Republic of Korea is undertaken via two different systems: a centralized and a decentralized system.

Figure C.7



Each public authority manages purchases and tendering processes through its own systems for purchases under certain thresholds. The thresholds for the purchases by public authorities are:

1. For single domestic product groups, purchase above 100 million KRW (100,000 USD)
2. For foreign products, purchase above 200,000 USD
3. For construction projects of central governments, over 3 billion KRW (3 million USD), or electric works over 300 million KRW (300,000 USD).

For purchases and contracts above these thresholds, public authorities are required to use the centralized online procurement system, the Korea ON-line E-Procurement System (KONEPS), and grant authority to the Korean Public Procurement Service (PPS) to manage the procurement.

C.3.3 GREEN PUBLIC PROCUREMENT IMPLEMENTATION MECHANISMS IN KOREA³⁵

At national level, Public Procurement is carried out through two different purchase methods via: direct and indirect purchase.

- **Direct purchase:** Purchases made by the respective public institutions using its own budget. Most of the direct purchases are made online.
- **Indirect purchase:** Purchases made by a third-party on a contract basis such as public works and services.

When purchasing green products, the public institutions check for the following criteria:

- Certified or meeting the criteria set by the Korea Eco-label
- Certified or meeting the criteria set by the Good Recycled Mark
- In compliance with other environmental criteria set by the Ministry of Environment in consultation with the heads of relevant ministries.

About 30% of the government procurement is done through the Public Procurement System (PPS). Since 2002, the Public Procurement System (PPS) has established the Korea On-line E-Procurement System (KONEPS) to digitize some of its procurement processes. KONEPS allows the entire procurement process to be conducted online through activities such as submitting procurement requests, bids, contracting, payments, and consolidates information on national procurement projects.

Green products can be favoured in tendering process in two ways. First, the procurers can include the provisions of the use of green products in technical specification of the tendering document. Therefore, the use of green products is set as a pre-requirement for winning the bid. Secondly, the use of green products can be included as one of the award criteria including price, technology, product quality, etc. with different weightage. Life-cycle costing has not been integrated in the green public procurement process as of today.

C.3.4 EFFORTS FOR THE PROMOTION OF GREEN PUBLIC PROCUREMENT IN KOREA



Providing information on green public procurement at the Green Products Information Platform³⁶: In 2007, the Korea Environmental Industry and Technology Institute set up a “Green Products Information Platform” (GPIP) in order to facilitate green public procurement implementation and data reporting (<http://www.greenproduct.go.kr>). The Green Products Information Platform website serves as the main source of information for green public procurement in Korea. It provides access to resources, such as green public procurement guidelines³⁶; lists/catalogues of certified products; compilation of best green public procurement practices by Korean public authorities; and systems to compile the green public procurement reporting data.

35 Ministry of Environment and Korea Environmental Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrieved from https://www.env.go.jp/policy/hozen/green/kokusai_platform/2015kentoukai_1st/ref60.pdf

36 Green public procurement guideline of Korea provides a) purpose, legal basis, target organizations, working mechanism of green public procurement; b) Definition of green products; c) Coverage, exception, and process of green public procurement; d) How to develop and submit a green public procurement implementation plan and performance records; and e) Annex – green public procurement act, list of target org., how to use online monitoring platform.

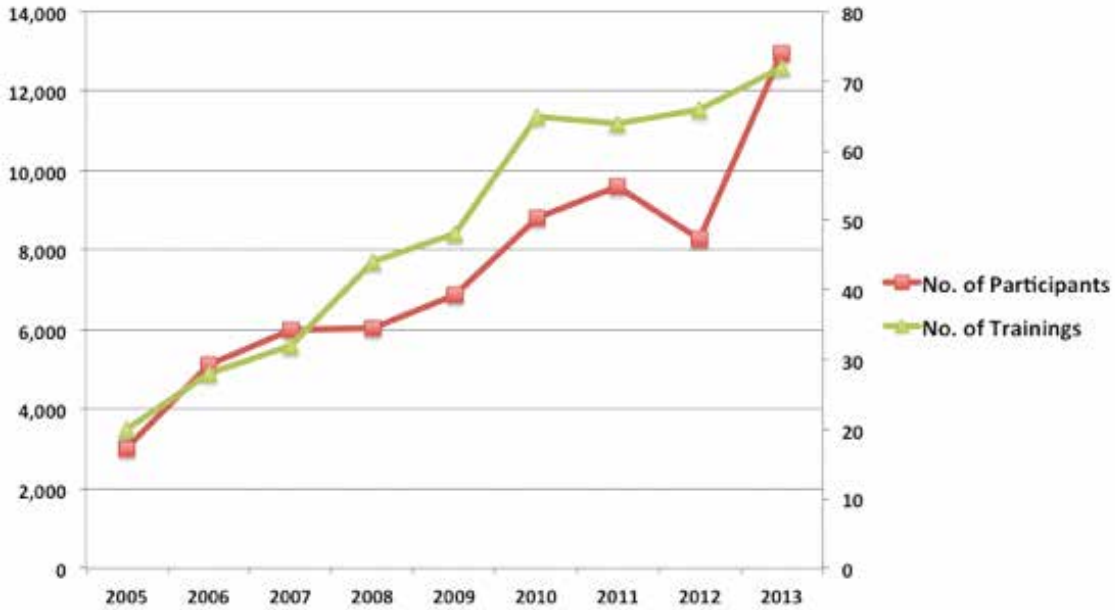
Figure C.8: Green Product Information Platform



Source: UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

- ➔ **Providing Standard Green Public Procurement Ordinance:** KEITI establishes the Standard Ordinance for the Promotion of Green Procurement and distributes it to local governments and education authorities in order to assist municipal and provincial governments in establishing local-level ordinance for encouraging the purchase of green products. The Standard Ordinance for the Promotion of Green Procurement for local governments was established and distributed in April 2006. At present, a total of 242 out of 244 local governments have established their own ordinance for green public procurement, with an ordinance establishment ratio of 99.2 percent. The Standard Ordinance for Promotion of Green Procurement for education authorities was established and distributed in July 2013.
- ➔ **Sharing and Disseminating Best Practices:** Every year, KEITI organizes workshops in order to exchange good practices, as well as to discuss with procurers about the ways/methods to improve the green public procurement system. The workshop is held for public purchasers from local governments, public enterprises and quasi-government institutions on the sidelines of ECO EXPO KOREA every October. As part of the workshop, a group tour to the ECO EXPO KOREA is organized to provide network opportunities between public procurers and eco-friendly manufacturers.
- ➔ **Providing green public procurement training:** A nationwide training is also offered to over 6,000 public officials in public institutions from November to December every year. Green public procurement guidelines developed by KEITI are distributed before the training session. Furthermore, on-demand training is provided during the year for those institutions, which could not participate in the training.

Figure C.9: Green Product Information Platform



Source: Ministry of Environment and Korea Environment Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrieved from www.scpclearinghouse.org/upload/publication_and_tool/file/399.pdf

➔ **Support Green Products to be registered as Vendor Products on the PPS website:** Administrative support is offered for registration of green products in PPS. In addition, detailed information including the price, size and images of newly certified products are updated at the Green Products Information Platform on a regular basis to allow convenient search of Green Products by procurement staff.

➔ **Providing Fiscal Incentives:** Annual performance bonus for public institution and local governments is given based on the level of Green Procurement. The weightage factor of the bonus varies according to the type of organizations.

Figure C.10: Fiscal Incentives as green public procurement support measures



Source: KEITI (2015) Korea's Green Public Procurement and Lessons Learned [slides]. Workshop Boas práticas de contratações públicas sustentáveis e recomendações para formulação de Políticas Públicas, Brasília – 6 agosto 2015

OTHER COMPLEMENTARY ACTIONS

Green Credit Card: Green Credit Card is an incentive system jointly launched by the Government of Korea and credit card companies to provide economic incentives to green-conscious consumers. Economic incentives are provided for i) purchasing low-carbon and eco-friendly products, ii) using public transport; and iii) saving utility rates including electricity, water, and gas. The credit card platform serves as a convenient medium to accumulate and use eco-money points in daily life, thereby attracting more than 10 million users.

Eco-Expo Korea: Since 2005, ECO-EXPO Korea is organized featuring various eco-friendly technologies, products, services and other environmental activities of the government and businesses. It serves as a platform to raise public awareness on eco-friendly consumption and lifestyles.

Korea Eco Business Awards: Korea Eco-Business Award is presented by Ministry of Environment and managed by KEITI. The award is a reputational incentive for organizations or individuals contributing to the development of ecological technology and Industry; mitigation of climate change; and eco-friendly consumption and production.

Public-Private voluntary agreements: Since 2005, the Ministry of Environment and private enterprises have entered into voluntary agreements on green public procurement for businesses in order to facilitate the voluntary production, distribution and purchase of green products by private companies. As of 2015, 87 companies are engaged in the initiative. Moreover, a variety of public-private partnership programmes are carried out to facilitate green consumption in the private sector.

C.4 MONITORING SYSTEM AND RESULTS OF GREEN PUBLIC PROCUREMENT IN KOREA

C.4.1 GREEN PUBLIC PROCUREMENT MONITORING SYSTEM³⁷

KEITI has been in charge of the monitoring system for green public procurement since 2005. KEITI monitors two indicators annually:

- The number of public organisations submitting their green public procurement implementation plan and performance records
- Purchase of green products and services from a list of designated products/services (n^o, expenditure and %)

For monitoring purpose, records from more than 30,000 public organizations are collected by umbrella organizations and regional governments. These organisations are in charge of compiling the records of the subsidiary organizations and cities within their boundaries.

In total about 870 documents are compiled covering the whole Korean Public sector.

In 2007, KEITI set up a “**Green Products Information Platform**” (GPIP) to facilitate the implementation and data reporting of green public procurement. An institutional arrangement between the key stakeholders such as PPS, the Ministry of the Environment, and KEITI was instrumental in setting up an integrated e-monitoring system.

For the first indicator, KEITI keeps track of the number of public entities that submit their annual green public procurement plans to the Ministry of Environment by uploading them on the Green

³⁷ Ecoinstitute (2013). SEAD Guide for Monitoring and Evaluation guide for Green Public Procurement Programs. Retrieved from superefficient.org/~media/Files/SEAD_GPP_ME_Guide_final.pdf

Products Information Platform. The total amount covers more than 30,000 public organizations in the country, however they are not collected individually. Umbrella organizations and regional governments are in charge of compiling the records of the subsidiary organizations and cities within their boundaries.

Regarding the second indicator, i.e. the level of green products/services purchase, the data monitored relates to the **total amount of green purchases** (products meeting the Korea Eco-label's and Good Recycled Mark's criteria) in both units and economic value. This indicator applies to 171 designated product groups.

The **total amount of green purchase data comes from three different monitoring channels including KONEPS** (for purchase executed by PPS), **Green Market** (for decentralized on-line purchase), and **Green Products Information Platform** (for decentralized purchases tracked by each authority and reported through Green Products Information Platform), and is aggregated on the Green Products Information Platform.

Currently, 60% of the national green public procurement data is automatically reported via the Green Products Information Platform. In 2014, 98.2% of state agencies submitted their implementation plans and records and 96.7% of the organisations reported their performance records.

C.4.2 ESTIMATION OF GREEN PUBLIC PROCUREMENT IMPACTS

To communicate the benefits of green public procurement and promote its further implementation, KEITI estimates the reduction in environmental impacts in two ways.

First, the overall environmental impacts of green public procurement are estimated for 134 ecolabelled product groups with actual purchase records, as per the following:

- *Decreased use of hazardous substances*
- *Increased use of recycled material*
- *Energy saving*
- *Decreased (ambient) noise*
- *Improved recyclability*
- *Decreased ecological toxicity*
- *Efficient use of materials*
- *Decreased emission of indoor air pollutants*
- *Decreased emission of air pollutants*
- *Decreased human toxicity*

Second, the reduction in environmental impacts is calculated by comparing reduction in impacts for ecolabelled products with conventional products.

➔ CO₂ emission reduction impacts are calculated for 19 product groups³⁸ by comparing reduction in impacts for ecolabelled products with ordinary ones.

➔ Economic savings resulted from the reduction in environmental impacts are communicated in monetary value annually at national level. In addition, some key environmental benefits of the selected products are communicated to public procurers during green public procurement trainings. For instance, the environmental benefits of ecolabelled LED lamps are described using the amount of electricity savings per year compared to the ordinary one (kWh), economic savings from electricity bill (KRW), the effect of planting trees, and economic savings from decreased use of hazardous substance.

➔ Social benefits are communicated in terms of jobs created in the green sector, which are based on a figure provided by the Bank of Korea. The social benefits are calculated as (the employment inducement coefficient – n° of persons/won expenditure)³⁹.

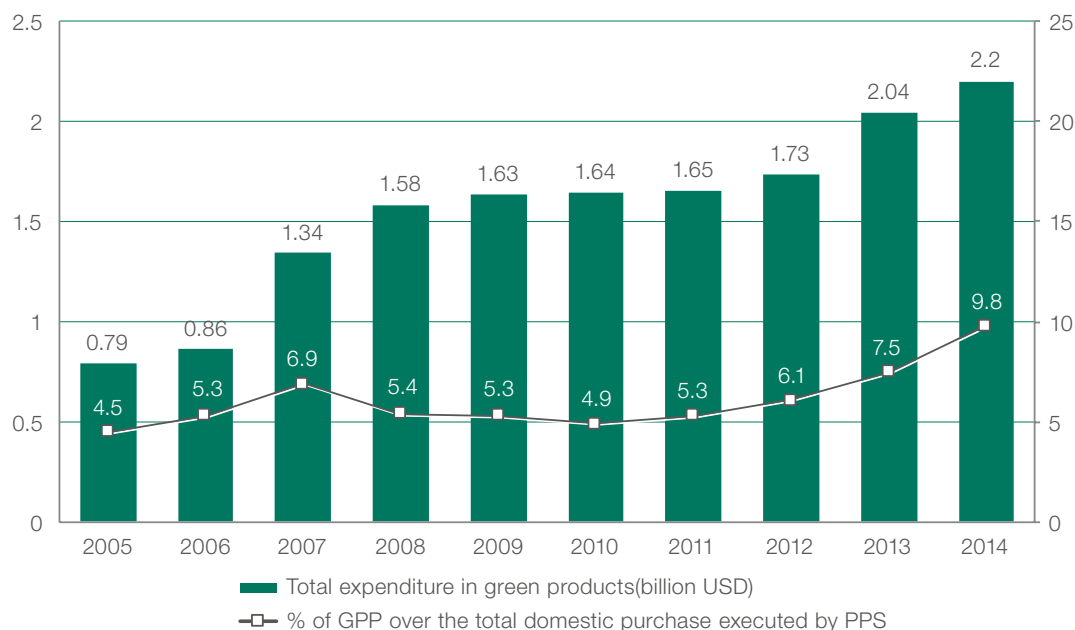
38 Copying machine, washing machine, dish washer, refrigerator, television, computer, laptop, printer, computer monitor, facsimile, air conditioner, Desk, bookcase/cabinet, partition, blast furnace slag cement, insulator and sound-absorbing material, floor decoration material, Toilet paper, soap

39 Source: UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

C.4.3 PUBLICATION OF RESULTS

All the agencies submit their green public procurement records to KEITI and need to provide justifications if the Green Purchasing records have increased from previous year by $\geq 50\%$ or decreased by $\leq 30\%$ ⁴⁰. All the green public procurement data received is compiled by KEITI through the Green Products Information Platform. Green Purchase records from each public authority and is then made available to the public by the Ministry of Environment and KEITI every year. The compiled green public procurement results are disclosed on the Ministry of the Environment website (<http://eng.me.go.kr/eng/web/main.do>) and Green Products Information Platform (<http://gd.greenproduct.go.kr>) website, where the public can easily access and compare results.

Figure C.11: Trends in green public procurement records and ratio⁴¹



Source: Korea Environmental Industry and Technology Institute. December 2015. (slides) UN Environment workshop on green public procurement and Ecolabelling.

C.5 RESULTS ACHIEVED

As per the results of 2013, 96.4% of agencies submitted green public procurement plan to KEITI while 97.7% of agencies submitted the performance reports to KEITI as part of green public procurement implementation⁴².

As per the statistical data, the total public expenditure in green public procurement has increased from 254 billion KRW (254 million USD) in 2004 to 2.2 trillion KRW (2.2 billion USD) in 2014. Currently, there are 14,096 products certified for green public procurement in 169 product categories.

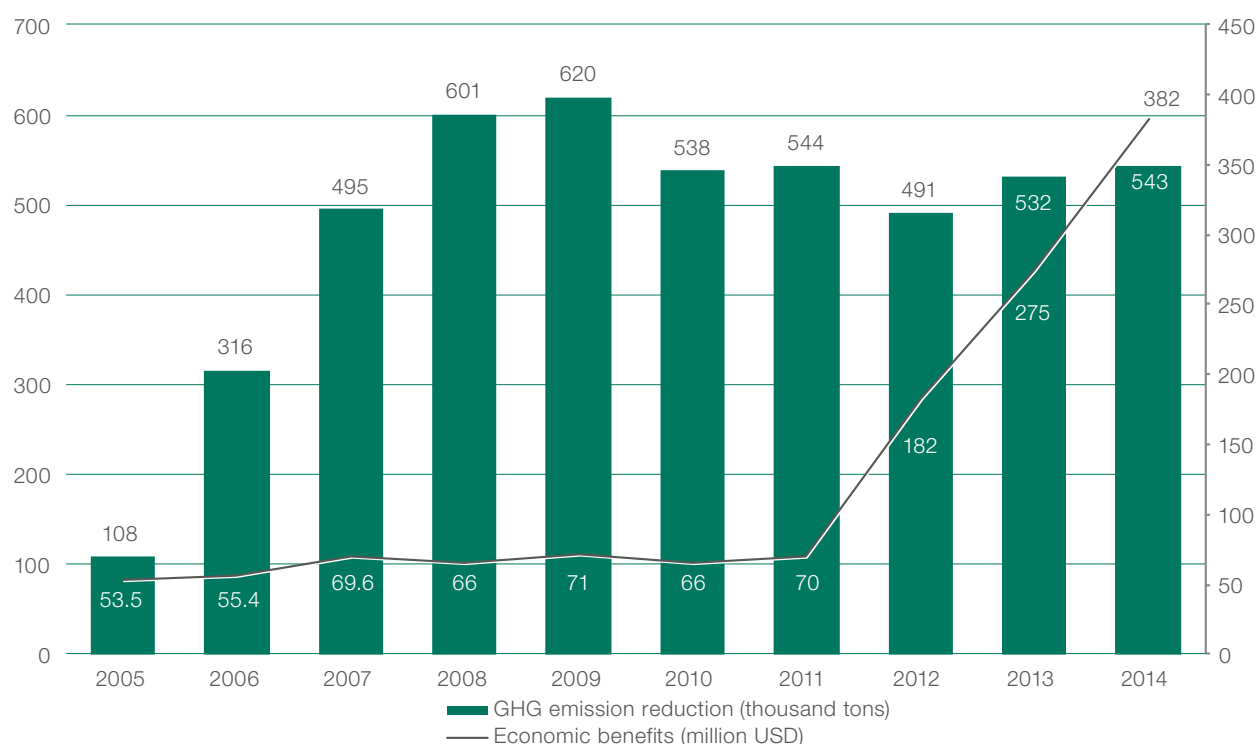
As per the statistics of 2014, economic benefits gained from the purchase of green products were estimated to amount to 382 million USD. GHG emission reduction from green public procurement is calculated for 19 product categories, and in 2014 the total amount of GHG emission saved was estimated to be 543,000t.

40 UN ENVIRONMENT Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

41 Ministry of Environment and Korea Environment Industry and Technology Institute (KEITI). 2015. Policy Handbook for Sustainable Consumption and Production of Korea. Retrieved from <http://www.scpclearinghouse.org/initiative/policy-handbook-sustainable-consumption-and-production-korea>

42 UN ENVIRONMENT Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

Figure C.12: GHG emission reduction and economic benefits of green public procurement



Source: UN Environment Workshop Malaysia (Dec. 2015). Korea Environmental Industry and Technology Institute (KEITI). Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries

C.6 CHALLENGES AND SUCCESS FACTORS OF GREEN PUBLIC PROCUREMENT IN KOREA

Even though Korea has a well-established Green Procurement framework and nationwide online monitoring system, the implementation and promotion of green public procurement still faces challenges.

C.6.1 CHALLENGES FOR GREEN PUBLIC PROCUREMENT

- 1. Competing Priorities:** There are several regulations pertaining to public procurement that exercised in a fragmented way. Therefore, green public procurement may not be a priority for some procurers or organizations for a number of other criteria (e.g. energy efficient, socially responsible) competing with the green.
- 2. Lack of Availability of Sustainable Products:** The scope and number of green products should be expanded to satisfy the requirement of various institutions. For example, for product categories such as construction materials and ICT devices, green products need to be developed with diverse functions and designs in accordance with the demands of public procurers.
- 3. Lack of Targeted Monitoring and Evaluation:** At the national level there is no specific target set for green public procurement. The broader environmental, social, and economic targets are not directly related to green public procurement target at national level.
- 4. Staff Turnover:** Due to frequent changes of public procurers at public institutions, training and public outreach for green public procurement is continuously required.

C.6.2 SUCCESS FACTORS FOR GREEN PUBLIC PROCUREMENT

The success factors for successful implementation of green public procurement practices in Republic of Korea are:

1. **Establishment of Green Public Procurement criteria based on Korea Eco-label and Green Recycled Mark.** By linking these two labels the administrative costs to establish green public procurement criteria have been limited by each institute.
2. Establishment of **clear legal basis that gives a mandate to purchase green products** nationwide, it has become easier to promote green public procurement at national level.
3. A **well-established e-procurement system (KONEPS)** and the centralization of a large number of procurement processes through the central procurement agency (PPS) helped in the successful monitoring of green public procurement. With the e-procurement system it is easier to concentrate a large volume of the green public procurement data in one single source.
4. **Annual publication of green public procurement guidelines by the Ministry of Environment**, which provide technical assistance to procurers on the green public procurement implementation and also on reporting processes.
5. The provisions of intensive training by the government to assist procurement staff to develop plans, compile data, and report results on green public procurement.
6. The public recognition of organization's good practices in implementing and monitoring the green public procurement through awards given by the Ministry of Environment and its dissemination via the media.
7. Financial and reputational bonus.

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APPENDIX D: GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THAILAND

Since 2005, the Royal Thai Government has adopted strategies, plans and policies to direct Thailand's development towards sustainability. In 2005, the Pollution Control Department (PCD) within the Ministry of Natural Resources and Environment (MNRE) introduced Green Public Procurement (GPP) in Thailand. Two Green Procurement Promotion Plans have been developed to build awareness and support implementation of green public procurement. The Pollution Control Department has begun implementation of green public procurement in the public sector and has initiated several activities under the plan.

D.1 REGULATORY AND POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THAILAND

The **Thailand Business Council for Sustainable Development (TBCSD)** initiated the **Thai Green Label Scheme**, in October 1993.

Since 2005, Green Public Procurement has been actively promoted in the Government of Thailand. The Pollution Control Department (PCD) initiated the development of Green Public Procurement and started **pilot green public procurement activities** within the MNRE.

In 2007, green public procurement was included in the **10th “National Economic and Social Development Plan”** (2007-2011) and the **“Environmental Quality Management Plan”** (2007-2011) due to increasing awareness about green public procurement policy. The 10th plan states that, “the Government sector should be leader in Green Procurement in order to create proper markets of environmental products and services”.

On 22 January 2008, the **1st “Green Public Procurement Promotion Plan” (2008-2011)** for the Central Government was approved by cabinet resolution. The objective of the 1st Green Public Procurement Promotion Plan was to promote and initiate green public procurement implementation in Government sector with efficient supporting tools.

In 2012, the **2nd “Green Public Procurement Promotion Plan” (2013-2016)** was drafted to **expand the scope** of green public procurement from central to local authority, private sector and general public. The 2nd Plan has been approved by the National Environment Board and is waiting for Cabinet resolution. However, the Pollution Control Department has already started the green public procurement activities under the plan. The objective of the 2nd Green Public Procurement Promotion Plan is to encourage governmental agencies in implementing green public procurement. It also aims to **support the private sector** in green production and increase the volume of green products in markets thereby promoting sustainable consumption.

Figure D.1: Green public procurement initiation in Thailand



D.2 INSTITUTIONAL FRAMEWORK OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THAILAND

The public procurement in Thailand is undertaken in a **decentralized** way. As per the 1st Green Public Procurement Promotion Plan, the first phase of green public procurement for the years (2008 – 2011) **focused only on the central departments** and the implementation of green public procurement was carried out on a **voluntary basis**. The government has allocated a budget of 753,524,862 Baht (@21 million USD) for 4 years. PCD has allocated a budget of @ 2 – 3 million Baht for green public procurement promotion activity annually.

D.2.1 INSTITUTIONAL FRAMEWORK FOR GREEN PUBLIC PROCUREMENT⁴³

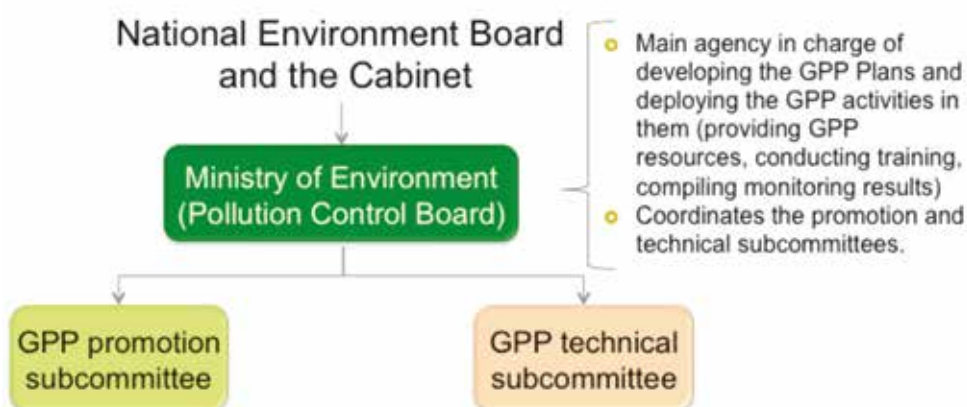
- **Ministry of Finance (MOF):** The **Controller General’s Department (CGD)** is **the main agency involved in green public procurement**. CGD sets out the rules and regulations for procuring products and services, distributes the allocated budget to governmental agencies and **monitors the spending** of the budget. In August 2008, CGD circulated a document to all governmental agencies under the Regulations of the office of the Prime Minister on Procurement to **urge for the procurement of environmentally friendly products and services** to support the 1st Green Public Procurement Promotion Plan.
- **Pollution Control Department (PCD):** PCD within the Ministry of Natural Resource and Environment (MNRE) is the **main organisation responsible for the implementation of pilot green public procurement program** in Thailand. PCD is responsible for the selection of products and **development of criteria** for environmentally friendly products and services. It also leads the green public procurement implementation in the pilot phase in order **to evaluate, adjust and expand** the implementation of Thai green public procurement **to other governmental agencies**.
- **Ministry of Industry (MoI):** The **Department of Industrial Work (DIW)** plays an important role in **promoting sustainable production at industry level**. The MoI provided support to the manufacturers for improving the processes and products so as to qualify for green public procurement.
- **Department of Industrial Promotion (DIP):** DIP has the mandate to promote and foster the industrial sector in Thailand. DIP contributes to green public procurement by **promoting manufacturers operating green production facilities** and producing green products to qualify under green public procurement.

⁴³ GIZ Issue (4 February 2015) Newsletter on Climate Policy in Thailand. Retrieved from <http://www.thai-german-cooperation.info/admin/uploads/publication/6605e1bce985f901b05dee28cb8abbaaen.pdf>

- **Department of Environmental Quality Promotion (DEQP):** It plays an important role in **raising awareness** on Sustainable Consumption and Production (SCP) among the general public, municipalities and SMEs through capacity building programmes, project implementation and public relation campaigns.
- **Thai Industrial Standards Institute (TISI):** It is the **national standards** body of Thailand. The TISI, in co-operation with the Thailand Environment Institution (TEI), manages the **Thai Green Label Scheme**.
- **Thailand Environmental Institute (TEI):** A **NGO**, which plays many key roles for climate protection, emission reduction, and **sustainable consumption and production** such as research, project implementation, consultation and organisation of trainings in environmental aspects. The TEI is the **secretariat for the Thai Green Label**.

Figure D.2: Institutional framework of the GPP plans

Institutional framework of the GPP plans



Source: UN Environment workshop Malaysia Dec. 2015. Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

There are **two subcommittees** leading the green public procurement programme in Thailand namely;

- (i) **Green public procurement promotion subcommittee** established in June 2010 including the members shown in table D.1.



Table D.1: Members of the green public procurement promotion subcommittee

Deputy Permanent Secretary of MNRE (Chief of Environmental Mission) – Co-chairman	Deputy Permanent Secretary of Ministry of Industry (MOI) – Co-chairman	Director General of Pollution Control Department (PCD) or representative	Director General of Department of Environmental Quality Promotion (DEQP) or representative
Director General of Department of Energy Business or representative	Director General of Department of Science Service or representative	Director General of The Comptroller General's Department (CGD) or representative	Director General of Department of Industrial Works or representative
Director General of Department of Industrial Promotion or representative	Director General of Department of Health or representative	Secretary General of The National Economic and Social Development Board (NESDB) or representative	Secretary General of The Board of Investment (BOI) or representative
Secretary General of Thai Industrial Standards Institute (TISI) or representative	Secretary General of Office of the Consumer Protection Board (OCPB) or representative	Governor of Tourism Authority of Thailand or representative	Chairman of The Federation of Thai Industries (FTI) or representative
Chairman of The Thai Chamber of Commerce or representative	President of Thailand Environment Institute (TEI) or representative	President of Green Leaf Foundation or representative	Director of National Bureau of Agricultural Commodity and Food Standards or representative
Executive Director of National Metal and Materials Technology Center or representative	Director of Thailand Greenhouse Gas Management Organization (Public Organization) or representative	Advisors	Director of Environmental Quality and Laboratory Division, PCD – Co-secretary
Director of Standards Division, TISI – Co-secretary			

The green public procurement promotion subcommittee performs various tasks such as:

- Propose policies and measures to support and encourage green public procurement programme
- Control and accelerate the green public procurement implementation by the agencies
- Support the development of standards and driving mechanisms to certify environmental products and services with the coordination from government, private organizations and related industries

- Approve the annual additional products and services
- Approve the environmental products and services criteria for green public procurement
- Other roles related green public procurement

(i) **Green public procurement technical subcommittee** established in November 2011 which includes members as shown in table D.2.

Table D.2: Members of the green public procurement technical subcommittee

Deputy Director-General of PCD – Chairman	Representative from TISI	Representative from OCPB
Representative from TEI	Representative from FTI	Representative from Waste and Hazardous Substances Management Bureau, PCD
Representative from Department of Science Service	Representative from Department of Health	Representative from Department of Industrial Works (DIW)
Director of Environmental Quality and Laboratory Division, PCD – Secretary	Representative from Environmental Quality and Laboratory Division, PCD – Assistant Secretary	Related organizations for selected products and services

The **technical subcommittee** performs various tasks such as:

- Develop the green public procurement environmental criteria for products and services and propose to the Pollution Control Board
- Develop the methodologies to test products as per the green public procurement criteria
- Assign the working group (Staffs of Environmental Quality and Laboratory Division, Pollution Control Department to prepare the green public procurement criteria
- Coordinate the green public procurement implementation with green public procurement promotion subcommittee

PCD acts as the **secretariat of both sub-committees** and plays a vital role in various activities related to the implementation of green public procurement.

D.2.2 INSTITUTIONAL FRAMEWORK FOR ECO LABELLING



In August 1994, the **Thai Green Label Scheme** was launched by Thailand Environment Institute (TEI) in association with the Ministry of Industry (MOI).

“Thai Green Label is a Type I environmental certification scheme according to ISO 14024. The Green Label is awarded to specific products with minimum detrimental impact on the environment compared to conventional products. The Green Label scheme is run on a voluntary basis and applies to products and services. However the scheme does not include foods, drinks, and pharmaceuticals”⁴⁴.

Figure D.3



“The **Thai Green Label scheme** was developed to promote the concept of resource conservation, pollution reduction, and waste management”⁴⁵. The objectives of the Green Label are:

- **Provide information** for consumers to choose products with better environmental performance.
- **Create awareness** among consumers, thereby increasing the demand for Green products in the market and thus encouraging manufacturers to develop and supply more environmentally friendly products.
- To **reduce environmental impact** during the manufacturing, utilization, consumption and disposal phases of a product⁴⁶.

44 Thai Green Label Retrieved from <http://www.tei.or.th/greenlabel/aboutobjectives.html>

45 Thai Green Label Retrieved from <http://www.tei.or.th/greenlabel/aboutobjectives.html>

46 GEN-AGM Kobe Japan (2009). Role of Thai Green Label Scheme in Thailand’s Environment Management

The **Thai Green Label Board Committee** is the main authority responsible for the ecolabelling scheme. The **administrative board** committee **manages the Thai Green Label Scheme**, while the **technical subcommittee** is responsible for the development of **product criteria and test methods** for the label.

Generally, the selection of product categories for the Thai Green Label scheme is based on the demand from its stakeholders. Ecolabelling criteria take into consideration the entire **life cycle of the product**. The Board of Committee approves the product selection, while the technical subcommittee prepares a draft of the criteria for selected product categories.

Figure D.4: Development of product criteria for the Thai Green Label



Source: UN Environment workshop Malaysia Dec. 2015. Implementation of Green Public Procurement and Ecolabelling in Asia-Pacific Countries.

The product categories selected for the Thai Green Label are shown in the table below:

Table 1: Product categories for Thai Green Label

No.	Products	Model	No.	Products	Model
1	Recycled Plastics	4	15	Panels for the Building,	1
2	Fluorescent Lamps	6	16	Cement Board	1
3	Paints	172	17	Products made from cloth	7
4	Ceramic Sanitary Wares: Water	13	18	Canopy and Deck Cover	1
5	Paper	104	19	Air conditioner	3
6	Laundry Detergent Products	9	20	Steel furniture	3
7	Faucets and Water Saving	17	21	Bricks and blocks	2
8	Building Materials: Thermal Insulation	25	22	Printers	5
9	Dishwashing detergents	3	23	Vehicles	21
10	Products made from rubber	2	24	Plastic floor covering	2
11	Surface Cleaners	2	25	Gypsum board	1
12	Correcting Agent	3	26	Writing instrument	13
13	Photocopiers	127	27	Gasoline stations	3
14	Concrete Roof Tiles	1			
TOTAL MODELS					556

(Source: Thailand Environment Institute updated in September 2015)

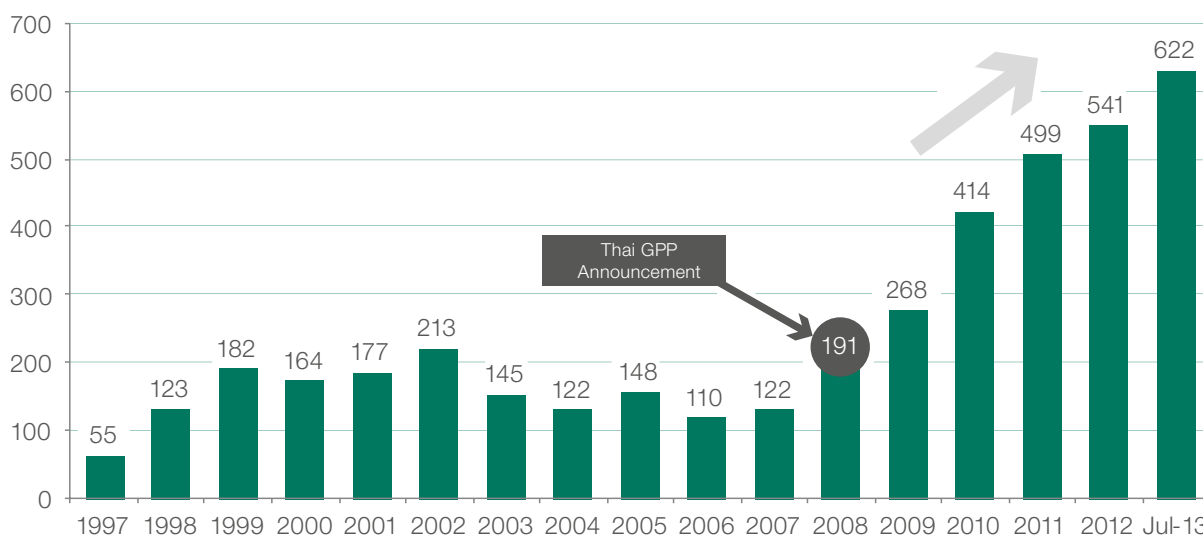
The information regarding the product categories and criteria for Thai Green label is available at (<http://www.tei.or.th/greenlabel/aboutstructure.html>).

Several initiatives have been started by the Thailand Environment Institute to promote the Thai Green Label such as:

- Thai Green Label Scheme has been a member of Global Eco labelling Network (GEN) since 2001.
- The Thai Environmental Institute has developed “Common Core Criteria” for **printers and toner cartridges** along with 3 countries in Asia namely the Republic of Korea, Japan and Taiwan for the mutual recognition of ecolabels.
- “**Mutual Recognition Agreement**” with Taiwan, South Korea, New Zealand and Australia, on **acceptance of standard laboratory test** results.

After the introduction of a green public procurement pilot programme in 2005, the number of ecolabelled products increased from 148 to 191. Furthermore, the number of certified products increased rapidly from 191 to 622 from 2008 to 2013. Currently, **622 products** within **21 product categories** from 62 companies have been **certified under the Green Label Scheme**.

Figure D.5: Number of certified products



Source: Dr.Lunchakorn Prathumratana, 29/08/2013) Thai Green Label and responses from manufacturers: Retrieved from http://www.thai-german-cooperation.info/userfiles/7_7_scp4lce_gppws_business.pdf

D.2.3 DEVELOPMENT OF GREEN PUBLIC PROCUREMENT GUIDELINES



The green public procurement criteria are formulated through the following steps:

1. Product selection: To select the designated products a **list of top 20 highly purchased products** is prepared with regards to the following aspects⁴⁷:

- Technical aspects (processing with lower environmental impacts),
- Environmental aspects (based on life cycle considerations), and
- Economic aspects (availability of alternative products/services, availability in markets, high amount of purchase).

⁴⁷ Patarapol Tularak , Rangsan Pinthong and Anuda Tawatsin; International Conference on Green and Sustainable Innovation (2006). Implementation Of Green Procurement At The Ministry Of Natural Resources And Environment Retrieved from https://www.researchgate.net/publication/263338658_IMPLEMENTATION_OF_GREEN_PROCUREMENT_AT_THE_MINISTRY_OF_NATURAL_RESOURCES_AND_ENVIRONMENT

The designated products are selected based on a **scoring system** developed by the Pollution Control Department for environmental impacts, availability of products and procurement quantity.

2. **Literature review:** Staff from Environmental Quality and Laboratory Division and the Pollution Control Department conducts a literature review to collect information regarding **national and international ecolabelling standards**. These standards are further used to develop the green public procurement criteria.
3. **Drafting criteria of product/service for green public procurement:** “**Draft criteria** are proposed to the working group comprising of representatives from the Ministry of Natural Resources and Environment, Ministry of Industry, Thai Federation of Industry, Thai Chamber of Commerce and Thailand Research Fund after the preliminary selection of product categories and review of ecolabelling standards”⁴⁸.
4. **Formulating criteria for green public procurement:** The working group **formulates green public procurement criteria** for a designated product category as per the review of draft criteria⁴⁹.

Products and services certified by the Green Label have been adopted in green public procurement system automatically. Even though the Green Cart criteria are adopted from Green Label criteria, the revision and update of green public procurement criteria **does not have a defined timeframe**. The criteria are revised and updated when the Pollution Control Department proposes new lists of products and services.

Table D.4: List of products/services in green public procurement, September 2012⁵⁰

ITEM	CRITERIA/CERTIFICATION		
	Green Public Procurement(1)	Thai Green Label (2)	Green Leaf (3)
Product (office consumables):			
1. Printing paper	•		•
2. Toilet roll	•		•
3. Envelop	•		•
4. Whiteboard marker	•		•
5. Photocopier machine	•		•
6. Document box	•		•
7. Printer toner	•		•
8. Eraser (liquid)	•		•
9. Printer	•		•
10. Document file	•		•
Product (durable goods and others):		•	
11. Fluorescent lamp	•		•

48 Patarapol Tularak , Rangsarn Pinthong and Anuda Tawatsin; International Conference on Green and Sustainable Innovation (2006). Implementation Of Green Procurement At The Ministry Of Natural Resources And Environment Retrieved from https://www.researchgate.net/publication/263338658_IMPLEMENTATION_OF_GREEN_PROCUREMENT_AT_THE_MINISTRY_OF_NATURAL_RESOURCES_AND_ENVIRONMENT

49 Sustainable Consumption and Production: Policy Support Component – THAILAND (DCI-ASIE/2011/ 270-471), (November 2012). Baseline Report on Green Public and Private Procurement

50 Sustainable Consumption and Production: Policy Support Component – THAILAND (DCI-ASIE/2011/ 270-471), (November 2012). Baseline Report on Green Public and Private Procurement

12. Primary battery	•		•
13. Building paints	•		•
14. Steel furniture	•		•
Service:			
15. Photocopier rent	•		
16. Cleaning service	•		
17. Accommodation service (hotel)	•		•

(1) Products with green public procurement (<http://ptech.pcd.go.th>)

(2) Products with green label (http://www.tei.or.th/greenlabel/th_index.html)

(3) Hotels with green leaf (<http://www.greenleafthai.org>)

According to the 2nd Green Public Procurement Promotion Plan, the Pollution Control Department will develop Green Cart criteria for 9 more product groups and 3 services.

Table D.5: Green Cart criteria as per the 2nd Green Public Procurement Promotion Plan (2012-2016)⁵¹

NO.	PRODUCTS	SERVICES
	Office Products	
1	Computer	Printing service
2	Air conditioner	Petrol station
3	Fax machine	Car-care service
4	Notebook	
	Durable Goods and others	
5	Wooden furniture	
6	Plastic bin	
7	Cars	
8	Lubricant oil	
9	Petrol	

As of 2014, **green public procurement criteria for 17 products and 5 services** have been developed for green public procurement programme. To facilitate the procurement decision of the procurers, a database of certified products/services has been created with information regarding product categories and criteria which is available on the Pollution Control Department's website (<http://ptech.pcd.go.th/gp/>)

51 Araya Nuntapotidech, Deputy Director-General Pollution Control Department (PCD), Switch – Asia Networking (20 June 2013). Building on lessons learned to promote Sustainable Consumption. Retrieved from http://www.switch-asia.eu/fileadmin/user_upload/RPSC/policy-dialogue/kathmandu/6._Switch_Asia_PSC_Thailand.pdf

D.3 IMPLEMENTATION MECHANISM OF GREEN PUBLIC PROCUREMENT IN THAILAND

The main objective of the “**Green Procurement Promotion Plan**” of (2008- 2011) was to increase government’s spending on environmentally friendly products /services. To achieve the objective of the 1st Green Public Procurement Plan, **two types of progress targets** were set by the government to **increase (i) the number of government agencies** adopting green procurement policy and (ii) the **number of green products/services available in the market**.

In the **2nd Green Public Procurement Promotion Plan** (2013-2016) the target groups have been **expanded to local authority, private sector and the general public**. The targets are summarized in table D.6⁵².

Table D.6

1st Green Public Procurement Plan Targets by year	2008	2009	2010	2011
Number of implementing agencies (out of 170 in total)	≥ 25%	≥ 50%	≥ 75%	≥ 100%
Expenditure on green products and services* (* Objective set for each designated product/service in terms of amount of green expenditure over the whole expenditure for that product/service.)	≥ 25%	≥ 30%	≥ 40%	≥ 60%
2nd Green Public Procurement Plan Targets by year	2013	2014	2015	2016
Number of implementing agencies (Local Authorities)	≥ 10%	≥ 15%	≥ 30%	≥ 50%
Number of implementing agencies (Public Organisations and Universities)	≥ 50%	≥ 60%	≥ 70%	≥ 100%
Expenditure on green products and services (Central government only)	≥ 70%	≥ 75%	≥ 80%	≥ 90%

Currently, the green public procurement programme is implemented on a **voluntary basis** in Thailand. The procurement process for green public procurement is similar to the normal procurement procedure for other goods.

Each procuring agency primarily checks **whether procuring products satisfy the Green Cart criteria** (which already cover the criteria for Green Label and Green Leaf), the **Green label or the Green leaf criteria**. The procurement process is carried out on the basis of GPP guidelines prepared by the Pollution Control Department. The award decisions are mainly **based on the lowest cost** of the designated product for procurement purpose.

⁵² UN ENVIRONMENT, (2016). Monitoring Sustainable Public Procurement Implementation. Case study 3: Monitoring Green Public Procurement in the Government of Thailand Retrieved from <http://www.scpcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

Figure D.6: Green Public Procurement Process



During the process of procurement, bids from suppliers are evaluated **based on technical specification and buying price**. The procuring agency selects at least two parameters from a list of factors such as price, supplier grading, quality and product characteristics in order to assess price performance. The bids are selected as per the **weighing score** of the selected parameters specified by the procuring agency.

For the dissemination of information, the Pollution Control Department has developed a **Green Public Procurement Handbook** and a **Green product Directory**.



- The Green Public Procurement handbook provides information about Guidelines for Green Purchasing
- Green Public Procurement’s Product and services criteria
- Green Product Directory is a database of products and services that are environmentally friendly. The database consists of Green products including ecolabelled products such products certified by the Thai Green Label as well as products that comply with Green Cart criteria. (<http://ptech.pcd.go.th/gp/>)

Furthermore, the Pollution Control Department conducts **training workshops** for procurement staffs. It also organises road shows and trainings in provincial hubs periodically for the promotion of green public procurement.

D.3.1 EFFORTS FOR THE PROMOTION OF GREEN PUBLIC PROCUREMENT IN THAILAND⁵³

- The Pollution Control Department organizes **training workshops** for procurement staff within the government **3 times per year**.
- The Pollution Control Department provides **information for procurers** regarding the Green Public Procurement Handbook, life-cycle costing and environmental costing tool, and a platform for reporting.
- Since 2009, a green public procurement “**Recognition Award**” has been given to **best performing agencies** based on the results submitted to the Pollution Control Department.
- A **Reward Scheme** has been established, giving rewards to offices with a good GPP performance and to manufacturers/service providers consistently delivering green products/services.

D.4 MONITORING MECHANISMS OF GREEN PUBLIC PROCUREMENT IN THAILAND⁵⁴

Even though implementation of green public procurement is on voluntary basis, **each agency carries out purchases using the Green Product directory**. Each agency is requested to **report the monitoring results** as hard copy or online report to the Pollution Control Department. In 2009, it started **a voluntary monitoring system** to assess progress of policy targets for green public procurement.

The agency tracks purchases through its own mechanisms and reports it to the Pollution Control Department. The tracking is done with a focus on the following indicators:

- Number of **implementing agencies**.
- **Level of purchase** of green products and services **for a list of designated product** groups.

With the information gathered on the level of purchase of green products, the Pollution Control Department in collaboration with the **National Science and Technology Development Agency (NSTDA)**⁵⁵ also calculates:

- Estimated **sustainability benefits** of buying green products.
- **Contribution** of available Green Products in the market.

To facilitate data reporting and homogeneity, the Pollution Control Department has set up an **online electronic reporting** system. **Each implementing agency** is requested to submit its procurement data **every six months**.

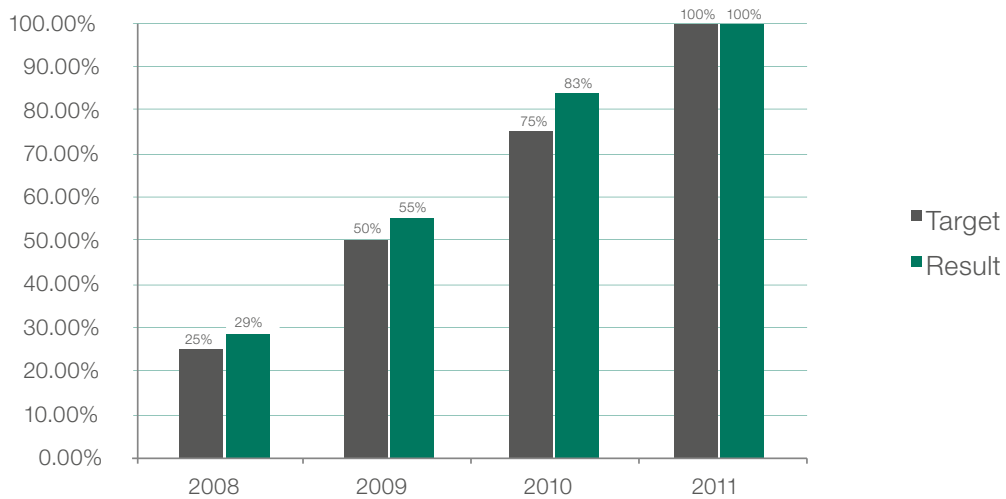
According to the green public procurement phase I 2012 report prepared by the Pollution Control Department and the National Science and Technology Development Agency, **170 central government agencies have implemented green public procurement**. However only 40% of these agencies submitted the procurement report to Pollution Control Department. As per the monitoring results, the public organizations purchasing of green public procurement-certified products/services increased fourfold from 2009 to 2012 as shown in table.

53 UN ENVIRONMENT, (2016). Monitoring Sustainable Public Procurement Implementation. Case study 3: Monitoring Green Public Procurement in the Government of Thailand Retrieved from <http://www.scpclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

54 UN ENVIRONMENT, (2016). Monitoring Sustainable Public Procurement Implementation. Case study 3: Monitoring Green Public Procurement in the Government of Thailand Retrieved from <http://www.scpclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

55 National Science and Technology development Agency (NSTDA) Retrieved from <http://nstda.or.th/eng/>

Figure D.7: Governmental Organizations participated in the GPP⁵⁶

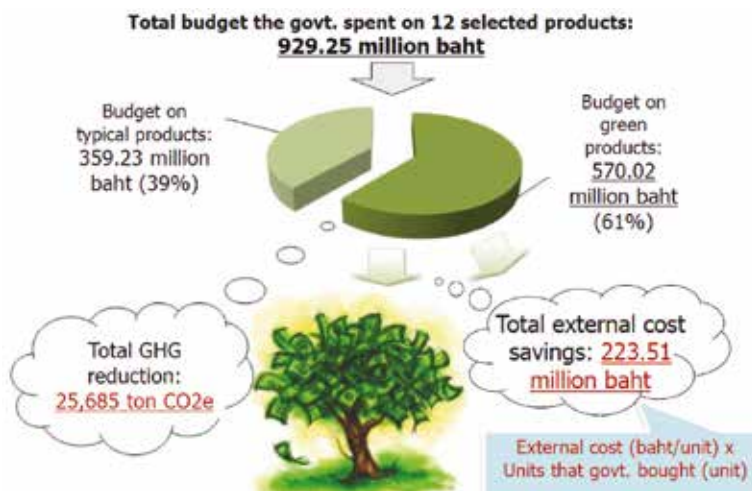


Source: UN Environment, (2016). Monitoring Sustainable Public Procurement Implementation. Case study 3: Monitoring Green Public Procurement in the Government of Thailand Retrieved from <http://www.spcclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

D.4.1 EVALUATION OF THE SUSTAINABILITY BENEFITS OF BUYING GREEN PRODUCTS

In 2012, the Pollution Control Department and the National Science and Technology Development Agency conducted a **research project to estimate the environmental benefits** in order to communicate the benefits of GPP and promote it further.

Figure D.8: Evaluation of environmental impact



For the evaluation of environmental benefits, **10 products were selected** from the list of 17 designated products/services for green public procurement. Using different methodologies such as life-cycle assessment, life-cycle costing and others, the National Science and Technology Development Agency **estimated the difference in impacts of conventional versus green products**. In addition, it also established **impact reduction coefficients** per green product in terms of CO₂ emissions reduction and environmental external costs reductions linked to energy use, waste management, operational costs, etc.

The National Science and Technology Development Agency calculated the estimated emissions and external environmental costs reductions by multiplying the number of green products purchased and the impact reduction coefficients.

⁵⁶ National Science and Technology development Agency (NSTDA) Retrieved from <http://nstda.or.th/eng/>

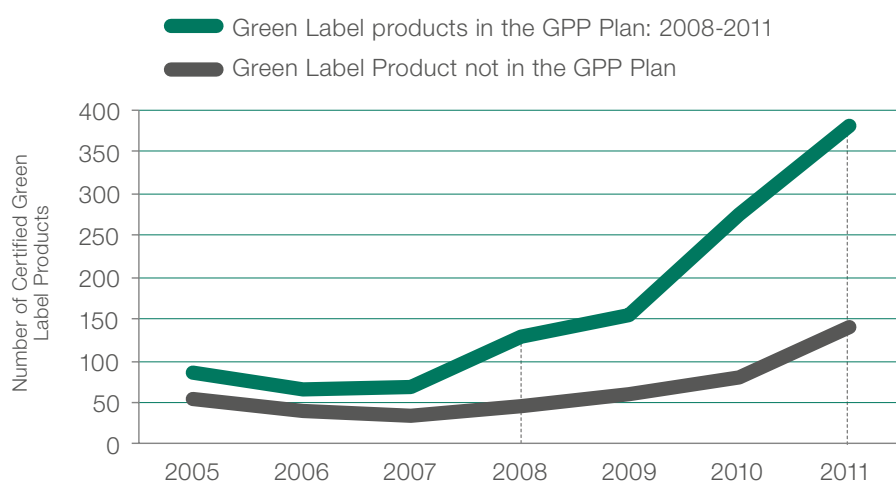
The **reduction in CO₂** emissions due to green public procurement was estimated to be **25,685t of CO₂** in 2012 while the **external cost savings** were estimated to be 223.5 million Baht (**6.15 million USD**).

D.4.2 EVALUATION OF THE AVAILABILITY OF GREEN PRODUCTS IN THE MARKET

To assess the impact on the market of the 1st Green Procurement Promotion Plan, the National Science and Technology Development Agency evaluated **two aspects**:

- Evolution of **number of ecolabelled products** in the market in terms of increased number of manufacturers producing ecolabelled products.
- Evolution of **market sales** of ecolabelled products for **3 product groups**: building paints, printing papers and photocopier machines.

Figure D. 9 Effect on the market of the Green Public Procurement Plan in number of Green Label Product Certified by Year



Source: UN Environment, (2016). Monitoring Sustainable Public Procurement Implementation. Case study 3: Monitoring Green Public Procurement in the Government of Thailand Retrieved from <http://www.scpclearinghouse.org/resource/monitoring-sustainable-public-procurement-implementation>

D.4.3 PUBLICATION OF RESULTS

Every year, the Pollution Control Department compiles the monitoring results provided by implementing agencies in a report and submits it to the Cabinet. Based on the report submitted to the Cabinet, **a summary is posted on the Pollution Control Department's green procurement website.**

D.5 RESULTS ACHIEVED

As a part of the implementation process the Pollution Control Department has conducted **3 workshops for procurement staff** from the Ministry of Natural Resources and Environment during September-October 2005. After these successful workshops, a **seminar with more than 300 participants** from almost every government agency was organized to introduce the concept of green public procurement to a wider audience in December 2005. Furthermore, a **training seminar** was conducted to introduce the practical GPP guideline for the Ministry of Natural Resources and Environment's procurement officers in June 2006.

Table D.7: GPP budget and GHG emission reduction from GPP for Phase I (2008-2012)⁵⁷

ASSESSMENT RESULTS	GPP (12 ITEMS)	GPP (17 ITEMS)
Total budget (baht)	929,248,393	1,888,613,851
Green public procurement budget (baht)	570,016,981	753,524,862
Environmental benefits from green public procurement (baht)	233,513,926	295,470,672
Actual budget for green public procurement (baht)	705,734,468	1,593,143,182
Average CO ₂ reduction per unit (kg CO ₂ /unit)	147.1	
Procurement (unit)	8,051,533	8,115,749
CO ₂ reduction from green public procurement (kg CO ₂)	1,184,326,640	1,193,772,384
CO ₂ reduction from green public procurement (t CO ₂)	1,184,327	1,193,773

D.6 CHALLENGES AND SUCCESS FACTORS OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THAILAND

The Government of Thailand has developed a “Green Procurement Plan” and has established a monitoring system for the implementation and promotion of green public procurement.

D.6.1 CHALLENGES OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING IN THAILAND

In spite of a well-established green public procurement programme, the implementation and promotion of green public procurement still face various challenges such as:

- 1. Implementation on a voluntary basis:** As green public procurement implementation is carried out on a voluntary basis there is a **lack of cooperation from the implementing agencies** to implement green public procurement. As a result, so far **only 40% agencies have submitted procurement report** to the Pollution Control Department (every six months).
- 2. Lack of availability of designated green public procurement products in the market:** Some of the designated products are **not available in some parts of the country** thus hindering the process of GPP implementation. Similarly, for some products, there are too many requirements in green procurement criteria while there are not enough details in product labels or specification documents.
- 3. Lack of green public procurement awareness:** Procurement **staff lacks technical knowledge**, which hinders the implementation process.

⁵⁷ Sustainable Consumption and Production: Policy Support Component – THAILAND (DCI-ASIE/2011/ 270-471), (November 2012). Baseline Report on Green Public and Private Procurement

4. **Voluntary monitoring of green public procurement:** Since the monitoring of green public procurement is voluntary, there is a **risk of low response rate** (e.g. only 40% agencies reported their results to the Pollution Control Department), which results in a **misrepresentation of the actual level** of procurement of green products and services.
5. **Decentralized Purchasing:** The **lack of centralised purchases and/or procurement platforms** requires each implementing agency to track their own green public procurement data, which can be time consuming.
6. **Inadequate integration of monitoring and tracking systems:** To be able to fully track green purchases, a greater integration with financial/budgeting rules and systems is required, which is not expected in the medium term.

D.6.2 SUCCESS FACTORS FOR GPP

The success factors for successful implementation of green public procurement practices in Thailand are:

- The **Royal Thai Government is supporting** green public procurement. **Green public procurement is included in the 10th “National Economic and Social Development Plan”**. As per the 10th National Plan, government agencies were encouraged to procure environmental friendly products.
- Greening of supply chain by manufacturers has **lowered the costs of raw materials and parts** for the production of green products.
- Use of **ecolabels** to develop green public procurement guidelines.
- Publication of **green public procurement guide** by the Pollution Control Department, which provides technical assistance to procurers on the implementation and reporting processes of green public procurement.
- Easy to monitor the progress of green public procurement implementation because of **established monitoring and reporting system** by the Pollution Control Department.
- The environmental as well as economic benefits can be estimated with the established monitoring system.

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APPENDIX E: COMPARISON TABLE FOR GREEN PUBLIC PROCUREMENT/ ECOLABELLING PRACTICES IN CHINA, JAPAN, KOREA, THAILAND

Table E.1

PRACTICE	CHINA		JAPAN		KOREA		THAILAND	
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING								
Policy framework for green public procurement	Year	Regulation/Law	Year	Regulation/Law	Year	Regulation/Law	Year	Regulation/Law
	1999	Bidding/tendering law represents the procurement regulations for stand-alone infrastructure projects; the law established the bidding system for public procurement	1995	First "Action Plan for Greening of Government Operations" was completed; objectives were set and required methods were defined to achieve greening of public procurement	1994	Green public procurement was introduced under the Act on Development and Support of Environmental Technology	2005	The Pollution Control Department of the Ministry of Natural Resources and Environment of Thailand began developing support instruments and actions for the implementation of environmental criteria in Government procurement practices
	2003	Government procurement law was adopted to promote environmental protection in regions with low development and SMEs as per Article 9 of the law	2000	"Act Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities" ("Green Purchasing Law") was passed. According to the law, it is mandatory for government institutions to implement green procurement, while encouraging local authorities, private companies and individuals to make efforts for procuring environmentally sound products and services	2005	The Act on Promotion of Purchase of Green Products was legislated by the Ministry of Environment; it aims to develop the green products market by stimulating demand for green products as well as facilitating an easy access of consumers to green products.	2008	The Government approved the Cabinet Resolution of the 1st Green Public Procurement Promotion Plan (2008-2011) for the Central Government

PRACTICE	CHINA	JAPAN	KOREA	THAILAND				
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING								
	2004	A ministerial regulation from the Ministry of Finance (MOF) and the National Development and Reform Commission provided notification of implementation of government procurement for energy conservation products	2001	The Government issued basic guidelines and a list of 101 designated procurement goods and their standards for Green Purchasing	2006-2010	The 1st Action Plan was created to establish a comprehensive framework for implementing green procurement in the public sector, in connection with ecolabelling	2012	2nd Green Public Procurement Promotion Plan (2013-2016) was drafted to further promote green public procurement to all levels of government, central to local
	2006	The Ministerial Regulation of Government Procurement for Environmental Labelled Products (ELPs) was passed	2007	The Government introduced the Green Contract Law to complement The Green Purchasing Law; the Green Contract Law is applicable for 5 product and service categories: electric power, automobiles, ships and vessels, energy service companies (ESCO's), and buildings; the main focus is the reduction in Greenhouse Gases	2010-2015	The 2nd Action Plan was established to raise awareness on sustainable lifestyles and boost green consumption among general consumers		
	2007	A regulation from the State Council for Energy Conservation established compulsory government procurement for Energy Conservation Products (ECP)						
	2008	The Energy Conservation Law was passed, stating that Public institutes should give preference to energy conservation products						
	2009	The Public Institutions Energy Conservation Regulation (a state council regulation) was passed to promote the procurement of products from both energy conservation product and environmental labelling products lists						









PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Policy framework for ecolabelling	2006	2008	1995	2012–2016
	2010			
National Targets for green public procurement	As per the 12th Five Year Plan major environmental targets for the country were: <ul style="list-style-type: none"> • 16% reduction in energy intensity • 17% reduction in carbon intensity. • Increase the use of non-fossil energy to 15 % of primary energy consumption Green public procurement is a mechanism to help achieve these goals, although the goals are not specific to green public procurement	No quantitative targets set by Central Government. However, the Law on Promoting Green Purchasing requires that each ministry and agency set its own targets for green public procurement and report on progress every fiscal year	No quantitative targets set by the central government but expectation was for the green public market to grow by 1.5 times over three years to 2015. <p>Each state agency sets its own voluntary targets and reports on progress to Ministry of Environment.</p>	<ul style="list-style-type: none"> • Main goal of Green Procurement is to increase the government's spending on environmentally preferable products and services. • As per the 2nd National Plan of Green Purchasing, expenditure on green products and services (Central Government only) should be ≥ 90% by 2016 • Support sustainable consumption in public and private sectors
Inclusion of sustainable public procurement in national policy or regulations	Sustainable Public Procurement (SPP) is included in China's two environmental purchasing lists: Environmental Labelling Products (ELP) and Energy Conservation Products (ECP)	Sustainable public procurement provisions are included in: <ul style="list-style-type: none"> • The Basic Policy on Promoting Green Purchasing • The Act on the Promotion of Procurement of Eco-Friendly Goods and Services • The Basic Policy for Green Contract • The Act on Green Contracts 	Sustainable public procurement is included in the Act on Promoting the Purchase of Green Products	Sustainable Consumption and Production is included in the following policies: <ul style="list-style-type: none"> • The National Economic and Social Development Plan (NESDP) • The Environmental Quality Management Plan (EQM Plan) • The 2nd Green Public Procurement Plan

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Is green public procurement mandatory or voluntary for designated products?	<p>Procurement from the Energy Conservation Product List (ECP) is mandatory for some products for the central government</p> <p>Procurement from the Environmental Labelling Product list (ELP) is voluntary for the central government and local agencies</p>	Mandatory for central government and local agencies	Mandatory for central government	Voluntary for central government and local agencies
INSTITUTIONAL MAPPING OF GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Government institutions responsible for green public procurement implementation	<p>Ministry of Environmental Protection (MEP) and Ministry of Finance (MOF) – Development, management and supervision of green procurement policy</p> <p>National Development and Reform Commission (NDRC) – Implementation of government procurement for energy conservation products</p> <p>Ministry of Environmental Protection (MEP) - Initiation and support of government procurement for environmentally labelled products</p> <p>Government Procurement Centres (GPCs) - Coordination and implementation of green procurement for energy conservation and products</p> <p>China Quality Certification Center (CQC) – Operation of energy conservation certification scheme</p> <p>China Environmental United Certification Center (CEUCC) (under MEP) – Operation of energy conservation certification scheme</p> <p>China National Institute of Standardization (CNIS) – Development of national standards including energy efficiency standards</p> <p>Environmental Development Center (EDC) - Public institute affiliated with the Ministry of Environmental Protection; develops certification standards and criteria for China's environmental label certification</p>	<p>Ministry of the Environment:</p> <ul style="list-style-type: none"> Develops all environmental policies and laws Responsible for the implementation of Green Purchasing at the government level <p>Green Purchasing Network (GPN) –</p> <ul style="list-style-type: none"> Another agency responsible for the implementation and promotion of Green Public Procurement along with the Ministry of the Environment Develops tools, conducts research, and maintains a database of 15,023 products to promote green procurement in both the public and private sectors. <p>Eco Mark office –</p> <ul style="list-style-type: none"> Implementation of Green Public Procurement along with the Ministry of the Environment Responsible for the certification of Type I Ecolabels in Japan 	<p>Ministry of Environment (MOE):</p> <ul style="list-style-type: none"> Establishes laws and regulations to promote Green Purchasing. Supervises the actual procurement done by public institutions <p>Korea Environmental Industry and Technology Institute (KEITI)</p> <ul style="list-style-type: none"> Responsible for implementation of ecolabelling Establishment and revision of product criteria Certification of ecolabel and follow-up management of ecolabelled products Promotion of ecolabelling and certified products <p>Korean Public Procurement Service (PPS):</p> <ul style="list-style-type: none"> Relays green product information to public institutions Operates online procurement platform to facilitate procurement of green products Provide green procurement records from public institutions to KEITI <p>Other public institutions (e.g. State Agencies): Implement Green procurement</p>	<p>Ministry of Natural Resources and Environment (MNRE)</p> <p>Pollution Control Department (PCD) – Develops, promotes and revises green procurement regulations</p> <p>Thai Environment Institute (TEI) – Responsible for certification of Green label products</p> <p>National Science and Technology, Development Agency (NSTDA)-Responsible for implementing the Green Procurement Plan</p>

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Committee to oversee policy framework	No established committee	Policy Subcommittee of the Central Environmental Council set up by Ministry of Environment (MOE) to measure progress against the Basic Environment Plan established committee	No	Green Public Procurement Promotional Subcommittee and technical subcommittees (to develop criteria) are established to support green public procurement implementation. Pollution Control Department (PCD) is assigned as a secretariat of all subcommittees and is responsible to submit all related issues to the higher policy level
Government institutions responsible for the implementation of ecolabelling schemes	Ministry of Environment Protection (MEP) Environment Development Center (EDC) - in charge of Environmental Labelling Products list. Ministry of Finance (MOF), National Development and Reform Commission (NDRC), China Quality Certification Center (CQC) - in charge of Energy Conservation Product List.	The Ministry of Environment (MOE) - oversees the ecolabelling implementation. Japan Environment Association (JEA) in cooperation with Ministry of Environment (MOE) - responsible for the implementation of Eco Mark Programme in accordance with the standard and principle (ISO 14020).	Ministry of Environment - responsible for overall implementation of ecolabelling, including the establishment and revision of relevant laws and regulations. Korea Environmental Industry and Technology Institute (KEITI) - responsible for the implementation of the ecolabelling scheme.	Ministry of Industry Thailand environment Institute Thailand Industrial Standard Institute (TISI) - responsible for the launch of the Thai Label Scheme. Thailand Environment Institute (TEI) - is responsible for the implementation of the Type I Thai Green Label.
Green public procurement structure	Hierarchical and centralized multilevel system	Decentralized	Both Centralized and Decentralized	Decentralized
TOOLS AND APPROACHES USED TO SUPPORT GREEN PUBLIC PROCUREMENT				
Fiscal incentives for public procurers and consumers	Central government of China provides price subsidies for public offices or organizations that purchase green vehicles. These economic subsidies are 10% for vehicles with an overall environmental label (assumed to be 100% environmentally sound), 5% for those with over 50% ecolabelled parts, and 1% for those with less than 50% ecolabelled parts.	"Eco-Points System" exists for home electrical appliances (refrigerators, air conditioners and TVs, residential homes) Economic incentives for the purchase of eco-products such as eco-friendly vehicles Green Vehicle Purchasing Promotion Programme 2 provides subsidies for purchasing new fuel-efficient cars and heavy duty vehicles	Green credit card giving economic incentives for green-conscious consumers The Annual performance bonus for public institution and local governments is given based on the level of Green Procurement	None

























PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Engagement of suppliers and stakeholders for the promotion of green public procurement	<ul style="list-style-type: none"> • Three green projects were launched by the Ministry of Finance and Commerce (MOFCOM) encompassing green procurement and green markets in the food industry • The Environmental Development Center (EDC) of the Environment Protection Administration have begun research and international collaboration through conferences and has established the Chinese Green Purchasing Network (CGPN) for the promotion of green public procurement and sustainable consumption • The Ministry of Environmental Protection (MEP) and General Administration of Press and Publication (GAPP) signed a cooperative agreement on Environmental Labelling of Green Printing 	<ul style="list-style-type: none"> • The Green Purchasing Network (GPN) has initiated the establishment of local networks led by local governments and companies • The Eco-product exhibition, co-sponsored by the Japan Environmental Management Association (JEMA) is held every year in Tokyo; it serves as a forum for large procurers such as local governments and companies to meet and conduct business negotiations, and to find new business partners, leading to active expansion of "green markets" in Japan • "Green Purchasing Awards" are given by Green Purchasing Network to promote green purchasing 	<ul style="list-style-type: none"> • Since 2005, the Ministry of Environment and private enterprises have created voluntary agreements on green procurement to facilitate the voluntary production, distribution and purchase of green products by companies; 151 companies are involved in this initiative • Korea Environmental Industry and Technology Institute (KEITI) conducts annual workshops to exchange good practices, as well as to discuss with procurers on how to improve the green public procurement system • ECO-EXPO Korea serves as a forum for various eco-friendly technologies, products, services and other environmental activities of businesses and the government 	<ul style="list-style-type: none"> • The Pollution Control Department (PCD) has developed a Green Public Procurement Manual and Database Publication • Since 2009, the "Green Public Procurement Recognition Award" has been given to the best performing agencies based on reported results submitted to the Pollution Control Department (PCD)
Raising awareness among the general public	Since 1991, the government of China has annually organized "National Energy Conservation Week" each June; during the nationwide publicity week, various types of activities are conducted across the country to publicize the importance of energy saving	An eco-product exhibition is held every year to raise awareness of green public procurement and ecolabelling amongst the general public and children by providing various seminars, symposium and events	<ul style="list-style-type: none"> • Green Consumption Collaborating Centres offer consumer education on green consumption • Education has been provided in the public and private sectors, and NGOs, for procurement officers, students, and others • Public awareness through TV, radio, and internet ads, and booklets etc. 	Green Cart Exhibition and Road Shows are organized to increase awareness about Green Public Procurement (GPP) amongst companies and consumers
GREEN PUBLIC PROCUREMENT PRODUCT GROUPS				
No. of certified product categories for green public procurement	44	21	154 Ecolabelled products 15 Good Recycled Mark products Total = 169	Green Cart criteria for 14 product groups and 3 services Total = 17
Total No. of green public procurement certified products	93,622	270	14,096	784
% of sustainable products purchased each year	60%	95% (as of 2007)	80% (as of 2010)	61% of total budget

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Does green public procurement policy cover environmental and/or social aspects?	The Green Public Procurement/Sustainable Public Procurement policy in China includes economic, social, and environmental aspects	As per the Basic Policy, a wide range of environmental aspects are considered; Social aspects are not mentioned	Environmental aspects are considered	Environmental aspects are considered
Main organization responsible for the development of green public procurement criteria	The Ministry of Commerce, the Ministry of Environmental Protection (MEP), and the Ministry of Industry and Information Technology have jointly issued the "Enterprise Green Procurement Guidelines" (Chinese)	Ministry of Environment	Ministry of Environment Korea Environmental Industry and Technology Institute (KEITI)	The Pollution Control Department (PCD) in cooperation with the Thailand Environment Institute (TEI) and Federation of Thai Industries (FTI) has developed the Green Procurement criteria ("Green Cart" criteria)
Green public procurement budget	29% of RMB1.63 trillion (0.26 trillion USD)	@20 million yen (0.17 million USD)	€1,289million (1459.75 million USD)	21 million USD
Ecolabel budget	Data not available	260,000,000 yen (2,160,000 USD) in 2014	6,000,000 USD (2014)	Data not available
Budget for development of ecolabel criteria	No standard budget, however, the cost will be covered by standard researching organization themselves.	61,000 yen (2014) (510,000 USD)	1500000 USD (2014)	Data not available
Frequency of update of green public procurement criteria	Update of Environmental Labelling Products List and Energy Conservation Products List twice per year	Green public procurement guidelines are revised every fiscal year	Ecolabel criteria are not annually revised but the revision is made in cases included: <ul style="list-style-type: none"> Regulation criteria established by other relevant laws have become more stringent than the criteria Certified products among those currently under deliberation have lost its distinctive feature in the market Innovative progress has been made in the technologies that are relevant to the product's environmental and quality aspects Current criteria are required to be harmonized with international standards 	Green public procurement criteria are based on the Thai Green Label, thus, the criteria of targeted products are updated automatically by the Green Label system No timeframe to update the Green Cart criteria
Does green public procurement criteria cover environmental and/or social aspects?	Environmental aspects	Environmental aspects	Environmental aspects	GPP criteria cover technical/environmental/economic aspects
Have green public procurement product guidelines been developed?	China Association of Environmental Protection and Ministry of Industry and Information Technology has developed the Guideline of Green Procurement	<ul style="list-style-type: none"> "Green Procurement Guidelines for Government Purchasers" (Japanese) "Guidelines of Green Procurement for Local Governments" Green Purchasing Guidelines 	Green Public Procurement guidelines have been developed	Pollution Control Department has developed GPP guideline

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Ecolabels used for the development of green public procurement criteria	China Environmental Label  Energy Conservation Label 	Eco Mark 	Korea Ecolabel  Good Recycled Mark 	Thai Green Label  Green Cart  Green Leaf 
GREEN PUBLIC PROCUREMENT AND ECOLABELLING IMPLEMENTATION MECHANISMS				
Ecolabels voluntary or mandatory?	Voluntary	Voluntary	Voluntary	Voluntary
Role of ecolabels in green public procurement	The Green Procurement Framework in China is based on environmental labelling schemes	Japan Green Procurement Guidelines are based on ecolabel criteria	The Korea Eco-label has served as an informational tool to help consumers identify and choose environmentally-preferable products; it also encourages green consumption	By linking green criteria to ecolabels, it is possible to assess the effects of public procurement on the market



PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Green public procurement processes and practices	<ol style="list-style-type: none"> 1. China Quality Certification Center (CQC) and China Environmental United Certification Center (CEUCC) select qualified product models for green procurement lists from their certified product database. 2. Ministry of Finance (MOF) and National Development and Reform Commission (NDRC) or Ministry of Finance (MOF) and Ministry of Environment Protection (MEP) make policy announcements about renewing green government procurement lists and then release the product lists prepared by China Quality Certification Center (CQC) and China Environmental United Certification Center (CUECC). 3. The policy announcements and product lists are published on designated websites and sent to local government agencies and procurement centres. 4. All government procurement centres use the new version of the list to conduct green procurement. 5. The procurement center accepts the procurement request from users and coordinates procurement activities. 	<ol style="list-style-type: none"> 1. Ministry of Environment (MOE) develops the guidelines for green procurement as per the Basic Law. 2. Each Organization creates and publicizes a Procurement Policy. 3. The procurement of goods and services by each organization is performed based on Procurement Policies. 4. Results and achievements of Green Procurement are reported to the Ministry of Environment by each organization. 	<p>Public procurement is carried out through two different purchasing methods: direct and indirect purchases.</p> <p>Direct purchases:</p> <ul style="list-style-type: none"> • The availability of green products among products intended for purchase is verified through the Green Products Information Platform (http://www.greenproduct.go.kr) or the Resources Circulation Industry Promotion Association (http://www.gr.or.kr). • The Green Products Information Platform provides a monthly list of products with Ecolabel and GR mark and also provides a product search function. • The evaluation of green products when purchasing is based on the consideration of price, function, size, and transportability. • Products are purchased upon final selection utilizing retailer information. <p>Indirect purchases:</p> <ul style="list-style-type: none"> • Made by a third-party using budget from a public institution through service contracts or entrusted projects. • It is mandatory for the contractor of public institutions to purchase the green products. • Purchasing of green products is similar to Green Products Information Platform. • At the relevant public institution, the official responsible for the contract shall monitor whether the contractor is actually purchasing and using green products. • Upon fulfilling the contract, the contractor prepares and submits the list of green products purchased to the relevant institution. • Records are collected by the officials in charge and submitted to the Korea Environmental Industry and Technology Institute (KEITI). 	<ol style="list-style-type: none"> 1. The Pollution Control Department (PCD) conducts research to develop the criteria for Green Procurement. 2. A green procurement manual is developed. 3. A green procurement database with an online-reporting system is created.

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Recognition of ecolabels from other countries	 Korea Eco-label  Eco Mark (Japan)  Green Label (Taiwan)  Blue Angel (Germany)  Environmental Choice (Australia)  Environmental Choice (New Zealand)	 Korea Eco-label  China Environmental label  Green Label (Taiwan)  Thai Green Label  Environmental Choice (New Zealand)  Nordic Swan (Nordic Environmental Label)	 Eco Mark (Japan)  China Environmental label  Green Label (Taiwan)  Thai Green Label  Environmental Choice (New Zealand)  Nordic Swan (Nordic Environmental Label)	 Korea Eco-label  Green Label (Taiwan)  China Environmental Label  Eco Mark (Japan)  Environmental Choice (New Zealand)  Environmental Choice (Australia)
Aspects covered by ecolabels	Environmental	Environmental aspects taking into consideration the full lifecycle of a product	Environmental performance in terms of water and energy conservation, recycling, reduction of toxic substances emission, biological safety, and product quality	Resource conservation, pollution reduction, and waste management
Dominant awarding rule	Compliance with ecolabelling criteria and lowest purchase cost	Less environmental load and lowest cost	Compliance with ecolabelling criteria	Compliance with ecolabelling criteria
Validity of certificate	3 year	1 year	3 year	3 year
Cost of certification	<ol style="list-style-type: none"> Application fee: 2000 RMB Inspection, Product testing, Review and Certification fee: 3000 RMB Label use fee: 5000 RMB /year 	<ol style="list-style-type: none"> Application fee: 20,000 yen License fee based on the total amount of sales of the entire Eco Mark certified product every year 	<ol style="list-style-type: none"> Basic fee 50,000 KRW per product Annual fee is based on the annual sale per product (e.g. less than 1 million USD in sales leads to a fee of 1000 USD) If two or more products are certified, an additional charge of 100,000 KRW per product is collected every year 	<ol style="list-style-type: none"> Application fee: 5,000 Baht Onsite assessment audit fee 15,000 Baht per assessment Surveillance fee: 15,000 Baht per surveillance License use fee: 40,000 Baht per trade mark/model
Contract management of awards	An annual inspection is carried out for products granted environmental labelling	Each organization monitors progress and the result of procured services, such as public works, after the contract is signed	Follow-up management is performed in order to verify whether the Korea Eco-label products continue to meet the certification criteria	Inspection is carried out 6 months after receiving the certification.
Implementation strategy for ecolabelled products	The "Opinion on Government Procurement Operation of Environmental Labelling Product" stipulates that Environmental Labelling Products should be procured preferentially from the designated List when State institutions and organizations do purchasing with fiscal funds	Specific ecolabels are not used in the "Evaluation Criteria;" however, practical use of environmental information including ecolabels is encouraged in the preamble of the Law on Promoting Green Purchasing	Government agencies or public institutions are obliged to purchase ecolabelled products	Voluntary basis
Is lifecycle costing included in green public procurement/ sustainable public procurement	Lifecycle is taken into consideration for green public procurement criteria but lifecycle costing is not included yet	Related to life cycle costing, long-term uses of products are considered in the criteria of some products	Not included in green public procurement policies	Not included in green public procurement but Life Cycle Analysis is included

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Is staff training on green public procurement provided?	<ul style="list-style-type: none"> Ministry of Finance (MOF) provides training to local government agency staff on the implementation of Green Public Procurement Ministry of Finance (MOF) and Ministry of Environmental Protection (MEP) release a purchasing list of Environmental Labelling Products every year as a guideline for procurement staff 	<ul style="list-style-type: none"> Green Purchasing Guidelines are published and uploaded on the Ministry of Environment (MOE) website for purchasing agency staff Government agencies organize training sessions for staff to provide information regarding revisions to the guidelines 	<ul style="list-style-type: none"> There is nationwide training on GPP implementation for over 6,000 officials from public institutions from November to December every year On-demand training is provided during the year based on request for an in-house intensive consultation 	<ul style="list-style-type: none"> The Pollution Control Department (PCD) publishes green public procurement guidelines on its website for the procuring staff Seminars are conducted to train staff and brochures are circulated for reference



PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Is there a provision for supplier evaluation?	Suppliers are evaluated based on: 1. Inclusion of product in environmental labelling scheme 2. Supplier having ISO 14001 certification 3. Price 4. After sale service of the supplier	Each ministry and incorporated administrative agency primarily checks whether procuring products satisfy the Green Procurement criteria	Suppliers are evaluated based on multiple criteria (such as green technology, price, sustainable procurement policies, etc.) with different weighting on each criterion	Suppliers are evaluated based on technical specifications and price
Government support mechanisms for green public procurement	Ministry of Finance (MOF) and Ministry of Environmental Protection (MEP) issue "The Government Procurement List of Environmental Labelling Products" each year. To promote Chinese sustainable consumption and green procurement, the Environmental Development Center (EDC) of Ministry of Environmental Protection (MEP) has established the Chinese Green Purchasing Network (CGPN).	The "Green Procurement Guidelines for Government Purchasers" is published, shared on the website, and delivered to the State and incorporated administrative agencies to help them to understand the criteria of GPP standards. When GPP criteria are revised, briefing sessions are held in some regions of Japan to explain the revised points. The Green Purchasing Network (GPN) has developed "Eco Products Net" where products can be compared from a selected category based on Purchasing Guidelines. http://www.gpn.jp/econet/ Ministry of Environment (MOE) gives Green Procurement Awards based on green procurement activities, or dissemination of green procurement education, and environmental communication to general consumers, etc.	Administrative support is offered for ecolabelled products to be registered in the Public Procurement System (PPS) in order to facilitate the distribution of green products. Detailed information including price, size and images of newly certified products are updated on the Green Procurement Information Platform (GPIP) on a regular basis to allow procurement staff to search for green products. Korea Environmental Industry and Technology Institute (KEITI) conducts annual workshops in order to exchange good practices, as well as to discuss with purchasers on how to improve the GPP system. Workshops are held for four different targets: <ul style="list-style-type: none">• Local governments (244 institutions)• Public enterprises• Quasi-government institutions (117 institutions)• The Republic of Korea Army. Korea Environmental Industry and Technology Institute (KEITI) develop the Green Procurement Guidelines (GPP) in October every year and upload this document to the Green Products Information Platform (http://gd.greenproduct.go.kr) to make it available online for procurers. Ministry of Environment gives awards for best performance in Green procurement.	Pollution Control Department (PCD) has introduced a Reward Scheme, which gives rewards to offices, manufacturers/service providers consistently delivering green products/services with a good Green Public Procurement (GPP) performance.
Government support mechanisms for ecolabels	The China Environmental Labelling standards, relevant regulations and application materials are available free of charge from the China Environmental Labelling (CEC)'s website. http://www.sepacec.com/	The Green Purchasing Network (GPN) helps in the Promotion of ecolabelled products. The Eco Mark award has been given since 2010 for best performance.	Korean Public Procurement Service (PPS) provides incentives for centralized procurement conducted by PPS in the process of reviewing of bids. Incentives are given when reviewing Green Building certification. The Korea Eco-label scheme gives subsidies to SMEs for ecolabel certification.	The use of ecolabels has been promoted through the Green Public Procurement (GPP) system. The criteria for products under GPP policy implemented by the Pollution Control Department (PCD) always refers to products with Thai Green Label.

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
RESULTS				
Total expenditure on green procurement	14.49 billion RMB (2.27 billion USD) for Environmentally labelled products	Data not available	2.431 trillion Korean won (2013) (12.431 billion USD)	570.02 Million baht (15.84 million USD)
Economic savings	Estimation of economic savings for laptop and printers are: electricity savings of 1,580,000 kWh, reduction in dust by 430t, CO ₂ by 1575t, SO ₂ by 47t, and NOx by 23.7t with the purchase of 10,000 printers and 10,000 laptops annually.	Data not available	54.5 billion KRW (2,500,000 USD)	223.51 Million Baht (6.21 million USD)
No. of Product categories covered by ecolabel	97	58	150	72
No. of companies participating	2000	1633	1672	66
No. of ecolabelled products	90,000	5386	9800	557
Sale of ecolabelled products	176.2 billion RMB (27.66 billion USD)	Data not available	30 billion USD	Data not available
No. of trained procurers	Data not available	Data not available	12,960	Data not available
No. of jobs created	Data not available	Data not available	12143	Data not available
Amount of CO ₂ reduction	-	124,000 ton (as of 2012)	3.71 million tons	25,685 ton
MONITORING OF GPP AND ECOLABELLING				
Tracking by government procurement	Not done yet	Each ministry and incorporated administrative agency tracks the number of procured goods and services which are defined in the Basic Policy	Government tracks procurement spending via e-procurement developed by the Ministry of Environment and Korea Environmental Industry and Technology Institute (KEITI)	The Pollution Control Department tracks procurement spending
Established monitoring system for green public procurement	No complete monitoring system	Each ministry and incorporated administrative agency is requested to report Ministry of Environment (MOE) on the results of GPP implementation.	Public Procurement System (PPS), Ministry of Environment, and Korea Environmental Industry and Technology Institute (KEITI) together have set up an integrated e-monitoring system. 60% of the national green procurement data is automatically reported via the GPIS, which greatly reduces the administrative burdens of both procurers and the Korea Environmental Industry and Technology Institute (KEITI) in monitoring and compiling the results.	A voluntary monitoring system is set up to assess progress in achieving the policy targets of Green Procurement by the Pollution Control Department (PCD) of the Ministry of Natural Resources and Environment (MNRE)

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
Indicators used for monitoring green public procurement/sustainable public procurement	Not yet developed	<ul style="list-style-type: none"> Embedment of GPP in operations and policy, namely, the number of Government Departments and Agencies developing GPP policies and reporting on their implementation Total amount of designated products/services purchased (in units) to assess the evolution in overall consumption Percentage of designated products that comply with the environmental criteria to evaluate progress in the level of green purchases 	<ul style="list-style-type: none"> The total amount of green purchases measured in both units and economic value for product groups with ecolabel criteria (both Korea Eco-label and Good Recycled Mark) The percentage of green purchases in relation to the total expenditure in those product groups 	<ul style="list-style-type: none"> Volume of GPP categorized by products/services groups Volume of non-GPP of the respective groups
Public reporting of green public procurement/sustainable public procurement	Not yet developed	Each ministry and incorporated administrative agency publicizes the result of GPP implementation. Ministry of Environment (MOE) compiles and publicizes the result of GPP implementation of all ministries and incorporated administrative agencies on its website at http://www.env.go.jp/policy/hozen/green/g-law/shiryuu.html	The Ministry of Environment (MOE) and Korea Environmental Industry and Technology Institute (KEITI) compile green purchase records from each public authority on the website of the Ministry of Environment (MOE) and Green Products Information Platform, where the public can easily access and compare results	Green Public Procurement (GPP) results are collected twice a year by the Pollution Control Department (PCD) (either in hard copy form or online) from self-reporting implementing agencies; these results are reported on the GPP website
Year of establishment of monitoring system	Not yet developed		2005	2009
Institution in charge of monitoring system	Not yet developed	Ministry of Environment	Korea Environmental Industry and Technology Institute (KEITI)	Pollution Control Department (PCD) of Ministry of Natural Resource and Environment (MNRE)
Is it linked to an electronic platform?	Not yet developed	No	Green Products Information System (GPIS) to make the monitoring and reporting process easier and more convenient for green procurement. GPIS is linked to the electronic system of the Public Procurement System (PPS). http://www.g2b.go.kr/index.jsp	The Pollution Control Department (PCD) has set up an electronic reporting system available online.
CHALLENGES OF GPP AND ECOLABELLING				
Challenges faced during implementation of green public procurement	<ul style="list-style-type: none"> No powerful legal bases such as specific legislation for green public procurement Necessity to enhance environmental awareness of procurement agencies and purchasers' knowledge base Lack of monitoring and evaluation mechanisms Difficulty of getting purchasing data to build up monitoring and evaluation mechanisms for green public procurement 	<ul style="list-style-type: none"> Low awareness of green public procurement Lack of knowledge to effectively implement green public procurement 	<ul style="list-style-type: none"> No concrete environmental, social or economic goals Scope and number of green products is limited, catering to only certain institutions High turnover rates of public purchasers, leading to a necessary increase in the frequency of training for procurers, and lack of continuity 	<ul style="list-style-type: none"> Lack of availability of environmentally-friendly products in some parts of the country Lack of technical knowledge of procurement staff Availability of green public procurement criteria specifications for only few products Perception about cost of product Suppliers cannot provide test results or related documents

PRACTICE	CHINA	JAPAN	KOREA	THAILAND
CURRENT POLICY FRAMEWORK FOR GREEN PUBLIC PROCUREMENT AND ECOLABELLING				
SUCCESSSES AND APPROACHES USED TO OVERCOME CHALLENGES				
Approaches and successes	<p>1. From 2009 to 2011, the SuPP-Urb (Sustainable Public Procurement in Urban Administrations in China) project introduced public procurement practices in the cities of Lanzhou, Qinhuangdao, and Tianjin. Impact assessments proved direct impacts of the project in terms of reduced energy and water use, CO₂ emission reduction, and oil savings. The changes in procurement practices of the three Public Procurement Centres (PPCs) led to CO₂ reductions of 105,749 tons, reduced waste by 34,418 tons and saved 14,008 tons of oil and 39,269 cubic meters of water over the whole implementation period of the project.</p> <p>2. Environmental Labelling is an effective tool for carrying out Green Public Procurement (GPP) in China. China's "Lists for Environmental Labelling Products" actively promotes the development of environmental awareness. The statistics from 2011 indicated that government expenditure on products with Environmental Labelling reached RMB 73.98 billion, amounting to 60% of goods purchased by the government through a competitive process.</p> <p>3. Tianjin province in North China has taken a step towards green procurement by including life cycle assessment on environment and energy impacts of products, which goes beyond policy requirements. Tianjin has published a performance assessment system for green and energy conservation products, which is a municipal initiative. The assessment system includes computers, appliances, office furniture and paper. It sets energy and environment assessment indicators and calculation methods for tendering evaluation.</p>	<p>1. Local governments have procured electric vehicles (Nissan Leafs). There are now 619 recharging stations throughout Japan, some within the company and the rest with local governments.</p> <p>2. Promotion of Green Purchasing: The procurement of Copy paper accounted for 33.5 percent of total domestic shipments in fiscal 2004; about triple their 11.6 percent share in fiscal 2000. Green purchasing reduced pulpwood consumption by an estimated 770,000 cubic meters in fiscal 2004. The share of government procurement for copy paper accounts for more than 20% of total domestic shipments, thus government initiatives have made a very significant contribution to building markets for these goods.</p> <p>3. The procurement of plastic goods made from recycled plastic from designated list of products: Plastic consumption reduction from using recycled plastic in manufacturing four stationery items (including ballpoint pens and mechanical pencils) was estimated at 20.3 tons for fiscal 2004. Calculating CO₂ emissions using an emission coefficient for plastic incineration, the estimated reduction was 54.4 ton-CO₂.</p> <p>4. Shiga Green Purchasing Network (Shiga GPN) was established in December 1999 to promote green purchasing among consumers, companies and governmental organizations in Shiga, Japan. It has been promoting the reduction and reuse of stationery items since 2000 (e.g. Kanagawa Prefectural Office has switched to a new model of highlighter pen that has a reloadable cartridge).</p> <p>5. In association with the Green Purchasing Network (GPN), Sendai started its own green procurement, creating a list of recommended products in 2000. In 2003, the city launched the Sendai Green Stationery Promotion Programme. For this purpose, the city has created its own Sendai Green Stationery brand, with 13 products including paper, pencils, notebooks, and scissors etc., which are sold in more than 100 stores. Sendai has also created its own ecolabel for other products.</p>	<p>1. The Korean Ministry of Environment introduced a Green Credit Card scheme in July 2011 to encourage consumers to adopt more sustainable lifestyle patterns by providing tangible economic rewards. The scheme was envisaged to contribute towards reducing about 3 per cent of the annual CO₂ emissions from the residential sector by 2014 when the number of cardholders was expected to exceed 3 million. The Ministry of Environment signed a memorandum of understanding with 49 private companies (18 manufacturers, 28 distributors and retailers, 2 franchised coffee shops and 16 affiliated shops) in January 2012. Manufacturers and distributors engaging in this scheme are partly responsible for providing the financial resources that flow into the green purchasing points</p> <p>2. Korea Environmental Industry and Technology Institute (KEITI) has developed Korea ON-line E-Procurement System (KONEPS). It is a secure nation-wide electronic procurement system, which allows the entire procurement process to be conducted online. It includes activities such as submitting procurement requests, bids, contracting, payments, and consolidates information on national procurement projects. It also serves as a "single window" to all procurement activities as it is linked to other public institutions' systems, allowing public and private organizations to find and provide all contract-related documents in the platform.</p>	<p>1. Thai Sustainable Consumption and Production Policy Project: Conducted an awareness survey about sustainable consumption and production among 90 large and medium sized municipalities in Thailand.</p> <p>2. Siam cement Group (SCG) has implemented green procurement as a tool to enhance the efficiency of environmental management throughout the supply chain. Siam Cement group has developed Green Procurement guidelines that are provided in conjunction with the procurement procedure of each business unit.</p>



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This report compares Green Public Procurement (GPP) programs from four leading Asian countries (China, Japan, Korea and Thailand) to understand what the frameworks and key success factors that result in high impact green and sustainable procurement are. It looks at their commonalities and differences with the goal of informing a more effective implementation of green procurement policies and programs across Asia. It will be beneficial for other countries in the early stages of promoting and implementing green public procurement, and it will give practitioners insights into the tools and approaches used to implement and promote it.

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