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Green Public Procurement in the Asia Pacific Region: Challenges and Opportunities for Green Growth and Trade

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Executive Summary

Environmental policies are defined to promote a more sustainable use of resources, minimize pollution and impacts of human activities on environment, foster energy efficiency, etc. One of these policies is related to Green Public Procurement (GPP), in which governments set environmental standards for the acquisition of goods and services. It is addressed to change current practices in the production and consumption patterns of products and services.

Currently, there is no unique or accepted definition for GPP, but all descriptions emphasize the idea of the use of public purchasing to promote green products and services and achieve desirable environmental outputs. Governments and international institutions see this policy as a powerful tool to achieve environmental goals due to the high volume of public expenditure and the wide range of products purchased by public agencies. On average, 20% of the gross domestic product (GDP) of OECD members is due to public procurement.[1]

Given the high influence of public procurement on shaping markets, GPP has been adopted by governments as a tool to foster and enhance the market of greener products and services, and it is being promoted by international organizations as OECD or UNEP.

Through GPP measures, governments are promoting green growth. Companies will invest in innovation and clean technologies to manufacture green products and services demanded by governments. GPP policies foster the creation of green companies, which will require qualified green jobs whereas promoting competitiveness of the market.

APEC, through economic commitments, the Kyoto Report and the APEC Yokohama Declaration, has integrated environmental concerns in its policies in view of the current challenges of world economy. In this framework, this report aims to promote the debate on the ways to enhance market openness among APEC economies in public procurement.

[1] UN, 2008. *Public Procurement as a Tool for Promoting more Sustainable Consumption and Production Patterns*. Sustainable Development Innovation Briefs, issue 5, page 1.

This report reviews and analyzes the progress of GPP policies, challenges and opportunities in APEC economies in the context of green growth and promotion of trade in environmental goods and services (EGS). It includes the elaboration of a database of environmental criteria of eight groups of products. The information considered in this study has been gathered through questionnaires and bibliography review.

This report also incorporates an overview of best practices on GPP selected according to the key aspects involved in the development of a GPP policy. Finally, existing practices on training in APEC economies are described and recommendations for designing courses and seminars are formulated.

The elaboration of this study has revealed that most of APEC economies have developed, or they are in progress, GPP policies. Among 21 economies, 18 have already adopted a policy to facilitate and promote the acquisition of green products by public procurers. However, the range of policy tools for the implementation of GPP by the 18 economies is very wide. Among these 18 economies with a GPP framework policy in place, 15 have defined environmental standards for specific categories of green goods and services.

Challenges and opportunities for the adoption of GPP are identified in APEC economies, as a region, and individually for 18 economies. Regionally, common challenges in APEC economies, are related to the need of international approach of GPP, the divergence of environmental criteria for green products and use of eco-labels among economies, the scarcity of green products in the market, the requirement of transparency and communication of environmental and financial benefits of GPP and the non-tariff barriers that hinders the definition of trade policies to promote EGS.

APEC economies have the opportunity to jointly address these challenges throughout collaboration and cooperation. The exchange of information will facilitate APEC economies to tackle jointly the common obstacles and challenges to GPP development identified. It supports both, the accomplishment of APEC declarations and individual economies' commitments of sustainable development.

The cooperation to exchange information among APEC economies will be the proper platform to deal with an international approach of GPP. In addition, this platform will promote the integration of common social aspects to ensure fair trade and equality in

APEC economies and promote the development of cleaner technology and green growth.

The main conclusions of this study were presented in the "Workshop on Green Public Procurement in the Asia–Pacific Region: Challenges and Opportunities for Green Growth and Trade", held in Jakarta, (Indonesia) January 31 and February 1, 2013. The two-days event included the presentation of current practices on GPP in APEC economies, challenges and benefits of this policy. The workshop served as starting point to encourage cooperation and exchange of information between APEC economies to improve capacity building and foster good practices to develop GPP promoting green growth and trade in EGS.

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1 Introduction

Current trends of economic development have resulted in significant inequalities in society and damages to environment. Many of environmental problems, such as climate change and pollution, arise from consumption and production patterns: high consumption of fossil fuels and resources, food resource depletion, water scarcity, land occupation, etc.

The world economy growth has already exceeded the planet's biocapacity; in fact, global economy started exceeding the planet's biocapacity in the 1980s.[2] Meanwhile, the gap between poor and rich countries continues to widen.

In 2005, industrialized countries, with a 15% of the population, used a 50% of the fossil energy, industrial materials and metallic ores.[3] Case study scenarios, based on current business growth, anticipate the increase of resources scarcity (water and food) and fossil fuels with a raise in the price of oil barrel to US$180 by 2030.[4] In addition, by 2015 there will be 1 billion people living with less than US$1 a day. Countries and regions are facing challenges to increase the quality of life standards, above all the developing countries, whereas reducing the use of resources aligning the economy to the ecosystems' capacity.

Climate change is one of the most relevant global impacts from industrial activity, which is already having some effects on society and health. The temperature raise is threatening the world's population with the raise of sea level, the increase of days and nights with extreme temperatures, the loss of biodiversity and food production, energy and water scarcity, etc. In addition, the current trends in production and consumption will lead to an increase of green house gases emissions, about 45% by 2030, causing the raise of average temperature up to 6%.[5]

Measures addressed to change current trends of consumption and production patterns, that does not favors to eradicate extreme poverty and hunger and improve health standards of developing countries, must be taken properly by governments.

[2] UN, 2010. *Trends in sustainable development, towards sustainable consumption and production*. Page 5.
[3] UN, 2010. *Trends in sustainable development, towards sustainable consumption and production*. Page 1.
[4] UNEP, 2009. *Rethinking the Economy Recovery: A Global Green New Deal*. Page 6.
[5] UNEP, 2009. *Rethinking the Economy Recovery: A Global Green New Deal*. Page 6.

One of the policies of governments consists in the adoption of environmental requirements in the government purchasing procedures, as it involves the acquisition of great amount of goods and services. For APEC economies, the introduction of Green Public Procurement (GPP) initiatives will have a great impact to mobilize the change towards economies protecting both environment and society.

Public procurement plays a significant role to enhance the production of green products. How governments integrate environmental standards for purchasing goods and services is also significant to ensure fostering trade in Environmental Goods and Services (EGS) in APEC economies.

Through GPP measures governments can also catalyse green growth, since industry and enterprises will be willing to invest, innovate and scale up when demand is secure and well directed. Therefore, beyond the contribution of GPP policy to achieving environmental goals, it boosts competitiveness and innovation of the market increasing the demand of high qualified and green jobs.

1.1 APEC sustainable policies to promote green growth

Nowadays environmental impacts as a result of current economy development are a global issue. International organizations are taken policy measures to tackle common sustainable environmental challenges due to the significance and impact of their activities.

APEC has defined commitment and established programs to formulate strategies to consider environmental issues in priority areas of their activities, which contribute to foster sustainable practices in member economies.

APEC economic commitments, the Kyoto Report and the APEC Yokohama Declaration, have integrated environmental concerns in APEC policies in view of the current challenges of world economy.

The Kyoto Report on Growth Strategy of APEC Finance Ministers (2010) states that APEC is willing to rebalance and strengthen global demand, pursue sound fiscal management and enhance finance to key sectors such as infrastructure, small and medium enterprises, households and green investment. Yokohama Declaration states that “the progress towards a green economy should be accelerated by promoting trade and investment in environmental goods and services”.

According to these statements, APEC is centring efforts on the promotion of trade in EGS with programs and measures to reduce existing trade barriers. Some of commitments of the 2011 leader's statement on EGS (Honolulu (Hawaii), 2011) are:

- Reduce by the end of 2015 tariff rates to 5%[6] or less, taking into account economies' economic circumstances.
- The revision of APEC list of EGS by 2012, on which 5% of reduction in tariff rates will be applied. The new list proposed in 2012 Leader's Declaration includes products and technologies used directly in environmental services waste water management, air pollution (used for environmental purposes) and, in less extent, goods and services whose production, use and disposal reduce the environmental impact in comparison with substitute goods.
- Eliminate, consistent with World Trade Organization (WTO) obligations, existing local content requirements that distort environmental goods and services trade in the region by the end of 2012, and refrain from adopting new ones, including as part of any future domestic clean energy policy.
- Ensure that all government procurement policies pertaining to environmental goods and services are transparent, consistent with the 1999 APEC Non-Binding Principles on Government Procurement.

Additional APEC programs to promote sustainability development are:

- To facilitate exchange of information about EGS in APEC economies and the creation of EGS dedicated website (http://egs.apec.org).
- Development of APEC Energy Information Standards (ESIS) website that provides up-to-date information about energy efficiency standards and labelling that apply to products in the APEC region. APEC ESIS allows policy agencies, standards and labelling practitioners, and producers and suppliers of products to see what standards are being developed or adopted in different economies for different products.

[6] Taking into account economies' economic circumstances, without prejudice to APEC economies' positions in the WTO. Economies will also eliminate non-tariff barriers, including local content requirements that distort environmental goods and services trade.

In addition to these policies, current initiatives on green procurement in APEC economies could contribute to foster the market of green products. Policies on green procurement in APEC economies should be reviewed in order to exchange information about best practices, face trade barriers and promote future collaboration between APEC economies. The challenges and opportunities of GPP should be analyzed in order to envisage new actions to enhance trade in EGS.

1.2 Objectives

The present report identifies, describes and analyzes the experiences, strategies, challenges and opportunities of GPP in APEC economies in the context of the green growth and promotion of trade and investment in EGS.

This study aims to respond Yokohama and Kyoto declarations and serve as an enabler to address the need to "initiate an in-depth discussion on the ways to enhance market openness among APEC economies in the area of government procurement".[7]

The challenges and opportunities for introduction and enhancing of GPP policies in APEC economies are analyzed in order to draw the required actions for accelerating its adoption, and therefore, fostering the change towards a greener economy.

The study focuses on the following specific tasks:

a) Identification of the existing framework policies and programs aimed at introducing environmental criteria in the public purchases and contracting.
b) Identification and collection of best practices in the APEC economies in GPP.
c) Description of challenges, threats and opportunities for APEC economies for the implementation of GPP measures and the promotion of green growth and trade.
d) Description of the capacity building activities to train officials regarding the introduction of environmental criteria in public procurement.

[7] APEC, 2008. *Secretariat Report on APEC Developments*.

2 Public policies to promote sustainable development

Effective environmental regulations and public policies formulated by governments would enable the shift to sustainable development, addressing environmental, social and economic issues, due to their capacity to influence society and markets. This is the case of APEC economies, with high potential influence of environmental policies on their markets. The 21 economies account for about 54% of the world's GDP (Gross Domestic Product) and almost 44% of world trade, with the 40% of the world's population.[8]

2.1 Principles to effectively implement sustainable public polices

Core principles of environmental public policies aimed at promoting sustainable development change depending on domestic context. Broadly, principles of environmental public policies, according to the report on Human Development published by UNDP (United Nations Development Program), include the following: [9]

- Strengthening institutions and governance.
- Making environmental sustainability part of all sector policies.
- Improving markets and removing environmentally damaging subsidies.
- Bolstering international mechanisms for environmental management.
- Investing in science and technology for the environment.
- Increasing efforts to conserve critical ecosystems.

The components and processes for the development of public policies aimed at fostering sustainable development are illustrated inFig. 1. Sound policies should involve the three strategic dimensions: policy support, analytical and administrative capacity of agencies. The steps to develop sustainable policies are defined by the policy cycle development (see Fig. 1).

[8] APEC, 2010. *The Kyoto Report on Growth Strategy and Finance: 2010 APEC Finance Ministerial Meeting*. Kyoto Japan. Retrieved in http://www.apec.org/About-Us/About-APEC.aspx.

[9] UNDP, 2003. *Human Development Reports. Millenium Development Goods. A compact among nations to end human poverty*. Page 127.

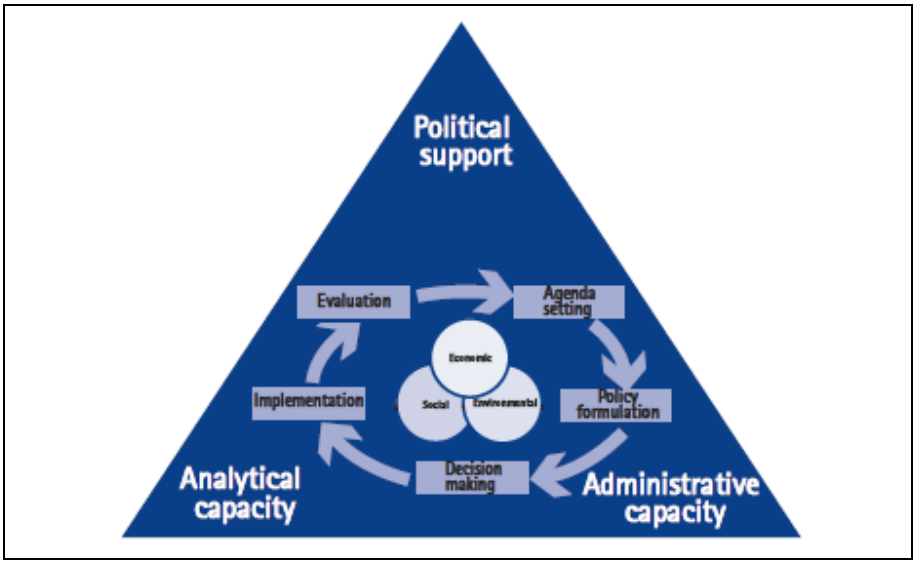


Fig. 1. Integration of policy objectives, policy environment and policy process

Source: UNEP, 2009. Integrated policymaking for Sustainable Development

Besides policy formulation itself, the agenda setting stage should be defined carefully. Agenda setting refers to issues or problems and opportunities, missed without the establishment of the policy, to which government officials, and people outside of the government, are paying some serious attention at any given time such as air pollution or waste generation. Evaluation of the policy is also considered a key phase to monitor and track progress of policies and define corrective measures.

Governments should ensure the commitment of politicians and during the planning stage, foresee the tools and knowledge to public officers for the implementation of the policy.

2.2 Public procurement policies

Public administration involves a considerable percentage of goods and services procurement, and therefore, it plays a key role in the development and enhancement of market and industry. Each government set policies of public procurement according to core principles that guide procurement. Most of the developed economies have developed their public procurement frameworks with the following core principles:

- Public accountability: government should be prepared to account about purchasing decisions to the legislature, community and prospective suppliers.

- Best value for money: considering not only price, but also compliance with user's requirement, reliability of performance, whole life cost and after-sale support, where applicable.
- Transparency: procedures and practices for selling to government should be clear and transparent to facilitate better understanding. All the information needed to submit offers should be available for bidders.
- Open and fair competition: no discrimination between products on the basis of their origin.

Public procurement is widely known as a power tool to drive and shape market development mainly due to the following reasons:

- Public purchasing relies on rules and procedures defining the specifications addressed to product, service according to public policy. Industries and suppliers should meet the standards and procedures to cover public demand. If the suppliers of this relevant market are required to follow specific standards, public procurement serves to promote those companies and industries that are able to meet these criteria. Thus, government is defining how companies should produce and provide goods and services, excluding those companies that do not meet the requirements, and therefore, driving the market.
- The high volume of public expenditure and the wide range of products purchased by government from stationery, furniture, vehicles to infrastructures management such as public schools, hospitals, public transport, etc. Therefore, public procurement rules can influence wide group of market sectors willing to accomplish public standards due to the high volume of this market. As examples of the high expenses made by governments, on average 20% of the GDP of OECD (Organization for Economic Co-operation and Development) countries is due to public expenditures, roughly 15% in non-OECD countries[10], and in the United States public procurement accounted for 12% of GDP in

[10] UN, 2008. *Public Procurement as a tool for promoting more Sustainable consumption and production patterns.* Sustainable Development Innovation Briefs, issue 5, page 1.

2011.[11] Fig. 2 collects the expenditure of public procurement in OECD's APEC economies as percentage of GDP.[12]

- Governments can disseminate the standards of public procurement to produce more sustainable or innovate products with the objective to raise awareness about citizen capacity to drive markets according to more social responsible and sustainable production.

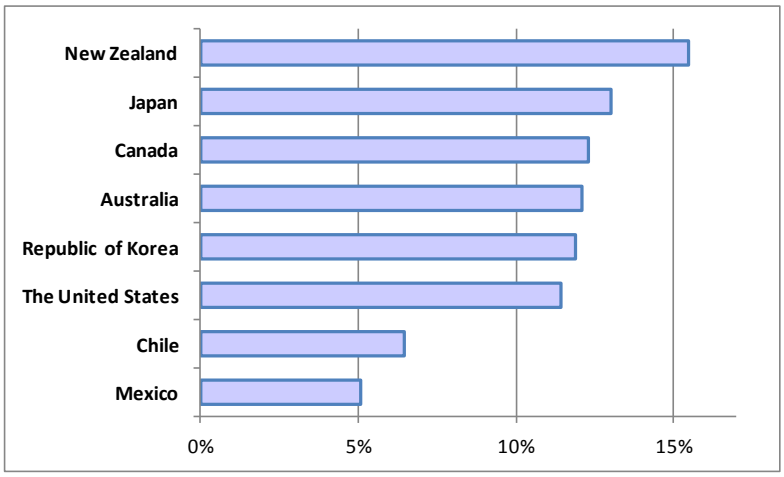


Fig. 2. Government procurement as percentage of GDP (2011)

Source: Own elaboration with data compiled from OECD iLibrary, 2011 (http://dx.doi.org/10.1787/gov_glance-2011-en)

Given the high influence of public procurement on shaping markets and influence society, the policy to include of environmental standards to purchase goods and services have been adopted as a tool to foster and enhance the market of greener products. According to the large expenditure of governments, beyond the change in the market, GPP is expected to contribute to green growth strategies.

In short, GPP is a significant tool to stimulate both consumption and production of more environmental-friendly products and services. GPP policies have already been adopted in most of developed regions and international institutions are promoting the inclusion of environmental consideration in public purchasing.

[11] OECD iLibrary, 2011. *Government at Glance*. Chapter XI. Accessed in November 2011 (http://dx.doi.org/10.1787/gov_glance-2011-en).

[12] In 2012, Chilean Government reported that public procurement accounts for 3.5%, according to the source: *Ministerio de Hacienda, 2012. Política de Compras Públicas Socialmente Responsables, de la Sustentabilidad a la responsabilidad social*. Chilecompra, page 3.

3 Green public procurement

There is no unique or accepted definition for GPP but all descriptions emphasize the idea of the use of public purchasing to promote green products and achieve desirable environmental outputs. In addition, there is no common or accepted name to designate these strategies; for example, in the United States the term “environmentally-preferable purchasing” (EPP) is mostly used. In other economies or regions, the concept is referred to green government purchasing (GGP) or just green purchasing.

In the United States, Environmentally Preferable Purchasing (EPP) is defined as the purchase of goods and services that minimize environmental impacts. It includes the purchase of products with “a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose”.[13] The United Nations introduces the consideration of life cycle approach to appoint green procurement, defined as “the selection of products and services that minimize environmental impacts. This concept involves an environmental impact assessment at all stages of the life cycle of products, considering the environmental costs of securing raw materials and manufacturing, transporting, storing, handling, using and disposing of the product”.[14]

In general, the statement of procuring products with less impact in the environment is found in all the definitions of GPP, however, the scope and procedure to define environmental requirements for the designation of green products and services differs in each economy or region. For example, the application of the criteria can be compulsory or voluntary and can consider either the good provided or the environmental performance of the supplier.

The scope of environmental criteria also distinguishes between the adoption of green or sustainable public procurement policy. Although these two terms are used interchangeably, there are strict differences between them.

Sustainable procurement, as defined by the United Kingdom Sustainable Task Force, “is a process whereby organizations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole life basis in terms of

[13] Executive Order 13101, Sept. 1998. *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*. Part 2, sec. 201, vol.63 n. 179, page 49643.

[14] UN, 2008. *Public Procurement as a tool for promoting more Sustainable consumption and production patterns.* Sustainable Development Innovation Briefs, issue 5, page 1.

generating benefits not only to the organization, but also to society and the economy whilst minimizing damage to the environment".[15]

Therefore, sustainable procurement policies comprise the triple bottom line: environmental, social and economic, while green purchasing is focused on the environmental impact of the product.[16]

In addition, the adoption of green procurement should not only consider the definition of environmental criteria of final product or services, but also environmental measures during the whole process of manufacturing, transport, the purchasing process by officers and the use and final disposal of goods (life cycle approach).

In order to effectively gain the objectives of GPP initiatives the involvement of key players, such as public procurers and private/economic sector, is essential to achieve a sound policy. Without the contribution of the market side, it is not likely to build an effective GPP initiative. Government and market should require support and guidance to implement GPP practices and adopt proper measures. Fig. 3 illustrates the components for a good performance of GPP and the role of each player.

[15] Department of Environment, Food and Rural Affairs, UK, 2006. *Procuring the future, Sustainable Procurement Action Plan: Recommendations from the Sustainable Procurement Task Force*. Page 16.

[16] In this report, the term used will be Green Public Procurement, and depending on the policy/ies in place in each economy, this could be more or less aligned with sustainable public procurement.

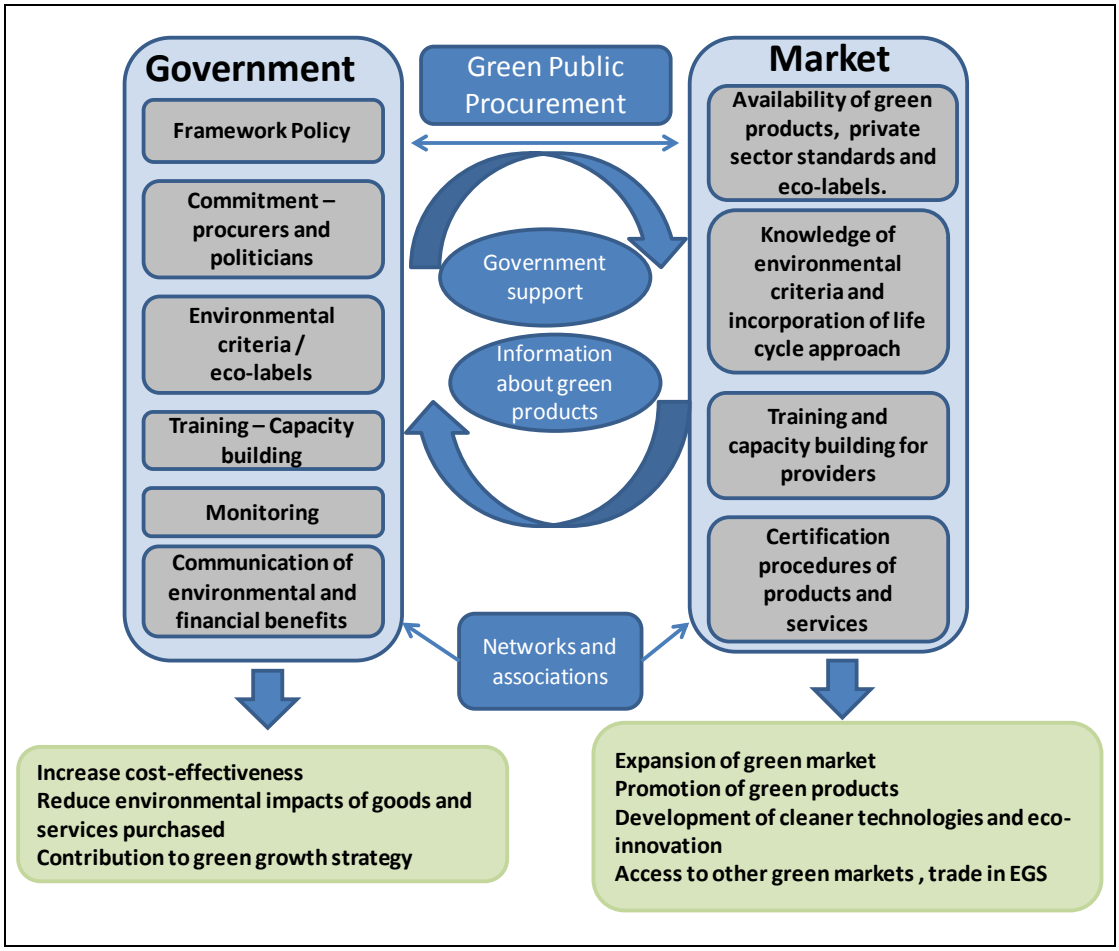


Fig. 3. Green public procurement scheme
Source: Own elaboration

According to the components detected in GPP initiatives by the authors of this study, governments to develop a robust initiative should:

- Develop a sound policy framework according to domestic sustainable development strategies.
- Gain commitment to greening purchasing from procurers and politicians.
- Establish environmental criteria for goods and services. To define the environmental criteria of products and services government should observe companies and related industries in relation to the current eco-labels and environmental standards most used. In addition, transitions phases can be established to facilitate companies to adapt their products and services to environmental standards. Governments could define minimum criteria, excluding those suppliers not meeting them, and voluntary requirements.

- Products and services standards should be clearly disseminated by government through websites, guidelines, etc.
- Provide training addressed to procurers about the inclusion of environmental criteria in contracts. Industry should also acquire the skills needed to provide products and services required.
- Implement monitoring and tracking tools to follow up the performance of GPP initiatives and measure the achievement of targets and objectives set. The results will indicate about the proper actions to address GPP implementation.
- Communicate environmental and financial benefits achieved by the procurement of environmentally preferable products to stimulate procurers to keep adopting it. In addition, the dissemination of benefits to society promotes the acquisition of green products among citizens, expanding the market of green goods and services.

Regarding market/industry side, the components that should be developed are:

- Green products meeting environmental standards should be available on the market, otherwise imports from other green markets would cover the current demand or, due to the lack of such green products, GPP policies fail. It is noteworthy that communication and consensus with market side during the definition of GPP and environmental considerations will support the production of green products.
- Training and capacity building delivered by green procurement and cleaner production experts. Green procurement associations, networks or the government should provide such training.
- Procedures to certify green products should be regulated and certifying agents should be accredited by government.

The collaboration between private and public sector is relevant during the early stages of GPP. The analysis of current environmental standards and eco-labels to study their integration in GPP policy will support the market side and promote trade in EGS. Stakeholder collaboration is crucial to define environmental standards, and therefore, a sound policy in GPP. Governments and public bodies support companies with trainings or adopting transition periods for the adaptation of companies and services. From the market side, GPP policies foster and speed up the transition period to cleaner and

greener products. To enhance its acquisition by public procurers, clear information channels about green products that meet public procurement requirements should be set in close collaboration with industrial sector.

The benefits (direct and indirect) expected from the implementation of GPP are described below:

- Governments and companies involved in green purchasing increase the cost-effectiveness of the use, maintenance and final disposal of products like batteries, vehicles, heating and cooling systems, etc.
- Reduction of water and energy related costs. Data published on the effects of GPP adoption by businesses and government has reported between 8% to 30% efficiency improvements.[17]
- Governments can use GPP to achieve environmental targets and commitments by means of:
    - ✓ Reducing the environmental impacts of goods purchased by government.
    - ✓ Shaping the market towards sustainable production. Governments can determine key sectors to which address GPP strategies based on the environmental impacts of the sector, the social impacts or the government market share. The influence of the adoption of GPP measures on the market would speed up the shift to cleaner technologies, eco-innovation, introduction of sustainable measures in industries, etc.

[17] New Zealand Business Council, 2009. *Sustainable Procurement in Government, opportunities for business*. Page 11.

3.1 Green public procurement, green growth and trade

Governments are making efforts to change current consumption and production patterns towards a more sustainable model through the implementation of specific policies. Developed countries have been working to find effective and sound green growth strategies, plans and measures to reduce the environmental impact and promote the use of renewable energy, energy efficiency products and best available techniques to manufacture products with less environmental impact.

As it has been mentioned in previous sections, GPP is considered a powerful tool because public purchasing contributes with a high percentage of GDP and is seen as an opportunity for governments. In general, green products are less costly during their lifespan (less energy consumption, reduction in cost of maintenance and waste disposal) even though initial investment might be higher.[18] Moreover, the implementation of GPP supports the accomplishment of domestic (national) environmental plans and sustainable targets set, due to the influence that this measure has on industry and society.

Thus, GPP policies, in the context of green growth strategies, should be promoted and fostered by governments. In turn, the adoption of policies to strengthen domestic green market of products will enable the trade in Environmental Goods and Services. Actually, well-managed international trade in EGS is recognized as a key component of sustainable development, facilitating the achievement of sustainable goals[19].

The shift towards a green market will facilitate the access to other economy markets where the awareness of purchasing green products is more widespread. Trade in EGS[20] shows a worldwide increasing relevance in APEC region, both for industrialized and developing economies.[21] Thus, EGS is contributing to using and producing more sustainable products, eco-innovation and the settlement of new companies, encouraging the growth of this market according to green growth strategies.

[18] UN, 2008. *Public Procurement as a tool for promoting more Sustainable consumption and production patterns.* Sustainable Development Innovation Briefs, issue 5, page 2.

[19] Paolo, B., 2007. *WTO Negotiating Strategy on Environmental Goods and Services for Asian Developing Countries.* ICTSD Programme on trade and environment, pp. V.

[20] There is no common widely definition accepted for environmental goods and services. APEC has approved in September 2012 the APEC list of environmental goods including renewable energy and energy efficiency plant, waste management or air pollution control among others (http://www.apec.org/Meeting-Papers/Leaders-Declarations/2012/2012_aelm/2012_aelm_annexC.aspx)

[21] Kuriyama, C., APEC policy Support Unit, 2012, *A Snapshot of Current Trade in Potential Environmental Goods and Services*. Policy Brief num. 3, page 1.

In relation to international agreements to promote trade in public procurement, the World Trade Organization[22] (WTO) rules on public procurement rely on the WTO Agreement on Government Procurement (GPA). This agreement defines the principles of openness, transparency and non-discrimination, and applies to parties' procurement covered by government. Table 1 indicates the APEC economies that joined GPA by way of accession and those economies that are observers[23] to the GPA.

Table 1. Parties and observers to the GPA.

GPA members	APEC Economies	Non-APEC economies
Parties	Canada; Hong Kong, China; Japan; Korea; Singapore; Chinese Taipei and the United States	Armenia, 27 states members of EU, Iceland, Israel, Lichtenstein, the Netherlands and Switzerland
Observers	Chile; China; Indonesia; Malaysia and New Zealand	Albania, Argentina, Bahrain, Cameroon, Colombia, Croatia, Georgia, India, Jordan Kyrgyz Republic, Moldova, Mongolia, Montenegro, Oman, Panama, Saudi Arabia, Sri Lanka Turkey and Ukraine

Source: Own elaboration with data compiled from WTO GPA: (http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm).

Within the participation in the GPA, parties guarantee access to government procurement goods and services to other parties and suppliers from all parties. GPA will emphasize in the forthcoming revisions that parties may prepare, adopt or apply technical specifications to promote the conservation of natural resources or protect the environment[24]. APEC economies that have already put in place measures for GPP will have a competitive advantage to trade within parties to the GPA.

Nowadays, the number of governments that have fostered GPP practices is increasing for over a decade. Authorities have started to adopt GPP in their policy agendas and roadmaps as a measure to promote sustainable production and consumption patterns.

[22] 21 APEC economies are membership of WTO, the international organization that deals with the global rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible. (www.wto.org).

[23] Members of the World Trade Organization that are not Parties to the Agreement may follow the proceedings of the Committee on Government Procurement in an observer capacity. Annex 1, GPA, Decision 1.

[24] WTO, 2011. *Harnessing trade for sustainable development and green economy*. Page 12.

This is influencing on current markets through the definition of environmental criteria in their purchasing, boosting a greener economy.

The support of international bodies such as the United Nations or OECD in the promotion of GPP has played a key role in the dissemination of these policies over the last 15 years, providing guidance and key information about GPP addressed to policy-makers. The efforts made by international bodies to spread GPP concept shows the relevance of these policies as tools to tackle current environmental issues and for the promotion of trade. The international policies carried out by organizations are described in the following sections.

3.2 International policies to promote green public procurement

Outstanding international bodies, such as the OECD or the United Nations, are fostering GPP. The aim of these international institutions is to encourage national, regional or local authorities in the establishment of environmental policies by providing them technical support. Green public procurement is nowadays on the agendas of international organizations to promote sustainable development. Generally, these agencies develop guidelines, manuals and other similar tools, and organize trainings and workshops on GPP. Table 2 summarizes the most relevant programs that are fostering the adoption of GPP measures.

Table 2. Brief description of international GPP initiatives carried out by international organizations

Organization	Brief description
UNEP United Nations Environment Program Marrakech Process	One of the initiatives, within the framework of the Marrakech Process, addresses the promotion of sustainable procurement by means of voluntary pilot projects. The Marrakech Process was launched in 2003. Since 2005, the Marrakech Task Force on Sustainable Procurement (MTF) is providing tools and capacity building for the implementation of sustainable public procurement in different countries. The MTF supervises the whole process in pilot countries.

Organization	Brief description
OECD Organization for Economic Co-operation and Development	The OECD, constituted of 34 members, is fostering GPP policies since 2003 in OECD's members. OECD has published reports and guidelines aimed at the promotion of this policy.
EU European Union	The EU has incorporated GPP in its policy strategy and framework legislation since 2001. The promotion of GPP in their member states has included the development of environmental criteria for a wide range of products, toolkits for GPP implementation and guidelines.
ICLEI Local Governments for Sustainability	ICLEI is an association of local governments with over 1,220 members. ICLEI provides technical and consulting services for the promotion of sustainable initiatives at local level. Among the fields of work of the association, its program focused on sustainable public procurement aims to encourage local governments the choice towards a more sustainable goods and services. ICLEI has organized seminars, events, and international conferences. This association has also coordinated European funded projects, such as BIG-Net and Procura, elaborated guidelines, toolkits and the website on sustainable procurement (http://www.sustainable-procurement.org).

In this section, further description of the projects developed by the three international authorities (OECD, UNEP and the European Union) to encourage the implementation of GPP policies is provided.

3.2.1 United Nations Environment Program (UNEP): The Marrakech Process

The Marrakech Process is a 10–Year Framework of Programs on Sustainable Production and Consumption. The Marrakech process was established as a response to the Johannesburg Plan of Implementation (JPOI) of the World Summit in Sustainable Development of United Nations (2002) that recognized Sustainable Consumption and Production (SCP) as an overarching objective and an essential requirement for sustainable development. The JPOI called on all stakeholders to "encourage and promote the development of a 10-year framework of programs (10YFP) in support of regional and national initiatives to accelerate the shift towards

sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems."[25]

To achieve this general objective, different actions and tools to promote SCP were developed: regional and national meetings, national roundtables, seven Marrakech Task Forces on specific themes, dialogues with stakeholders, etc. The seven Marrackech Task Forces established were focused on the following SCP, being Sustainable Public Procurement (SPP) one of them: cooperation with Africa, Education for Sustainable Consumption, Sustainable Buildings and Construction, Sustainable Lifestyles, Sustainable Products, Sustainable Public Procurement and Sustainable Tourism. The Task Forces provide support in the development of voluntary pilot projects in each of the seven themes and elaborate tools and share experiences and knowledge.

The Task Force dedicated to Sustainable Public Procurement is led by Switzerland government (Swiss Federal Office for Environment) with the aim of achieving the following objectives:[26]

- Capacity building for the implementation of sustainable public procurement.
- Raising awareness of stakeholders involved in the procurement process (policy makers, procurers, suppliers, manufacturers).
- Furthering more sustainable production methods, resource efficiency, social welfare, better products and services and encouraging innovation and the creation of better work places through public procurement.
- Introducing life cycle thinking in procurement activities.

The MTF has created a methodology to establish and implement sustainable public procurement. The first step of this methodology consists of an assessment of the implementation of SPP policies in a country followed by an analysis of the market readiness to determine the capacity and availability of products and tenders to supply environmentally preferable products required.

[25] http://www.unep.fr/scp/marrakech/

[26] UNEP, 2011. *Paving the way for sustainable consumption and production: The Marrakech Process Progress Report.* Page 51.

From the information collected during the first assessment on policy and market, the SPP policy plan will be defined helping governments to develop the pilot project to implement SPP. The process is completed with trainings addressed to stakeholders involved in SPP. The last stage is the final implementation of SPP in the day–to-day procurement, with the support and monitoring of the experts on this methodology, which is known as the Marrakech Task Force Approach on Sustainable Public Procurement (see Fig. 4.). The methodology can be applied in both, developing and developed countries.

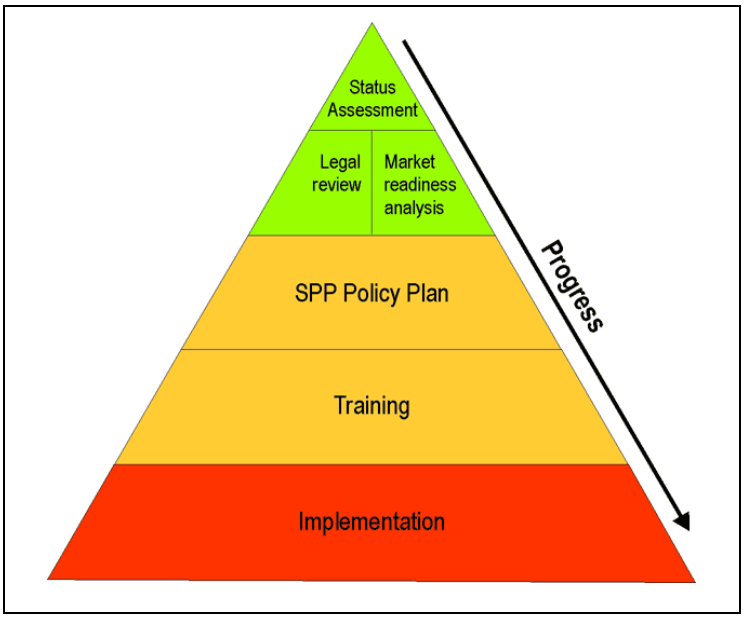


Fig. 4. Scheme of the process to adopt SSP according to Marrakech Task Force approach

Source:http://www.unep.fr/scp/marrakech/taskforces/procurement.htm

The results achieved so far from the Marrakech Process in SPP are:[27]

- Development of a comprehensive approach to sustainable public procurement known as the Marrakech Task Force Approach to SPP.
- Development and implementation of the project (Capacity Building for Sustainable Public Procurement in Developing Countries) including capacity building efforts (six regional trainings that benefited 130 procurement experts from 50 countries) and testing the MTF approach in: Tunisia, Lebanon, Mauritius, Costa Rica, Uruguay, Chile, Colombia, Argentina, Ghana and New

[27] UNEP, 2011. *Paving the way for sustainable consumption and production: The Marrakech Process Progress Report.* Page 52.

Zealand. Local authorities in Britain joined the initiative and participated as local pilot cities or regions.

- Policy recommendations to be delivered by the Marrakech Task Force on Sustainable Public Procurement to the Commission on Sustainable Development in 2010/11.

3.2.2 The Organization for Economic Co-operation and Development (OECD)

The organization was established in 1960, when 18 European Member States plus the United States and Canada joined forces to create an organization dedicated to global development. The objective of OECD is to promote policies that will improve the economic and social well-being of people around the world.

Today, 34 OECD members regularly meet to identify problems, discuss and analyze them, and promote the proper policies to solve these issues. Australia; Canada; Chile; Japan; Korea; New Zealand and the United States of America are membership of OECD.

The OECD encourages and leads the implementation of GPP to governments through the recommendation of the OECD Council (2003). This recommendation defines the guidelines that governments should develop to improve the environmental performance of public procurement.

The recommendation is aligned and supported with the OECD's Environmental Strategy for the First Decade of the 21st Century,[28] approved by the OECD Environment Ministers in Paris, in May 2011. This recommendation highlighted the need for OECD governments to ensure that GPP is consistent with their competition policies and procurement laws and their international obligations and commitments through trade agreements and multilateral environmental agreements.

However, in the framework of GPP promotion, the OECD program in GPP had started in 1996[29], with the development of workshops, projects and studies to understand the progress of the implementation of this policy.

In 2007, the GPP survey, conducted by OECD, revealed that different environmental approaches in the lifespan of the product and services were included in the

[28] OECD Environmental Strategy for the First Decade of the 21st Century. (Available in http://www.oecd.org/env/environmentalindicatorsmodellingandoutlooks/1863539.pdf).

[29] OECD, 2003. *Environmental performance of Public Procurement*. Page 3.

requirements for tenders and contracts in 24 OECD members and 18 members included them in the award criteria as well. The survey also revealed the main barriers to overcome when GPP policies are implemented, which served as the base to define next steps in guidelines and projects to improve GPP performance. Other relevant studies and guidelines produced by OECD are:

- Greening public purchasing – issues and practical solutions (2000).
- Environmental performance of public procurement – issues of policy coherence (2003).

3.2.3 European Union

The European Union (EU) is encouraging the implementation of GPP in Member States, since this is considered a significant tool to reduce the use of resources and raw materials that enables and stimulates innovation in cleaner technologies and services. European public authorities spent yearly, on average, roughly 19%[30] of the EU GDP on purchasing a wide range of products and services.

GPP policy was first introduced in 2001 by the Interpretative Communication of July 2001.[31] The communication analyzed the introduction of environmental considerations in the award criteria of contracts, definition of technical specifications and selection criteria. The Communication of European Commission on Integrated Product Policy (2003) recommended the adoption of GPP plans by member states by the end of 2006.

The Communication "Public Procurement for a Better Environment", published on 16 July 2008, aimed at providing guidance on how to reduce the environmental impact caused by the consumption of public sector and to use GPP to stimulate innovation in environmental technologies, products and services. The communication identified the following main barriers to overcome in order to assist Member States with GPP implementation:

[30] European Commission, 2012, http://ec.europa.eu/environment/gpp/what_en.htm, accessed in September 2012.

[31] CE, 2001. European *Commission interpretative communication of 4 July 2001 on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement*. (COM(2002) 274 final) referenced in EU, 2012.

- Limited established environmental criteria for products and services and where these do exist there are often insufficient mechanisms, such as databases, to publicize them.
- Insufficient information on life cycle costing of products and the relative costs of green products and services.
- Low awareness of the benefits of environmentally preferable products and services.
- Uncertainty about legal possibilities to include environmental criteria in tender documents.
- The lack of political support and resulting limited resources for implementing and promoting GPP (improved training is particularly necessary).
- The lack of a coordinated exchange of best practice and information between regions and local authorities.

This Communication (Public Procurement for Better Environment) also set the target of 50% of all tendering procedures at EU level determining green criteria by 2010. The monitoring report on the accomplishment of this target reported that only 26% of the contracts signed in the EU during 2009-2010 period included all the EU core GPP criteria (minimum standards), but 55% of contracts include at least one EU core GPP criterion.[32]

Since 2008, the EU focused the GPP policy on the development of practical tools, such as guidelines and toolkits to encourage and boost the uptake of GPP policies by public authorities in Europe. The dissemination and promotion of the benefits of GPP policies are also included in the activities within the EU.

In addition to the guidance materials, the European Commission also has created common GPP criteria to define green products in priority categories. So far, 19 common GPP criteria have been set in the following categories:

[32] EU, 2012. *The uptake of Green Public Procurement in the EU 27*. Page 1.

- Copying and graphic paper.
- Cleaning products and services.
- Office IT equipment.
- Construction.
- Transport.
- Furniture.
- Electricity.
- Food and catering services.
- Textiles.
- Indoor lighting.
- Gardening products and services.
- Windows, glazed doors and skylights.
- Thermal insulation.
- Hard floor-coverings.
- Wall panels.
- Combine heat and power (CHP).
- Road construction and traffic signs.
- Street lighting and traffic signals.
- Mobile phones.

For each category, two levels of environmental criteria are defined:

- Core criteria: these criteria imply the minimum key environmental impacts that are easy to verify and can be applied by any public authorities without significant additional efforts and costs.
- Comprehensive criteria: these criteria are defined to achieve the best environmental performance of products and services available in the market. The fulfillment of comprehensive criteria requires more efforts in terms of verification of the standards determined and involves a slight increase in the cost of products, in terms of the price and initial investment of the product.

3.3 Initiatives to promote and implement GPP in the Asia–Pacific Region

The Asia Pacific region[33] is composed by regions with different level of development, since it can be identified economies with low income of GNP (Gross National Product), like Viet Nam or higher income as Australia[34].

The consumption and production patterns in the Asia–Pacific region and, above all, in economies with growth rates about 8%[35] are relevant, as this region accounts for 52% of the earth's surface area and 59% of the world's population.[36] It is worth mentioning that APEC economies accounted for more than 50% of world's GDP in 2011[37] with about 41% of the world's population. Real GDP's growth rate average of APEC economies in 2011 was 4.1%, ranging from -0.7% for Japan to 9.2%, for China.[38]

Asian-Pacific intra-regional associations have put in place programs to foster the exchange of knowledge and capacities in order to stimulate trade, technological and sustainable development policies. The initiatives have involved capacity building programs, design of tools, workshops, etc.

Within this framework of collaboration, international organizations have strengthened capacities in key fields, where the uptake of GPP is being promoted.

Table 3 summarizes the actions taken by international organizations in this region.

[33] In the context of this section Asia Pacific includes all region of the world in or near the Pacific Ocean.

[34] The classification of high, middle and low income here included follows the definition of the Worldbank in 2000; http://www.worldbank.org/depweb/english/beyond/global/classification.html

[35], L. et al., 2012. *Global Outlook on SCP Policies Report*.(Chapter 5: Asia - Pacific). UNEP. Page 3.

[36] APEC, 2008, *Strategy for Disaster Risk Reduction and Emergency Preparedness and Response in the Asia Pacific Region: 2009 to 2015*. Page 3 (TFEP 04/2008A).

[37] Data estimation from World Bank Statistics.

(http://search.worldbank.org/data?qterm=%25%20world%20gdp&language=EN).

[38] APEC, 2012. *Key Trends and Developments relating to Trade and Investment Measures and their impact on the APEC Region*. APEC Policy Support Unit, page 5.

Table 3. Brief description of international GPP initiatives carried out in Asian-Pacific region.

Organization	Brief description
APRSCP Asia–Pacific Roundtable for Sustainable Consumption and Production	APRSCP was founded in the 1997-1999 period as a result of a regional meeting for cleaner production held in Thailand. The need of a yearly forum to discuss and share results of this new concept arose from that meeting. Since then, the APRSCP meet periodically every 18-24 months, with the participation of 27 Asian–Pacific economies, where UN agencies are placed, and Asian Development Bank.
APO Asian Productivity Organization	APO is an international intergovernmental organization established in 1961 in the Asia–Pacific Region aimed to contribute to the sustainable socioeconomic development through enhancing productivity. APO is constituted of 20 member economies. The APO has published an on-line database of ECO-products of green goods and services (http://apo-ecoproducts.com/) produced in APO member economies. The directory has the ultimate goal to encourage green purchasing among enterprises and citizens giving them access to information about eco-products in their market.
CEC-NAGPI Commission for Environmental Cooperation–North American Green Purchasing Initiative	CEC was created within the framework of collaboration of Canada, the USA and Mexico, to protect the environment. The NAGPI initiative of CEC aimed at promoting the uptake of GPP policies in this region with information website and tools to assess the adoption of GPP policies for both public and private organizations.
SWITCH-Asia Project: Sustainable Public Procurement in Urban Administrations in China (SUPP-Urb)	The project SUPP-Urb was funded by the Switch-Asia program that aims to promote the adoption of Sustainable Consumption and Production (SCP) in Asia. This funding scheme started in 2007 with a budget of €152 million for the period 2007-2013. The project SUPP-Urb provided capacity building for the adoption of GPP policies in China. The consortium of the project was composed by European and Chinese entities that carried out 3 pilot tests in Chinese cities that included GPP measures in their purchasing activities. The results of the project serve to disseminate GPP policy in China and other Asian economies.
IGPN-GPN International Green Purchasing Network and Green Purchasing Network	GPN has established in 1997 aimed at the promotion of GPP measures in Japan. Nowadays GPN has become a reference in GPP initiatives in terms of key information and the development and promotion of useful tools. Since 2005, GPN with the collaboration of other international organizations such as ICLEI, UNEP and other regional stakeholders, created the International Green Purchasing Network.

This section extends the description of the initiatives in the field of GPP carried out by the Commission for Environmental Cooperation of North America (CEC), and International Green Procurement Network (IGPN). In addition, the efforts to promote GPP policies and enhance the capacity of Asia region, knowledge transfer and capacity building undertaken by the SWITCH European project are described in this section.

3.3.1 Commission for Environmental Cooperation: North American green purchasing initiative

The CEC is an international body to foster the collaboration between Canada, Mexico and the United States. The CEC was created within the North American Agreement on Environmental Cooperation with the objective to support cooperation among the North American Free Trade Agreement partners to address environmental issues of continental concern.

CEC gathered together environmental agencies of North America with the aim to promote GPP policies and created the North American Green Purchasing Initiative (NAGPI). The initiative started in 2003.

In the context of this initiative, the steering committee of the NAGPI has developed the following activities to foster the uptake of GPP in both public and private sectors:

- Compile and maintain a list of ongoing green purchasing activities to avoid unintended duplication of effort.
- Create a unified voice to engage manufacturers, purchasers, politicians, the media and the general public.
- Develop and maintain a database of supporting tools and procurement policies used across North America.
- Identify research needs (such as the need to better quantify environmental benefits of green purchasing).
- Seek funding to address those needs.
- Facilitate development of common marketing language beneficial to all.

- Launch coordinated campaigns to improve the performance of specific commodity areas.

In addition, the ECO-Eval website[39] (formerly ECO-S.A.T) was created in the context of this project as a self-method to assess the environmental purchasing activities of organizations (private or public). The self-method that consists of a questionnaire divided into 10 sections also includes recommendations for improvement according to the result obtained.

The Eco–Eval website contains a section about best practices in GPP at international level and in the three Member States of CEC.

3.3.2 SWITCH Asia project

SWITCH Asia project Sustainable Public Procurement in Urban Administrations in China (SUPP-Urb) was funded by the European Commission within the Switch Asia Program. The project budget was €908.000 with 80% of the EU contribution. SWITCH Asia project funding scheme aims to promote measures on sustainable consumption and production among small and medium sized enterprises (SMEs) and consumer groups in Asia. The program, launched in 2007, is funded by the EU development cooperation instrument with a budget of €152 million for the period 2007-2013. So far, the program has funded 47 projects in 15 Asian countries.[40]

The objective of the 3 years SUPP-Urb project was to provide assistance in the design and implementation of sustainable public procurement in local governments in China. The knowledge transfer between EU and China would overcome barriers that are preventing the uptake of GPP in China.

To achieve this objective, after the early stages of the project to build a common understanding between EU and China and trainings on life cycle assessment, life cycle costing and institutional analysis or regulatory frameworks, three cities (Qinhuangdao, Tianjin and Lanzhou) were selected as pilot tests of the sustainable procurement tools developed.

[39] http://www.cec.org/eco-sat/Home.aspx.

[40] EU, 2012. *Preparing for the Future-The European Commission's work on climate change and environment, factsheet*. Page 5.

By the application of such tools during the pilot stage, the cities were able to save energy and reduce CO_2 emissions. The annual electricity savings of the procurement centers equate to the annual electricity consumption of 8,293 Chinese people. In terms of CO_2 emissions, a reduction in 17,335 tonnes of CO_2 was obtained in the three pilot cities.[41]

3.3.3 International Green Purchasing Network

The International Green Purchasing Network (IGPN) was founded in 2005 in Tokyo through the Sendai Declaration on Green Purchasing, by the Green Purchasing Network (GPN), established in Japan, and other international green purchasing related organizations. Nowadays the association is composed by the GPN of Japan; Korea; Malaysia; Thailand; China; India; Viet Nam; Hong Kong, China; Singapore; Chinese Taipei; the Philippines; Indonesia and ICLEI (Local Governments for Sustainability).

The objective of IGPN is to promote green purchasing and the environmentally preferable products and services to contribute to the creation of a sustainable society. The activities of IGPN are focused on the development of dissemination materials about products that meet GPP criteria. The network also organizes events, such as workshops and fairs.

Among the members of the IGPN, the Japanese Green Purchasing Network (GPN) has developed a significant number of tools on GPP, prepared surveys and studies and held seminars and workshops. The GPN was constituted in 1998 and in 2008 had more than 3.000 members among businesses, NGOs and public organizations. GPN is currently a well-known association that leads the promotion of GPP in Japan. The GPN activities include:

- Elaboration of purchasing guidelines including the description of environmental criteria for 17 products and categories.
- Development of on-line database that collects a comprehensive list of products already in the market with detailed information of their environmental performance (http://www.gpn.jp/econet/). The database contains around 13,000 products (2006).

[41] Wupertal Institute, 2011. *Sustainable Public Procurement in Urban China. Supp-Urb Project*. Page 17.

- Dissemination of campaigns and trainings.
- Green purchasing awards.

4 Study of green public procurement in APEC member economies

This section reviews the current level of development of GPP policies in 21 APEC economies with the aim of understanding policies and monitoring their progress. The study provides an overview of GPP initiatives carried out by public bodies in APEC economies detailing policies, actions, categories and products with environmental criteria established. In addition, this section analyzes the barriers identified in order to envisage the challenges and opportunities for the development of GPP initiatives in APEC economies (see Section 6).

4.1 Methodology

The identification of current practices on GPP in member economies of APEC has involved the development of the following tasks:

- Task 1: bibliography review: articles, reports, handbooks and studies on policies in 21 APEC economies.
- Task 2: review of strategies, legislation and official public websites on environmental policies and GPP in 21 economies.
- Task 3: questionnaires addressed to officers in charge of public purchasing requesting information on the status of GPP policies. The survey details are provided in Section 4.1.1.
- Task 4: results of the project were presented in the workshop on Green Public Procurement held in Jakarta, (Indonesia) January 31 and February 1, 2013. During the workshop, benefits, opportunities of GPP and case studies of application of GPP in APEC economies were introduced. Final discussion about the main conclusions of the session closed the workshop. The conclusions of the workshop are included in the Section 8.1 of this report.

The elaboration of the first three tasks has resulted in:

- Overview of GPP policies in APEC economies, (see Section 4.2).
- GPP factsheets of APEC economies with policy established. The factsheets describe the framework policies, environmental criteria for goods and products and way forward. Annex B collects GPP factsheets.
- Database of GPP criteria for eight selected sectors in APEC member economies. The structure and content of the database is described in Section 4.1.2.

4.1.1 Questionnaire

The survey was sent to public authorities in each economy to collect information about GPP. The identification of the person responsible for GPP in each economy was supported by APEC contacts who circulated the survey to procurement departments and related agencies to GPP. In addition, the questionnaire was also available online in order to facilitate its completion. Further details on GPP were asked to stakeholders through the elaboration of a second questionnaire adapted to the progress of GPP policy in each economy.

The questionnaire was structured in five sections:

1. Contact details.
2. Framework policies.
3. Green growth and trade.
4. Sectors/Categories.
5. Best Cases.

Specific data on GPP expenses, barriers and environmental criteria were also incorporated in the questionnaire. Annex A includes the questionnaire templates in English and Spanish.

Until December 2012, 11 economies have completed the questionnaires: Canada; Chile; China; Hong Kong, China; Japan; New Zealand; Peru; Republic of Korea; Singapore; Thailand and the United States of America.

4.1.2 Database of environmental criteria for eight categories in APEC member economies

The database contains data on environmental criteria used for the acquisition of green goods and services in eight selected categories. It is available in access file format. The database gathers information on chosen products classified by the group categories indicated in Table 4.

Table 4. Products by categories included in the database of environmental criteria

Category	Products	
Construction, maintenance, and renovation of public buildings	- Building materials - Water	- Cooling and heating systems - Energy
Office products with energy efficiency	- Printers - Photocopiers - Monitors and screens - Light bulbs/light tubs	- PCs and laptops - Fridges - Water heaters/coolers/dispensers - Projectors
Office supplies	- Ink and toner cartridges - Pencils and pens	- Standard batteries
Office paper	- Paper	
Office cleaning	- Office cleaning services	- Waste management services
Office furniture	- Desk/bookcases	- Chairs
Transport	- Official vehicles (light weight cars ≤ 2,5 Tn)	- Medium weight cars
Events organization	- Hotels - Food/coffee catering	- Dissemination materials - Passengers transport

The database is organized by economies, indicating the criteria used to define environmental preferable acquisitions, the certification or validation system and additional information such as the year of implementation, annual expenses, etc. The fields of information available in the database are:

- Member Economy: 21 APEC economies.
- Category: eight categories of goods and services (see Table 4).

- Products: 26 goods and services (see Table 4).
- Category criteria: 17 categories of environmental criteria that enclose general criteria such as recycled materials or biobased materials (see Annex C).
- General criteria: 34 general criteria classified under category criteria, as a second level of detail for environmental criteria used (see Annex C).
- Specific criteria: 153 specific criteria identified in eight categories of products (see Annex C).
- Value: value of the criteria (in case it is defined; e.g. 70% made of recycled content).
- Unit: unit of the value used (i.e. percentage, in case of recycled content).
- Certification label: validation of the criteria established (label used, additional documents, etc.).
- Year of implementation of environmental preferable purchasing in each product.
- State: if the environmental purchase is mandatory or voluntary.
- Annual expenses PP: annual expenses in public procurement (for all the categories) in US$.
- Annual expenses GPP: annual expenses in the procurement of green products in US$ for all the categories.
- Observations: comments on further details of criteria information.

Criteria group, general criteria and specific criteria for all products are specified in the Annex C of this report.

In the database file (access), all fields can be filtered to enable quick identification of the criteria and categories used by APEC economies and develop further analysis about the most used environmental criteria in each category, eco-labels, etc.

4.2 Overview of GPP policies and programs in APEC economies

The development of environmental policies requires governmental and administrative support to achieve the desired results effectively (see Section 2.1). Thus, the state of GPP policies would partly depend on economic and social development of APEC economies, which in turn determines the challenges and opportunities for GPP development in each economy.

4.2.1 Economic and social overview of APEC economies

Financial and social situation differs between APEC economies. Table 5 collects economic and social data indicators for 21 economies in 2010: real GDP, GDP per capita, % of cumulative GDP growth from 2007 to 2010, GDP position, percentage of trade in relation to GDP, population and position of the economy in the Human Development Index[42] (HDI).

Regarding economic indicators, significant differences in GDP per capita is observed among 21 economies (see Fig. 5a). Economies with higher GDP per capita are those with better social situation according to HDI indicator (see Fig. 5b). Nevertheless, it is noteworthy the effects of the present economic crisis in the negative rates of cumulative GDP growth in economies with high GDP per capita and HDI values. Fig. 6 illustrates that some economies have a high value of HDI and present negative or very low percentage of cumulative growth. It also shows how economies with lower HDI are experiencing high rates of cumulative growth rate.

Further development or establishment of GPP policies can be an opportunity to promote green market for the 21 economies. In developed economies, GPP can foster the progress of traditional economy based on fossil fuels and high use of resources to sustainable production. In developing economies, government should leverage the elevated growth rate of economy and adopt GPP initiatives to lead economy towards a sustainable production and consumption.

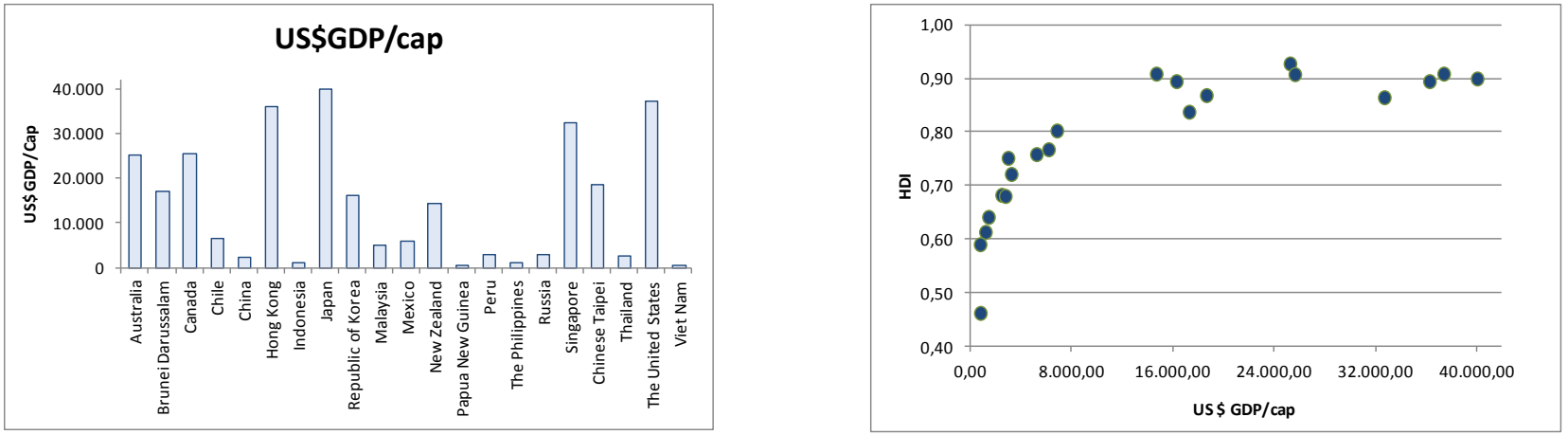
[42] HDI: UNDP The first Human Development Report of UN Development program introduced a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite human development index, the HDI. The HDI sets a minimum and a maximum for each dimension, called goalposts, and then shows where each economy stands in relation to these goalposts, expressed as a value between 0 and 1.

Table 5. Economic and social key indicators of APEC economies in 2010

Economy	GDP (US$ ppp 2000)	US$GDP/cap	% cum. GDP rate growth 2007-2010	GDP Rank	Trade % GDP	Population	HDI Value	HDI Rank
Australia	561.75 billion	25,190.84	7.10	14	39.60	22,620,600	0.927	2
Brunei Darussalam	6.87 billion	17,225.32	-1.18	114	114.31	398,920	0.837	33
Canada	872.78 billion	25,575.22	1.04	11	60.74	34,126,181	0.907	6
Chile	116.0 billion	6,781.70	8.12	44	69.97	17,269,525	0.802	43
China	3.25 trillion	2,426.33	24.32	3	57.31	1,344,130,000	0.682	101
Hong Kong, China	255.91 billion	36,207.71	5.99	24	432.30	7,067,800	0.894	14
Indonesia	274.74 billion	1,145.39	15.11	21	47.56	239,870,937	0.613	125
Japan	5.09 trillion	39,971.9	-2.42	2	29.18	127,450,459	0.899	12
Republic of Korea	801.4 billion	16,219.39	8.35	11	101.98	49,410,000	0.894	15
Malaysia	146.8 billion	5,168.69	9.61	38	170.33	28,401,017	0.758	63
Mexico	694.68 billion	6,124.71	0.43	13	61.86	113,423,047	0.767	57
New Zealand	63.90 billion	14,629.22	-1.86	50	55.42	4,367,800	0.908	4
Papua New Guinea	5.1 billion	744.21	17.75	125	108.93	6,858,266	0.462	152
Peru	92.47billion	3,180.37	16.98	45	48.27	29,076,512	0.721	81
The Philippines	129.02 billion	1,383.40	11.81	40	71.42	93,260,798	0.641	113
Russia	415.54 billion	2,928.01	1.21	17	51.62	141,920,000	0.751	66
Singapore	165.71 billion	32,640.68	13.47	32	385.92	5,076,700	0.864	26

Economy	GDP (US$ ppp 2000)	US$GDP/cap	% cum. GDP rate growth 2007-2010	GDP Rank	Trade % GDP	Population	HDI Value	HDI Rank
Chinese Taipei *	430.15 billion	18,588*	7.9	-	-	23,140,948	0.868	18
Thailand	187.49 billion	2,712.51	7.33	29	135.14	69,122,234	0.68	103
The United States	11.55 trillion	37,329.62	-0.98	1	29.13	309,349,689	0.908	5
Viet Nam	62.83 billion	722.81	16.36	53	165.34	86,927,700	0.59	128

Source: Own elaboration with data compiled from World Data Bank, http://databank.worldbank.org/ddp/home.do retrieved in April 2013.
Human Development Index (HDI) value: HDRO calculations based on data from UNDESA (2011), Barro and Lee (2010), UNESCO Institute for Statistics (2011), World Bank (2011a) and IMF (2011).
** Source of nominal GDP for Chinese Taipei: National Statistics Chinese Taipei (http://eng.stat.gov.tw/ct.asp?xItem=25763&CtNode=5347&mp=5). HDI: the Government of ROC calculated its HDI to be 0.868, based on 2010 new methodology of UNDP for calculating 2010 HDIs (http://www.dgbas.gov.tw/public/Data/11715541971.pdf).*



a) b)

Fig. 5 a) US$ GDP per capita in APEC economies in 2010 and b) correlation between US$ GDP per capita and HDI of APEC economies
*Source: Own elaboration with data from Table 5***.**

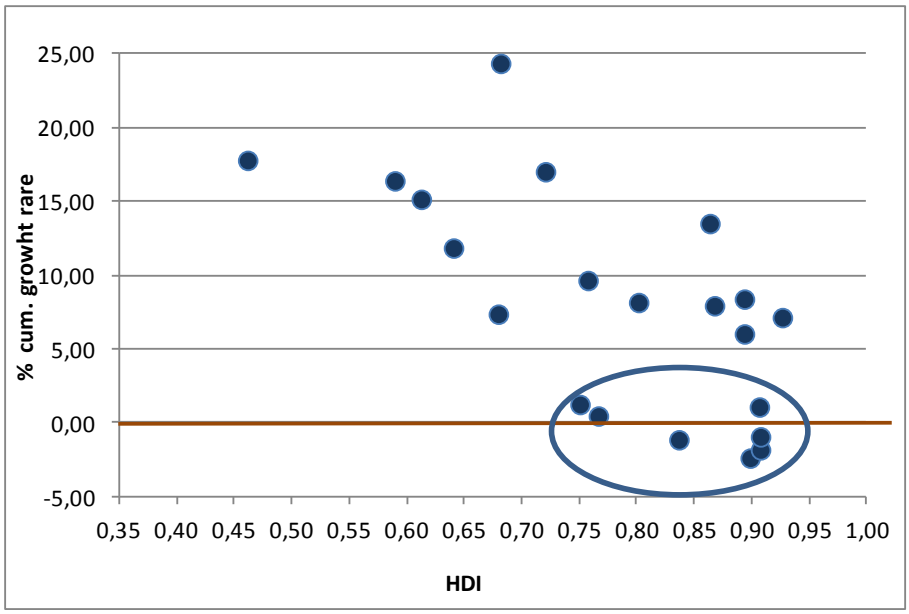


Fig. 6. Cumulative growth rate in 2007-2010 period against HDI in 2010 in APEC economies.

Source: Own elaboration with data from Table 5.

4.2.2 GPP policies in APEC economies

The implementation and progress of GPP policies differs widely between the 21 APEC economies. On one hand, there are economies with domestic policies on GPP with more than 10 years of experience. On the other hand, there are economies with few activities and initiatives in the field of green purchasing.

For example, the United States started including environmental measures in purchasing decisions in 1976 through different plans. Nowadays, the Environmental Preferable Purchasing (EPP) program has increased the awareness of public officers and citizens on green purchasing. The tools, guidelines and environmental criteria established by the EPP program have been used as a basis for the establishment of GPP policies in other economies (see the USA's GPP factsheet in Annex B).

GPP policies, at different levels of development, are in place in 18 of 21 APEC economies. No policy tools or actions addressed to preferable purchase of environmental products have been identified in Brunei Darussalam; Papua New Guinea and Russian Federation.

The range of policy tools for the implementation of GPP by the 18 economies is very wide. Some economies have developed GPP through the enforcement of legislation, whereas others economies have defined guidelines or designed plans, programs and framework policies. The policy tools on GPP developed by governments have been classified into legislation, strategies, policy, program, plan and guidelines. Table 6 identifies the policy tools established and the year of implementation for economies with GPP tools.

Among 18 APEC economies, guidelines and policy are the most common tools to adopt green public purchasing. Fig. 7 represents the frequency of use of policy tools in the 18 economies with GPP policy.

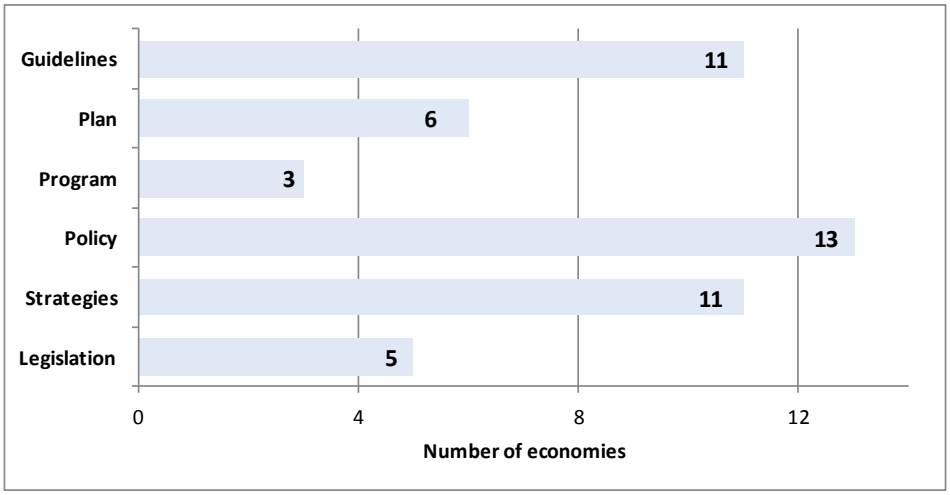


Fig. 7. Policy tools implemented for the establishment of GPP in APEC economies.

Source: Own elaboration.

General policies, guidelines and strategies on GPP initiatives are already established in most of APEC economies, with 62% and 52% of economies respectively. The fourth instrument most implemented, in 29% of APEC economies, are plans followed by framework legislation in GPP with 24%. The adoption of programs is less common in APEC economies, with 14%.

Table 6. Framework policies in APEC economies

Economy	Framework policies						Year of implementation
	Legislation	Strategies	Policy	Program	Plan	Guidelines	
Australia		●	●			●	1998-2003
Canada		●	●			●	2006
Chile		●			●	●	2009
China	●		●	●		●	1990
Hong Kong, China		●	●	●	●	●	2000
Indonesia		●	●				2010
Japan	●		●			●	1992
Republic of Korea	●		●		●	●	1992
Malaysia		●					2010
Mexico		●	●				2004
New Zealand			●			●	2006
Peru						●	2008
The Philippines		●	●				2004-2012
Singapore		●					2009
Chinese Taipei	●		●				1999
Thailand		●	●		●	●	1993
The United States	●	●	●	●	●	●	1976
Viet Nam					●		In progress
Total Economies	5	11	13	3	6	11	-

Source: Own elaboration.

Concerning the year of implementation of GPP policy, six economies implemented environmental purchasing preferences before 2000, four started during the period 2000-2005, seven economies from 2005 to 2010 and one economy is still in the process to implement GPP policy (Viet Nam). Therefore, GPP policy was mostly established by APEC economies over the last decade.

Environmental considerations for products in green public procurement in APEC economies

Categories of green goods and services and associated environmental standards have been defined in 15 of the 18 economies with GPP framework policy. Malaysia, the Philippines and Viet Nam have enacted a general policy to acquire products and services with less environmental impact, but practical tools such as the definition of environmental criteria are not yet developed. Table 7 lists APEC economies with and without environmental criteria established.

Table 7. APEC economies that defined GPP with and without environmental considerations

APEC economies: GPP policy proclaimed without environmental considerations		
Malaysia	The Philippines	Viet Nam
APEC economies: GPP policies and/or environmental considerations/recommendations defined		
Australia	Japan	Peru
Canada	Indonesia	Singapore
Chile	Republic of Korea	Chinese Taipei
China	Mexico	Thailand
Hong Kong, China	New Zealand	The United States

Source: Own elaboration.

The way APEC economies have defined environmental criteria for products and services differ widely among members, entailing the following issues:

- General environmental considerations that can be applied to a wide range of products; e.g: Energy Star labeled products or use of recycled cardboard for packaging. The initiatives are often integrated into sustainable programs that also consider the adoption of environmental management systems. For instance, Singapore has determined within the program Public Sector Taking the Lead in Environmental Sustainability that all new office information and communication technology equipment must meet the latest Energy Star standards, without detailing the range of products.
- Very detailed criteria for specific products. Criteria can address or not all stages of the production and use of goods, from the source of raw materials to final disposal.
- Use of eco-labels to identify green goods and services. Eco-labels can meet or even exceed the list of environmental criteria of a certain product, so the label is a way to certify the accomplishment of the standards.
- Establishment of minimum standards for products and services, excluding those not meeting core environmental considerations. Some economies such as Canada and New Zealand have defined both minimum compulsory standards and voluntary criteria that procurer may additionally require to tenders.

Table 8 illustrates number of categories, number of products and parameters that describe how environmental standards are considered in economies that have developed environmental requirements. In addition, components supporting good performance of GPP policy are also considered in Table 8. Those components are: the establishment of transition phases enabling the adaptation of the market to the new green purchasing criteria and the inclusion of social criteria, driving public procurement towards a sustainable procurement.

Indonesia is a particular case that has environmental considerations according to the information received, but there is no specific information about how they are implemented.

Table 8. Parameters to describe environmental criteria adopted in GPP in APEC economies

Economy	Environmental criteria parameters					
	N. categories	N. products	Core criteria	Related eco-label	Transition phase	Social criteria
Australia	15	36	Not defined	Specific environmental criteria can be certified through reputable environmental labelling and single attribute labels such as energy star	Not defined	Social criteria is included in the principles of APPC framework with New Zealand
Canada	50	~200	Minimum criteria are established for solicitation documents for over 50 goods and services categories. This includes product core environmental criteria and voluntary standards."	Single attribute labels (energy star, FSC,etc..). Most products can be approved by the Environmental Choice Program or through labels with recognized equivalence in the Global Ecolabelling Network	Environmental criteria lists include standards expected to be met in the future	Source of timber and wood certified as legally harvested. Social issues in public procurement are addressed separately within the Government of Canada.
Chile	Inclusion of energy efficiency criteria in purchasing – no specific group and products designated		Not defined	Recommended domestic energy certification A - C	Not defined	Chile is planning to include social and responsibility criteria in purchasing.
China	41 labeled products (2012)	16,000	Not defined	China Environmental Labeling	Not defined	Not defined
	33 energy saving products (2007)	10,000		China Energy Label criteria		
Hong Kong, China	17	103	Not defined	Single attribute labels such as FSC	When product is not available in the market, environmental criteria is included in the tender specifications as "desirable" features.	For wood products such as building furniture the source should be certified as legally harvested, FSC certified

Economy	Environmental criteria parameters					
	N. categories	N. products	Core criteria	Related eco-label	Transition phase	Social criteria
Japan	20	261 designated procurement items	Evaluation criteria defined for designated items, and definition of factors to be applied according to each institution needs	The environmental criteria set in the Green Purchasing Law are exceeded by the criteria of Eco-marks	Not defined	Not defined
Republic of Korea	31 items and 1st grade products		Minimum Green Requirements by Products	New&Renewable Energy Equipment Certified Products; Eco-Label products; GR (Good Recycled) Mark products.	Transition phase is established. SMEs has longer transition phases than large companies	Not defined
Mexico	8 (recommendations)		Not defined	Not defined	Not defined	Not defined
New Zealand	5	12	Minimum and voluntary requirements established	Single attribute labels and consideration of other labels. E.g. paper office: Good Environmental Choice – Australia Nordic Swan – Europe Blue Angel – Europe European Flower – Europe EcoMark – Japan Environmental choice New Zealand	Not defined	Social criteria incorporated into wood and vehicle procurement
Peru	Inclusion of eco-efficiency measures criteria in purchasing – and use of products. No specific group and products designated		Not defined	Not defined	Not defined	Not defined

Economy	Environmental criteria parameters					
	N. categories	N. products	Core criteria	Related eco-label	Transition phase	Social criteria
Singapore	Inclusion of sustainable measures criteria affecting purchasing – no specific group and products designated		Not defined	Eco-labels developed by Singapore Government	Not defined	Not defined
Chinese Taipei	34 Categories procurement designated (2008)		Not defined	Type 1 products, should be certified by Green Mark or a foreign eco-label with reciprocal agreement: • EcoMark • Environmental Label • Environmental Choice New Zealand • Environmental Label "Green Crane" • Good Environmental Choice Environmentally Friendly Product/Service	Not defined	Type 3: products which reduce social cost and have been certified by one responsible agency (third party). Results on survey carried out in 2003 did not reported products type 3
Thailand	Green Cart 17 categories Green Label 73 categories	Green Cart 676 categories Green Label 557 categories	• Domestic Industrial Standard • Major environmental impact of each product	Green label criteria, not designated one label	Green Cart	Not defined
The United States	19	548	Minimum criteria established per product category	CPG (recovered content), WaterSense, EnergyStar, EPEAT, BioPreferred, environmentally preferable, less toxic, etc.	Varies depending on criteria and sector; e.g., one year period before the requirement to purchase newly designated recycled content products and biobased products, respectively	Small business set- asides; Minority and women-owned business set-asides; National Institute for the Blind and Severely Handicapped mandatory sources

Source: Own elaboration.

Table 8 reveals that the progress of GPP policies in APEC economies varies due to experience in public policy development and specific economic and social context. Nevertheless, four categories can be distinguished:

a. Economies that have enforced framework legislation on GPP establishing the obligation for public agencies or departments to apply environmental considerations in designated products procurement: China; Japan; Republic of Korea; Chinese Taipei and the United States.

b. Economies with GPP policy tools and environmental considerations defined for purchasing products and services. In general, two trends to describe environmental considerations have been identified:

    b.1 List of designated green products with environmental criteria specifically defined for each good or service: Australia; Canada; Hong Kong, China; Mexico (recommendations); New Zealand and Thailand.

    b.2. Environmental considerations for products and services arise from programs that establish environmental targets on specific topics, including the purchase of general groups of products, without specifying environmental criteria of individual products: Chile; Peru and Singapore. Indonesia is included in the general group of b.2.

c. Economies that developed GPP policy but they have not defined environmental criteria yet: Malaysia; the Philippines and Viet Nam.

d. Economies that have not reported any GPP policy: Brunei Darussalam; Papua New Guinea and Russian Federation.

Fig. 8 illustrates in a map the economies according to the four categories.

It is noteworthy that the classification above described is not aimed at ranking the performance of GPP policies but at providing common trends about how economies have developed framework policies on GPP. Some key factors, such as the definition of transition phase for the adoption of environmental standards or training and dissemination activities may result in facilitating the actual practice of GPP by purchasing officers. Some of these parameters have been already identified in some economies (see Table 8 and Table 10).

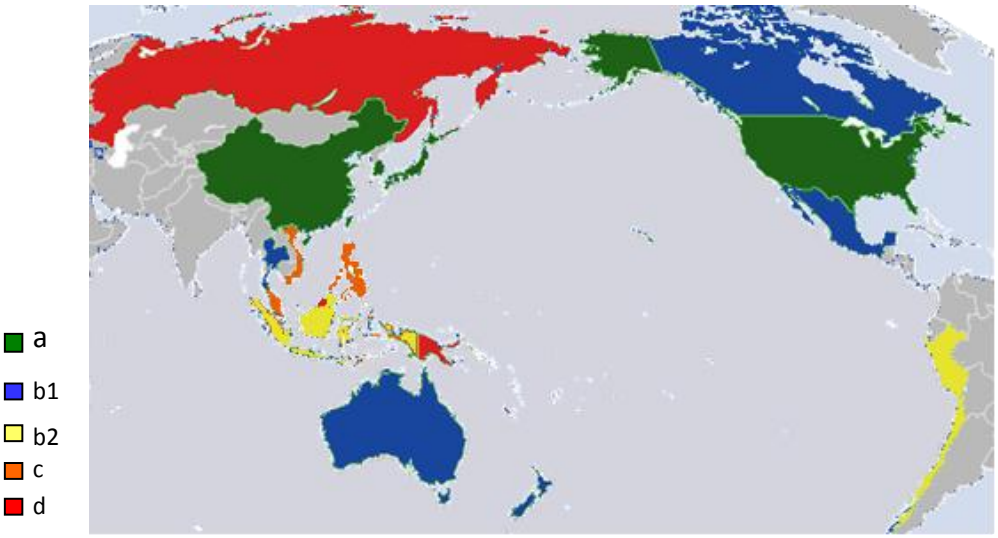


Fig. 8. Map of APEC economies according to GPP policies development.

Source: Own elaboration.

Fig. 9 shows the US$ GDP per capita values in relation to GPP policies defined in the 18 APEC economies. This chart illustrates a general trend, economies meeting the definition of “a” and “b” policies also show higher values of US$ GDP/cap while US$ GDP/cap values decline in economies that only have defined GPP policy and economies without any GPP policy in place. However, there are some exceptions to this general statement; for example, China shows the lowest GDP per capita in the economies that have enforced a law on GPP practices (group “a”), even lower than other economies that have defined GPP programs establishing environmental targets on specific topics to purchase general groups of products (“b.2”).

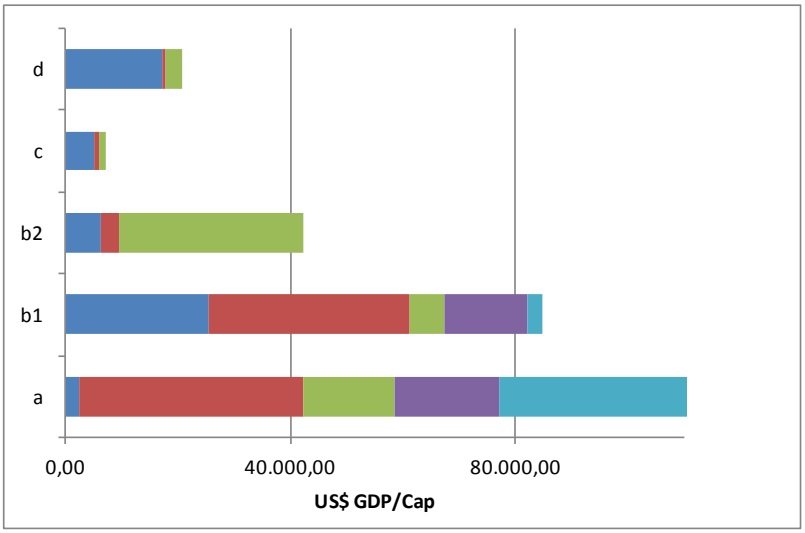


Fig. 9. GPP policy type and US$ GDP/Cap in 2010

Source: Own elaboration.

Results of products and services with environmental considerations in APEC economies included in the database

The selected categories of goods and services with environmental criteria in APEC economies are covered by the database of this project (see 4.1.2) and summarized in Table 9. The categories included in this table are those included in the database: construction, maintenance and renovation of public buildings, office products with energy efficiency, office supplies, paper, office cleaning, office furniture, transport and events organization.

The results illustrate that most economies have already adopted environmental measures in their purchasing procedures for office products with energy efficiency, followed by paper and office supplies, construction and office furniture. Other categories such as office cleaning and transport are included in fewer economies. Finally, event organization is only integrated into 21% of economies. The percentages of economies that have defined environmental criteria for products (14 economies, less Indonesia) in each category are shown in Fig. 10.

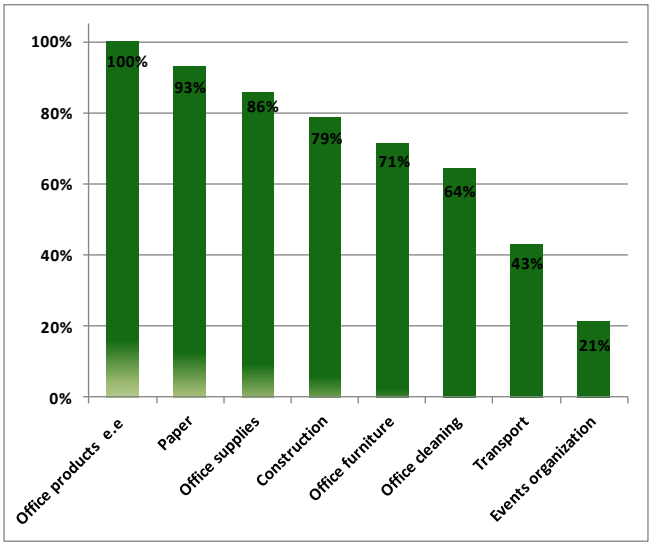


Fig. 10. Percentage of economies by number of product categories with environmental criteria

Source: Own elaboration.

The number of categories in which the 14 economies have established environmental standards has been split into three ranges. The first one, which includes APEC members that have established between one and four categories of products, accounts roughly for 14% of the economies with environmental criteria established. The 64% of APEC economies have adopted green purchasing standards in five to six categories. The top level, more than seven categories, accounts only for 22% of member economies. Fig. 11 shows the percentage of economies in each range of product categories.

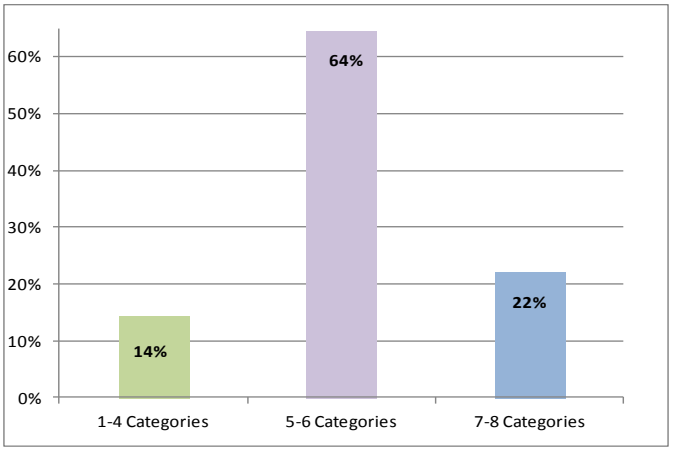


Fig. 11. Percentage of economies by range of number of product and services categories with environmental criteria.

Source: Own elaboration.

Table 9. Categories with environmental criteria defined in APEC economies

Economy	Categories								
	Construction, maintenance and renovation of public buildings	Office products with energy efficiency	Office supplies	Paper	Office Cleaning	Office furniture	Transport	Events Organization	Total
Australia	●	●	●	●	●	●			6
Canada	●	●	●	●	●	●	●	●	8
Chile	●	●	●	●	●	●			6
China	●	●	●	●		●	●		6
Hong Kong, China		●	●	●		●	●		5
Japan	●	●	●	●	●	●	●		7
Republic of Korea	●	●	●	●		●			5
Mexico		●	●	●	●				3
New Zealand	●	●		●	●		●		5
Peru	●	●	●	●	●				5
Singapore	●	●							2
Chinese Taipei	●	●	●	●		●			4
Thailand		●	●	●	●	●		●	6
The United States	●	●	●	●	●	●	●	●	8
Total Economies	11	14	12	13	9	10	6	3	

Source: Own elaboration.

Training and other components of GPP developed in APEC economies

Besides the framework legislation and environmental criteria for the selection of products and services, governments also establish actions to enhance and facilitate the implementation of GPP by officers and industries.

Capacity building programs and the development of practical tools such as web platforms to disseminate GPP policy and standards, on-line database of green products, monitoring system, the communication of environmental benefits and the social support through networks have been identified in APEC economies. This information is presented in Table 10.

Table 10. Components of GPP in APEC economies

Economy	Components of GPP policies in APEC economies					
	Training Capacity Building	Monitoring	Information about GPP policies and green products			Networks and Green Purchasing Association
			Web platform information on GPP	Web information on GPP in English	On-line database/designation of green public products	
Australia	●(Web)		●	●		● ECO Buy
Canada	●	●	●	●		
Chile	●		●			
China	●		●		● www.ccgp.gov.cn	● Green Purchasing Network China
Hong Kong, China	●	●	●	●		● Hong Kong Green Council[a]
Japan	●	●	●	●		● Green Purchasing Network
Republic of Korea	●		●		● http://shopping.g2b.go.kr (Korean)	● Korea Green Purchasing Network (KGPN)
Mexico						
New Zealand	●		●	●		

Economy	Components of GPP policies in APEC economies					
	Training Capacity Building	Monitoring	Information about GPP policies and green products			Networks and Green Purchasing Association
			Web platform information on GPP	Web information on GPP in English	On-line database/designation of green public products	
Peru		●		●		
Singapore			● (eco-label related)	●		● Green Purchasing Network Singapore
Chinese Taipei	●	●	●	●		● Green purchasing alliance
Thailand	●		●		● (Thai Label manufacturers)	● Thailand Green Purchasing Network
The United States	●	●	●	●	●	● Multiple networks[b]

Source: Own elaboration.

[a] The above listing (not public authority) is by no means exhaustive.

[b] *e.g., The Responsible Purchasing Network, The Sustainable Purchasing Council, the National Institute of Government Purchasers, and National Association of State Procurement Officials, EPP-net.*

Barriers to GPP development in APEC economies

APEC economies have reported main barriers, which could prevent economies from the effective development of GPP policies, in the questionnaires. The following common difficulties have been pointed out:

- Lack of information or knowledge about financial benefits of GPP was chosen as a barrier by 73% of the 11 respondents to the questionnaires.
- Almost 45% of APEC economies indicated that the lack of products in the market that meet environmental criteria and lack of information or knowledge about environmental benefits are barriers for GPP development. Finally, the remainder barriers identified by the respondents are lack of legal framework (27%), lack of financial resources (18%), omission of GPP on the agenda or strategy (9%) and lack of training for public procurement officers (9%).

Fig. 12 shows the percentages of barriers to GPP development chosen in the questionnaire.

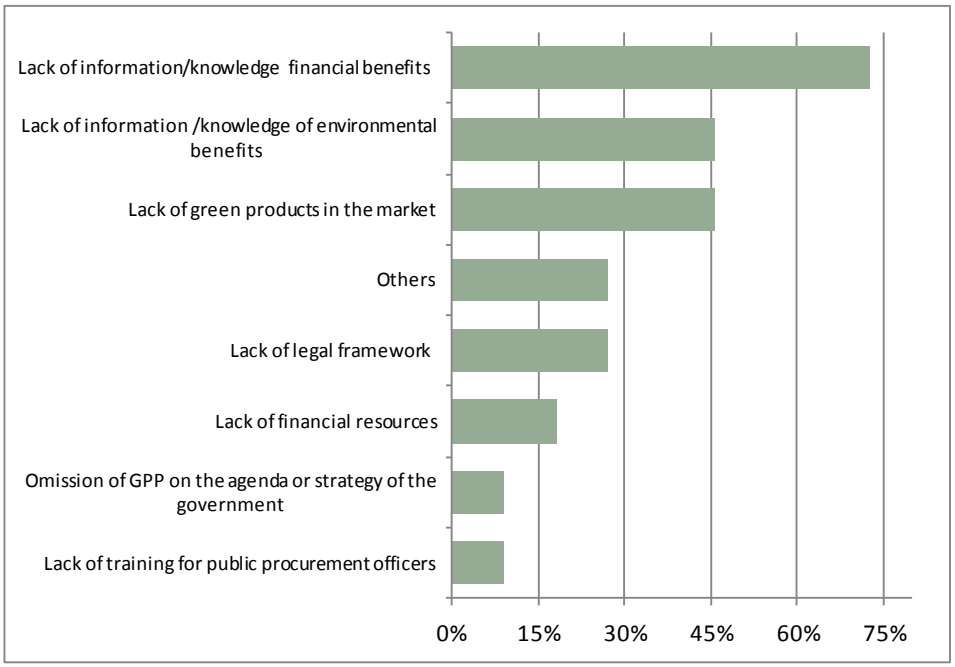


Fig. 12. Percentages of barriers selected by respondents to the questionnaire.

Source: Own elaboration.

It is worth mentioning that economies with training programs, comprehensive tools and publications also identified the barrier of the lack of information or knowledge about financial benefits of GPP in the questionnaire. It indicates that communication of GPP policy should integrate the financial benefits to be achieved.

In addition, this statement agrees with the perception that green products and services have higher prices, because there is no explanation that these products are less costly when considering the life cycle approach. For example, it has been stated that it is difficult to engage training procurement officers since some of them show concern about the high prices of green products.

The lack of availability in the market of product suppliers that meet environmental criteria is also a barrier, above all in those economies with a less developed market, with low competition for these goods. The lack of environmental preferable alternatives is more evident in equipments or tailored products for specific machinery (acquisition of spare parts of machinery, specific models of office products, etc.).

- Other specific barriers identified by economies are:
    - ✓ Balancing environmental with procurement principles (e.g. maintaining competition in the industry where there are limited suppliers offering environmentally preferable alternatives).
    - ✓ Lack of a focused assessment of the environmental preferable alternatives and considerations in the wide range of goods and services procured (lack of subject matter expertise).
    - ✓ Lack of cross collaboration from different stakeholders.
    - ✓ Time constraint in procurement process. Lack of available time for procuring green products.

5 Best practices on green public procurement

This section aims to showcase initiatives in the field of green public procurement that have achieved good performance in their development. These best practices illustrate how GPP policies are implemented, procedures to define environmental criteria and/or practical tools to promote the acquisition of green products.

The selection of best practices has been based on the following components identified in sound GPP policies:

- *Institutionalization development*: the definition of solid GPP framework legislation and the development of green purchasing information platforms, databases and tools addressed to public and private sector foster the adoption of GPP practices by government agencies. The institutionalization of GPP supports the growth and the competitiveness of green market.
- *Definition of environmental criteria*: the process to define environmental criteria and their scope (if the criteria include environmental, social and economic aspects and the life cycle approach) consist in a key step of GPP implementation. The impact of green purchasing on the environment, society and green market is higher if the environmental criteria cover the three pillars of sustainability.
- *Eco–label scheme*: the comprehensive approach of considerations for green purchasing makes difficult the selection of sustainable products. Eco-labels incorporate this broad approach, identifying green products. In addition, some eco-labelling schemes addresses on single-attribute focusing on specific criteria (energy star or the FSC label for forests).
- *Capacity building*: the training in GPP for officers and industry related sector is relevant for the enforcement of GPP policies. Internationally, capacity building can be gained by sharing experiences in GPP policies from forerunner economies of APEC and other regions.
- *Engagement with local entities*: the adoption of GPP in municipalities or institutions encourages the creation of green local market. Networks and associations support municipalities, with less capacity to implement GPP, to

define environmental criteria, monitor and track progress in their development and disseminate GPP benefits.

- *Promotion of trade*: APEC economies can enhance trade through the establishment of common strategies in GPP supporting the knowledge transfer and developing practical tools to guide the adoption of similar schemes.
- *Communication of benefits*: the results of GPP policies, in terms of environmental, social and economic benefits, should be communicated to public officers, industry and politicians. The communication of positive benefits stimulates stakeholders to keep implementing the initiative. To this end, performance indicators must be defined and the monitoring should be carried out strictly.

Each best practice selected in this section excels in one or more of these key components. The best cases and the associated key aspects are collected in Table 11. It is worth mentioning that the seven key components can also be identified in most of the best practices selected. In addition, two more components can be also identified in some of best practices. The definition of transition phase and monitoring system consist in:

- *Monitoring system:* the tracking system to monitor the progress of GPP policies should be developed and available for public departments and agencies. If monitoring system is in place, corrective measures to address obstacles identified could be defined as well as the revision of targets established by governments.
- *Definition of transition phases*: governments can establish periods that only minimum criteria should be meet, defining in advance standards that should be accomplished during the following years. This transition period will allow, on the hand, industry readiness, and on the other hand, procurers to become familiar with new criteria defined for purchasing, both improving GPP performance along its implementation.

The interrelation between all these key aspects is playing an important role in the success of GPP implementation.

In addition, best practices selected include specific issues of GPP policies at international level and in APEC economies described in previous sections.

Best practices aim to accomplish domestic strategies and policies defined by economies about sustainable development and drive the change towards a greener consumption and production patterns. Moreover, best cases collected are not only related to measures implemented by public authorities to develop GPP policies, but also to local or regional initiatives to foster green purchasing in the society. This is the case of best practices number five and eight that are developed by non-profit associations to encourage the purchasing of more environmentally preferable products to public authorities and businesses.

Table 11. Key components and the related best practices

Key component	**Best Practice**
Institutionalization development	1. Promotion of green public procurement and on-line purchasing in Korea.
	2. Japanese framework policy on GPP.
Definition of environmental criteria	3. Information technology procurement in Canada.
	4. Green policy in vehicles procurement in New Zealand.
Eco-label	5. Hong Kong Green Council[b] and Hong Kong Green Purchasing Charter.
Capacity building	6. Training scheme in Gothenburg green public procurement (Sweden).
Engagement with local entities	7. ECO-Buy-Local action to support GPP in Australia.
Promotion of trade	8. International Green Purchasing Network (IGPN) and GPN.
	9. NAGPI.
Communication of benefits	10. EPP Program of Massachusetts government (the USA).

Source: Own elaboration.

Monitoring system is identified in best practices: information technology procurement in Canada, promotion of green public procurement and on-line purchasing in Korea, EPP program of Massachusetts government (the USA) and ECO-Buy–Local action to support GPP in Australia. Regarding the definition of transition phase, this is being implemented in information technology procurement in Canada and in promotion of green public procurement and on-line purchasing in Korea best practices.

An overview of each one of the best practices structured according to the key issues is provided in Section 5.1. Further details of six of the best cases selected are described in the best practice of green public procurement factsheets collected in Annex D. The information gathered about best cases has been organized in the factsheets under: background, objectives, definition on environmental criteria, training activities, results and environmental benefits achieved, funding, monitoring system and way forward and barriers.

5.1 Overview of best practices selected

5.1.1 Institutionalization development

Promotion of Green Public Procurement and on–line purchasing in Korea

This best practice describes how the Public Procurement Service (PPS) of Korea has integrated the purchasing procedures on-line, with the creation of two specific websites on green procurement. The two websites are: the Green Products Mall (http//shopping.g2b.go.kr) and the integrated webpage for Public Green Purchasing Information (http://green.pps.go.kr).

With these two on-line platforms, the Korean government is achieving a double objective. On one hand, the promotion of green procurement measures, not only to regional and local authorities, but also to business and the society. On the other hand, these websites provide practical tools and information for public purchasing supporting officers in the implementation of the Law on Promoting Green Purchasing.

The details on the implementation of this best case can be found in Annex D, in the best practice factsheet.

Japanese framework policy in GPP

The policy on GPP in Japan is well recognized in Asia and Europe as an example of how framework legislation on GPP is adopted effectively by public purchasers and as a tool to achieve the objectives of green growth in this economy. Furthermore, it is one of the first policies adopted in this field in the region of Asia-Pacific. Japanese GPP policy is described in Chapter 3 (supported by the factsheet, see Annex B).

5.1.2 Definition of environmental criteria

Information technology procurement in Canada

The best practice on information technology procurement in Canada illustrates the definition of environmental criteria for desktop, notebooks, screen, monitors, etc., and the manufacturer. The list of environmental criteria pays special attention to the manufacturer, in terms of their environmental performance. This practice is described in the best practice factsheet of Annex D.

Green policy in vehicles procurement in New Zealand

In New Zealand the government has established a new policy to purchase vehicles, where the definition of the environmental criteria is based on the 3 pillars of sustainability (environmental, economic and social). The policy aims to shift the common plain environmental criteria to sustainable criteria with the inclusion of vehicle maintenance plan or driver behavior guidelines. This green policy is explained in the best practice factsheet of Annex D.

5.1.3 Eco-label scheme

Green Council and Hong Kong Green Purchasing Charter

This best practice consisted in the initiatives that the Green Council of Hong Kong is developing in order to promote the protection of the environment. The Green Council encourages and assists the business sector in the implementation of more sustainable practices in their daily work.

Green Council is a non-profit association that is carrying out several activities in relation to GPP in Hong Kong, China, having also a significant impact on the society.

Besides the definition of the Hong Kong Green Label Scheme, the association has the following initiatives: Hong Kong Green Purchasing Charter (HKGPC), cyber green center (on-line platform on environmental products and technologies), green awards and events and trainings.

The details about the initiatives of the Green Council in Hong Kong, China; are explained in the best practice factsheet of Annex D.

5.1.4 Capacity building

Training scheme of Gothenburg's Green Public Procurement program

Green public procurement program in Gothenburg city (Sweden) started in 1989, and nowadays is widely well known as experienced city in green purchasing that excels in its training scheme.

The training scheme was launched in 1990. Two types of sessions are established, one preliminary seminar about environmental general issues and regular trainings. The sessions were adapted to meet the needs of the three target groups of trainings: politicians, suppliers and municipality staff.

In addition, specific workshops, lectures, hearing, meetings and courses or conferences are held. 80% to 90% of municipality staff is trained in green purchasing. Actually, training capacity does not cover current demand, which would require more resources.

The key elements of Gothenburg's model best practice on training are:

- Promotion of collaboration and networking: seminars, workshops and trainings are aimed to share experiences and learn from other attendees, promote the collaboration among purchasers and suppliers and enhance know-how.
- Motivating to attend trainings: seminars are announced to participants through invitations to meetings and the website. Moreover, a quarterly publication keeps informed all stakeholders about green procurement. Trainings are widely advertised.

- To engage all stakeholders involved in green purchasing: seminars have raised the interest and commitment to green purchasing of politicians that have increased over the seminars. Training addressed to municipality procurers covers practical needs for green purchasing.

Through the training scheme, the city of Gothenburg is motivating public procurers, local market and politicians to green purchasing, thus accepting green products.

5.1.5 Engagement with local entities

ECO-Buy - Local action to support GPP in Australia

ECO-Buy was founded with the objective to support local authorities to buy recycled products in the Victoria State and nowadays it has become one of the reference institutions for GPP in this region. After the first years of its establishment in 2001, ECO-Buy aimed at increasing the purchasing of green products by local governments. This objective has been achieved since the expenditure of local bodies in green products has increased from 5 AUD $ million in 2001 to 70 AUD $ million in 2008.

One of the objectives of ECO-Buy consists in green purchasing became business as usual, encouraging the shift towards the acquisition of environmental products. In order to accomplish these objectives ECO-Buy delivers support services to their associates: database of environmental products (ECO-FIND), trainings and events, consultancy services, organization of trade fairs and the ECO-Buy sustainable procurement assessment tool. The description of ECO-Buy initiatives and results can be found in Annex D of this document.

5.1.6 Promotion of trade

International Green Purchasing Network (IGPN) and GPN

GPP in Japan is supported by the “Green Purchasing Network” (GPN) that provides additional tools and knowledge to business, authorities and general public. The information delivered by GPN is mainly focused on how to establish environmental criteria and the identification of green products. The Green Purchasing Network in collaboration with the other green purchasing networks, mostly placed in APEC

economies, funded the International Green Purchasing Network (IGPN). The initiative in Japan (GPN and IGPN) is described in Section 2.3.3.

IGPN organizes seminars, events and trainings with the aim to share information and know how on GPP. One of the missions of the network is centered on harmonizing the efforts of green purchasing. The IGPN is a platform for the cooperation of green purchasing networks in APEC economies, to analyze local markets and create the tools for developing common guidelines for being used internationally.

North American Green Purchasing Initiative (NAGPI)

NAGPI, created by CEC, aims to promote the protection of the environment and sustainability within the context of increasing economy, trade, and social links among Canada, Mexico, and the United States. NAGPI was developed with the goal to collaborate for the promotion of green purchasing and green growth across North America.

Initiatives were focused on the engagement of stakeholders, the coordination of campaigns to improve the performance of specific commodity area and the creation of common marketing language to facilitate the trade in green products. Section 2.3.1 describes NAGPI initiative.

5.1.7 Communication of benefits

EPP program of Massachusetts Government

The Environmentally Preferable Products (EPP) Program of Massachusetts, managed by the Operational Services Division (OSD), has achieved significant goals in the progress of the uptake of GPP in this region. The EPP Program was able to even exceed the objectives set by the initiative.

The program provides tools and guidelines for purchasers to clearly identify the environmental benefits from the acquisition of green products. The calculator EnviroCalc, which estimates energy and cost savings and the environmental benefits resulted from buying specific recycled products, is one of these tools.

The EPP Program of Massachusetts government has been awarded several times by the USA government. The details about the development of the EPP Program are collected in the best practice factsheet of Annex D.

6 Challenges and opportunities for the adoption of GPP in APEC economies

This section aims at identifying challenges and opportunities for the implementation of GPP initiatives in the context of APEC and, individually, in each economy. It is structured as follows:

- Challenges of GPP implementation in APEC economies: trade and green growth, addressed to identify common barriers and challenges of GPP in APEC economies.
- Opportunities of GPP implementation in APEC economies: trade and green growth. It describes the opportunities for economies, in the context of APEC, to improve the performance of GPP policies.
- Challenges and opportunities in 18 APEC economies are described by means of tables.

6.1 Challenges of GPP implementation in APEC economies: trade and green growth

Challenges of GPP implementation faced by APEC economies are related to the barriers preventing economies from successful adoption of GPP initiatives. This part of the report points out the issues that need to be addressed to better implement GPP initiative, stimulating trade in environmentally preferable products and promoting green growth.

The analysis of challenges is also aimed at establishing the starting point for discussion about common challenges of GPP uptake, framed as follows:

- Legal framework and policy tools of GPP in APEC region:
  - ✓ International approach of GPP policies.
  - ✓ Homogenization of environmental criteria for green products and use of eco-labels.
  - ✓ Change towards a sustainable public procurement.

- ✓ Availability of green products in the market.
- ✓ Transparency and communication tools of key aspects of the policy.

- Communication and dissemination of environmental and financial benefits.
- Promotion of trade in EGS.

6.1.1 Legal framework and policy tools of GPP in APEC region

International approach of GPP policies

The variety of instruments launched by APEC economies to promote public purchasing of green products is huge. Thus, the enforcement of GPP initiatives, progress of development, implementation and supporting tools differ widely among economies. Governments that have enacted legislation on GPP, like Japan or China, have even undertaken the program in a different manner. Broadly, the extent of implementation of GPP in each economy is related to the resources allocated to the initiative.

The fact that most APEC economies have GPP initiatives in place, or in progress, should boost trade in green products. Nevertheless, the lack of uniformity in GPP schemes makes the international approach of green products a challenge.

The variety of policy frameworks, and above all, product environmental requirements, represents a significant challenge for providers to scale up production of goods and thus, increase the cost-efficiency in manufacturing process.[43] Policy makers and stakeholders should observe the provision of incentive programs to promote investing in cleaner production, eco-innovation, sustainable management and manufacturing and/or energy efficiency products in particular, to export green components or products to other economies.

One of the biggest challenges is the adaptation of current domestic approaches of GPP to a global market and economy, triggering, internationally, green growth. Exchange of information on GPP strategies among economies, with the establishment of communication platforms, would contribute to overcome existing barriers, whereas promoting green purchasing at a global scale.

[43] International Institute for Sustainable Development, 2012. *Procurement, Innovation and Green Growth: The story so far*….IISD, page 68 (interview with Confederation of Danish Industry).

The following section explains in detail one specific challenge derived from lack of homogenization: the divergence of environmental criteria and use of eco-labels.

Homogenization of environmental criteria for green products and use of eco-labels

The lack of convergence about environmental criteria to select and purchase green products is one of the most significant barriers to define an international approach of such policy. Each economy has set not only different list of designated products with environmental considerations, but also, divergent environmental requirements.

It is a significant non-tariff barrier to overcome in order to promote trade in greener products. Non-tariff measures often have a greater impact on trade than tariffs do.[44]

The issue of trade barriers caused by the lack of homogenization in environmental requirement has been identified in APEC's Honolulu declaration, which enhances the homogenization of requirements in public purchasing of EGS. It mandates member states to eliminate local content requirements that distort trade in environmental goods and services by the end of 2012 and refrain from adopting new ones included as part of domestic clean energy policy.

Most of the trade barriers are considered in the APEC Non-Binding Principles on Government Procurement (1999). Honolulu Declaration asks APEC members to ensure that all government procurement policies pertaining to environmental goods and services are transparent and consistent with the 1999 APEC Non-Binding Principles on Government Procurement. Although trade in environmental services will also be important, trade barriers are, so far, not been addressed.[45]

Regarding eco-labels, their use in the list of environmental standards of GPP depends on the type of product. For example, in some cases, the certification of the compliance of one environmental aspect is directly linked with a single issue label, like FSC or Energy Star label. In other cases, criteria to obtain a multi-attribute eco-label exceed environmental requirements of GPP, becoming labeled products a useful way to validate the accomplishment of green purchasing requisite.

[44] Sugathan M. and Brewer T.L., 2012. *APEC's environmental goods initiative: How climate-friendly is it?.* International Centre for Trade and Sustainable Development, Bridges Trade BioRes Review, Vol. 6, n. 4, consulted in November 2012) http://ictsd.org/i/news/bioresreview/150577/.

[45] http://ictsd.org/i/trade-and-sustainable-development-agenda/150648/ (accessed in November 2012).

It is noteworthy that the requirement of eco-label in GPP must be aligned with the principles of public procurement and regional trade agreements of non-discrimination. In this sense, purchasing criteria should include the requirements and other alternatives to certify the compliance of environmental requirements equivalent to the eco-label scheme.

China and Japan have linked domestic eco-labels schemes with environmental criteria of GPP. Other economies like Canada; Korea; New Zealand; the Philippines (in progress); Thailand and the United States have partially related eco-labels (multi-attribute) with their standards (eight of fifteen economies set environmental requirements in public purchasing).

The different integration of eco-label requirements into environmental criteria defined in public purchasing makes the comparative analysis about the use of eco-labels (per products) and underlying schemes difficult. In addition, number of eco-labels in operation is high with a wide range of environmental requirements.

Homogenization in the use of eco-labels is a challenge that would support the definition of common framework for GPP in APEC economies that enable an international approach of GPP and promote trade in green products.

As a consequence of diversity of requirements, companies, suppliers and manufacturers, face a predicament, similar to the so-called “eco-label dilemma”. In the eco-label dilemma, companies have to choose and prioritize among 400 eco-labels.[46] Regarding green purchasing, from around 400 eco-labels, 40 of them apply for sectors that are frequent areas of public spending. Companies that supply governments have to choose and prioritize among environmental standards to provide the public sector in those economies that more benefit them, in detriment of accessing to other markets.

[46] International Institute for Sustainable Development, 2012 .*Procurement, Innovation and Green Growth: The story so far*….IISD, page 67.

"*The work of voluntary consensus standards organizations such as UL-Environment, GreenSeal, NSF International, IEEE, ASTM and others should be evaluated for the opportunity to advance on a global scale. This would (1) drive convergence around best practices, (2) offer governments credible, external, market-driven mechanisms to develop product environmental criteria, and (3) reduce confusion among manufacturers and purchasers alike*".

Mrs Alison Kinn Bennett

Senior Advisor in Environmentally Preferable Purchasing, US EPA Pollution Prevention and Toxics (USA).

Additionally, some leadership in eco-labels, as for example, Eco-Logo and Green Seal set too high criteria recognizing only top products in one category. This situation makes difficult the competitiveness in terms of number of products that meet environmental criteria set in the market and may discourage suppliers to improve their processes.

Mutual recognition of eco-labels, or the creation of new regional eco-label with higher recognition, can help companies to tackle the issue of disparity of requirements. Mutual recognition should be clearly informed to purchasers, in order to avoid misinformation and ensure buyer's and procurer's trust.

Availability of products in the market

The lack of availability of products in the market that meet environmental requirements has been appointed as a barrier by 45 percent of economies that completed the questionnaire. This group even includes economies with more years of GPP policies in operation. The causes of the lack of availability of green products in the market could differ as much as framework policies vary in APEC economies. Some potential causes explaining the absence of green products are:

- GPP initiative established by government is too complex.
- Key information on green purchasing is difficult to find and published in different web pages.

- There is no international standardization in the use of eco-labels in public purchasing, which are, broadly, voluntary systems.
- GPP policy and benefits are not well communicated neither to public officers nor companies. The inefficient communication of financial and environmental benefits is one of the most chosen barriers in the questionnaire. This issue is further analyzed in Section 5.1.3.
- Public officers are not aware of procedures and certifications to verify green products.
- Companies do not provide proper information on environmental performance of their products and services.
- Lack of incentives for companies to invest in the supplying green products and cleaner production according to the environmental requirements of the GPP policy in place in the economy.
- Lack of effective stakeholders' involvement in early stages of the planning of the initiative. Environmental criteria of green products and procedures are not established according to the reliability and capacity of the industrial sector.
- Lack of strategies addressed to apply environmental standards progressively, with transition stages, enabling companies to adapt their manufacturing process and supply chain to future requirements.
- Public procurement includes the purchase of specialized goods, such as military, medical or scientific equipment, that may not have many opportunities to integrate environmental considerations.

Sustainable public procurement

One common issue in APEC economies is that social aspects, in general, are not included in the list of requirements of public procurement, as much as, environmental considerations are integrated in the specifications of public procurement.

Economies have incorporated social requirements through label schemes that include social concern in a specific group of goods, for example wooden made products. Certification of source of timber wood legally harvested and FSC label are the two social requirements most introduced in the standards reviewed in APEC economies.

Transparency and communication tools of the policy

Principles of public procurement and rules of international trade entail transparency and clarity in the information that applicants need to participate in tenders. The flow of information in public procurement of green products should be certain and transparent. Using eco-label's underlying criteria or/and list of environmental requirements to define green products should be clearly included in tender specifications.

Enhancing transparency in the information flow will reduce potential trade impacts associated with the alternative all or nothing situation[47]. The WTO Committee on Trade and Environment emphasized the need of their members to follow the provisions of the TBT (Technical Barriers to Trade) agreement and its Code of Good practice, including those on transparency and ensuring fair access of foreign producers to eco-labelling schemes[48].

The identification of challenges in APEC economies regarding transparency and communication tools have been based on the available information on GPP in the governmental websites (i.e. policy or guidelines published) and the availability of information also in other economy's language, usually English.

Information about GPP in the governmental web pages is published in thirteen APEC economies. The effective communication of environmental criteria to other economies presents some obstacles:

- Data is not always published on public procurement web pages, thereby hindering the access of foreign providers to environmental requirements and procurement information. Data about products and service eligibility for participating in public procurement is not published or linked into purchasing web pages in economies with GPP policy established by means of programs to reduce waste production or energy efficiency (type b.2. policies). Generally, this information is available in the program website.

[47] OECD, 1996. *Trade issues in the greening of public purchasing*. OECD COM/TD/ENV(97)111/FINAL, page 14.

[48] Committee on Trade and Environment, 1996), *Report WT/CTE/1.* Paragraph 185. In OECD, 1996.

- Regarding promotion of trade, main information about GPP policy and environmental requirements are normally published in the language of the economy. Only five economies where English is not the official language, have published GPP policy information in English. Economies like Thailand, China or Korea only have disseminated their policies on GPP in the economies' official language.
- Economies' procurement websites do not describes GPP policy and criteria adopted; this is common for those economies where the application of GPP is not compulsory.

The publication of information in adequate websites is crucial for the fulfillment of criteria by tenders and providing access to foreign suppliers to participate in public tenders. Within the context of GPP, with a lack of availability of green products, international approach of public procurement could increase the chances to purchase products that fulfill environmental standards in other economies. At the same time, the offer of green products could rise, with more competitiveness on green products officers can select among more variety of products.

6.1.2 Communication and dissemination of environmental and financial benefits

GPP policy has been defined on a domestic approach in APEC economies to address environmental impact of public activities and promote the production and consumption of green products. Within the context of APEC economies, GPP policies and environmental standards, as it has been abovementioned, differ widely and there is a lack of communication on criteria and goods and services.

Description of benefits, for environment and industry, from GPP policies in APEC economies is difficult, mainly due to the lack of an effective track system of green goods and services procured in each economy. It creates an information gap preventing from formulation of strategies to face challenges and common understanding among APEC economies.

Both considerations, along with divergence of framework on GPP, hinders from planning common strategies to promote trade in these goods and generate a win-win situation for industry, trade and environment.

The establishment of a discussion forum about GPP tools to monitor impacts resulted from the implementation of policies, would support the definition of future APEC commitments or principles in relation to GPP that favoring the purchase of green goods.

6.1.3 Promotion of trade in EGS

The enhancement of trade in EGS is a challenge. It would boost the change towards a more sustainable production patterns. Nevertheless, to achieve this challenge, issues like the different considerations used to designate a product as a green good among international trade rules and GPP initiatives should be addressed.

Although government procurement has a specific trade policy, when governments and policy makers defines a GPP policy, general trade issues in EGS (outside public procurement) should be observed in order to better use GPP to promote market and trade in green products and define trade policies

The aim of this section is to explain those barriers to the definition trade policies on EGS that could reduce the expected influence of GPP as a tool to promote trade in EGS and green products. One of these issues is related to the different definition of what green product is in the context of trading.

The attempts to define EGS proposed by WTO members are different. So far, the lists of EGS products approved by OECD and APEC are the two most supported classification means of green products[49].

The lack of standardization in the definition of EGS and the inconsistency of categories of the lists of EGS (APEC and OECD) with green products and services designated by governments in GPP policies hinder the promotion of trade in EGS at international level. Those are obstacles for the analysis of the following issues that will support the definition of strategies to promote trade in EGS:

49 Monkelbaan, J., 2011. *Trade Preferences for Environmentally Friendly Goods and Services. International* Centre for Trade and Sustainable Development, page 3.

- Analysis on tariffs applied to a wide range of products defined as green goods and services in GPP initiatives, which in turn does not provide the framework to establish strategies based on the reduction in tariff rates.
- Integration of information about product life cycle as environmental criteria to designate EGS can be an obstacle in order to identify and certify imports and exports. The use of labels and certifications can facilitate the recognition of these products, despite of potential technical barriers that could be derived from the definition of certification procedures.
- The monitoring of the actual trade flow of green products that meet standards of green public purchasing is difficult. There is no difference between trading the same good with less environmental impact, the classification is the same, and therefore, the analysis of the impact of GPP policies on trade in APEC economies and worldwide is challenging.
- The situation is similar for measuring trade flows of other categories of EGS due to various reasons, among them the so-called "dual use" problem, as the current nomenclature to classify goods traded does not distinguish whether a good is used for an environmental purpose or not[50].

[50] Kuriyama, C., 2012. *A Snapshot of Current Trends in Potiential Environmental Goods and Services*. APEC Policy Support Unit, Policiy Brief n.3, page 1.

6.2 Opportunities of GPP implementation in APEC economies: trade and green growth

Opportunities in the context of APEC region described below are associated to the challenges identified in Section 6.1:

- Establishment of common framework to improve GPP performance.
- Database of environmental criteria in selected products in APEC economies.
- Promotion of clean industry and trade in green products.

6.2.1 Establishment of common framework to improve GPP performance

APEC economies have the opportunity to starting a debate for defining the most proper tools for GPP implementation, taking into account the challenges and barriers analyzed in the previous Section 5.1.

Experience of economies that have launched GPP initiatives can be transferred to those economies that have not established the initiative or this is in progress. International approach of GPP could be integrated in the early stages of definition and planning of this policy.

On one hand economies like Peru, the Philippines or Viet Nam, where environmental standards are not formulated or in operation for a wide number of products, have the chance to learn about best practices and guidelines from forerunner economies.

On the other hand, forerunner economies in the uptake of GPP initiative, like the United States, Japan, Republic of Korea or China, could review their policies and standards to find common issues, benefiting from the exchange of information. It would facilitate and foster trade in green products. The review of standards would research on those categories and products that are frequently purchased by governments, analyzing common criteria defined for these products.

The cooperation to exchange information among APEC economies will be the proper platform to deal with an international approach of GPP. In addition, this platform will promote the integration of common social aspects to ensure fair trade and equality in APEC economies.

Thus, APEC economies have the opportunity to leading the change towards a sustainable public procurement (SPP). Collaboration would boost and support developing economies to adopt SPP strengthening fair and ethical trade in APEC region.

The exchange of information will facilitate APEC economies to tackle jointly common obstacles to GPP development: lack of availability of green products, eco-label and standards dilemma, technical barriers to trade, lack of communication of environmental and financial benefits. It supports both, the accomplishment of APEC declarations and individual economies' commitments of sustainable development. Actually, the cooperation among APEC economies in GPP is aligned with the APEC's 2010 Honolulu declaration.

Strategic planning for APEC regional cooperation in GPP should address the barriers and challenges to create the most proper scenario that promote trade in green products. It should encourage companies to invest in sustainable production and stimulate green industry. Moreover, SPP regional framework in APEC should foster the definition of adaptation stages, or specific incentives, addressed to SMEs for the accomplishment of standards, since most of GPP policies undertaken in APEC economies have not defined specific transition stages for SMEs.

Cooperation is a great opportunity to strengthen GPP policies in APEC economies, which in turn, will raise companies' awareness on the competitive advantages of meeting environmental requirements and promote trade, taking into account economy specificities.

6.2.2 Database of environmental criteria in selected products in APEC economies

The database of environmental criteria of categories of products developed within the context of the present project is a tool that would enable the exchange of information between economies.

The analysis of common products with environmental criteria and those requirements most listed by governments in APEC economies would facilitate the creation of common strategies in APEC economies. The extension of number of products and further analysis of database will enable the study of the following key aspects to formulate trading strategies:

- To determine common group criteria of products most purchased by governments.
- To promote eco-label mutual recognition agreements.
- To devise trade preferences policies for those most strategic products according to environmental criteria and goods commonly purchased by APEC economies.
- To promote the inclusion of social criteria in the purchasing requirements with international approach.

6.2.3 Promotion of clean industry and trade in green products

GPP is appointed as a policy tool to lead and drive the change of current production and consumption patterns, supporting the fulfillment of domestic environmental plans in each economy.

> "*GPP can drive and enhance local businesses' capacity to: - meet international sustainability standards and supply chain requirements; - develop innovative products and services; and - achieve the scalability needed to enter and trade in foreign markets"*
>
> Mrs Karen English (questionnaire response)
>
> Senior Policy Analyst
> Ministry of Business, Innovation & Employment, New Zealand

"*The Government sector is one of the largest consumers that can drive the manufacturers to produce environmental friendly products, therefore, promoting sustainable consumption. The governmental sector could obviously be a role model for initiating green demand for environmental friendly products and services"*

Dr Pornsri Suthanarak, Director (questionnaire response)
Environmental Quality and Laboratory Division, Pollution Control Department, Thailand

Depending on how this policy is defined and implemented, it would determine its capacity to influence the production and consumption patterns.

Thus, the impact of regional promotion of GPP on APEC members will depend on how economies cooperate to foster GPP. It is highly linked with the opportunity to create a common framework on GPP policies. APEC economies can face jointly common barriers to GPP uptake, like the lack of converge of policies and eco-labels.

Within this context, producers and the value chain of products, could consider becoming eligible, meeting the environmental criteria of public procurement, of other economies. It would create incentives and conditions to companies to invest in cleaner and sustainable production. Cooperation will promote cleaner industry, expanding the market of green goods and services, enabling companies to scale up the production and stimulating trade in green products.

Regarding trade, specific concerns arise from different understanding of what a green product is according to GPP initiatives and environmental goods and services. The different identification makes more difficult the definition of trade instruments that foster the market of green products and track trade in environmentally preferable products. Regional collaboration of APEC economies could contribute to find procedures to address the divergence in green goods identification.

Efforts to promote GPP and SPP initiatives in APEC economies would be more effective if tools are developed jointly. Possible actions within the context of cooperation are listed below:

- Website platform with information about GPP initiatives and environmental requirements in APEC economies.
- Information about social requirements to include in GPP policies.
- On-line database of products categories, products and environmental requirements.
- Establishment of tracking system of trade in selected green products.
- Information about eco-labels in APEC economies and mutual recognition.
- Information about financial and environmental benefits from GPP initiatives.
- Indicators of environmental and financial benefits.
- Definition of trade preference policies in EPP.

Although cooperation among APEC economies would strengthen the capacity of GPP initiatives to promote sustainable production and trade in greener products, each economy must make efforts to improve the implementation of GPP individually. Challenges and opportunities for each economy are described in the following section.

6.3 Challenges and opportunities in 18 APEC economies

The challenges and opportunities for GPP in the 18 APEC economies that have launched GPP initiatives (less Brunei Darussalam; Papua New Guinea and Russia) are outlined in tables, describing main challenges to face and opportunities for each one.

6.3.1 Australia

AUSTRALIA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Australia has defined tools for procurers for the application of green purchasing; nevertheless policy is employed as a general guideline. To standardize monitoring procedures of green public purchasing and reduce inconsistencies among government agencies. It makes difficult to track the impact of this policy. Training on green purchasing. Better dissemination of environmental and financial benefits from the implementation of GPP. Australia has not defined specific programs to encourage companies to produce and supply green products: establishment of transition stages and incentives addressed to SMEs.	ECO-Buy Network supports local and regional bodies to better implement green procurement providing supporting tools. Government could explore opportunities to find synergies to collaborate with local networks as Eco-Buy.
Trade barriers and promotion of trade		GPP Policy framework is addressed to fulfill domestic targets on sustainable development and local market without observing international approach. Information on GPP is published on Department of Sustainability, Environment, Water, Population and Communities website. Links to environmental criteria are not found in Australian procurement website.	Enhance the cooperation established with New Zealand through APCC (Australian Procurement and Construction Council of Australian and New Zealand Government Framework for Sustainable Procurement) to define common tools to promote green products and trade.

AUSTRALIA	CHALLENGES	OPPORTUNITIES
Trade barriers and promotion of trade		In terms of environmental standards, light bulbs, computers and screens share categories of environmental criteria with Canada and Singapore. Analysis of policies to reduce tariffs of trade in these products could support and promote trade in this product and, thus, incentives of producers to supply these green products.
Market	No challenges identified.	The strengthening of GPP policy in Australia promotes that companies and products meet sustainable standards, favoring the creation of employment in the green market.

6.3.2 Canada

CANADA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Achieve horizontal collaboration from stakeholders. Balancing environmental and other procurement objectives (e.g. maintaining competition in the industry where there are limited suppliers offering environmentally preferable alternatives). Lack of standardized tools to communicate financial/ environmental benefits achieved although monitoring and track system are in place. Volume and variety of purchasing and people involved	Canada, with its expertise in green public procurement could start the change towards a sustainable public procurement with the inclusion of social criteria. Foster further collaboration on GPP at the regional and local level to homogenize environmental and social standards To enhance dissemination of mutual recognition of labels that are members of GEN and extend the number of products with eco-label in green procurement.
Trade barriers and promotion of trade		No challenges identified.	As an economy that forms part of CEC and NAFTA, Canada has the opportunity to share experience and knowledge about the implementation of trade agreements and their impact on trade in environmentally preferable products with APEC economies

CANADA	CHALLENGES	OPPORTUNITIES
Trade barriers and promotion of trade		Eco-labels are required for products included in energy efficiency category of database. Research on potential recognition of eco-labels with Australia; Canada; Chile; China; Hong Kong, China; Japan; New Zealand; Singapore; Thailand and the USA would benefit the industry of this sector. Analysis of policies to reduce tariffs of trade in these products could support and promote trade and, thus, the establishment of producers of green products.
Market	Some concerns arise from the need to balance environmental requirements with more competitiveness of products that meet standards in public tenders.	

6.3.3 Chile

CHILE		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	GPP policy in Chile must be expanded to other categories of products, with the designation of environmental standards. Increasing internal expertise of green public procurement through trainings. Definition of transition stages of public procurement for companies, defining core environmental criteria and specific programs addressed to SMEs. Dissemination of environmental and financial benefits from the implementation of this initiative.	Chile is planning to include social criteria in GPP policy Review of policy should contemplate the establishment of tools to improve the impact of this policy on industry and society: definition of transition stages, programs for SMEs and enhance dissemination of environmental and financial benefits. Chile is participating in the Marrakech Task Force on Sustainable Public Procurement as a pilot project. Within this context of institutional support, Chile has a great opportunity to address barriers detected for improving current environmental performance of GPP policy.
Trade barriers and promotion of trade		Domestic approach of GPP. There is a website platform that provides information about GPP policy, which is linked to procurement website. Information is only available in Spanish.	Review of current public procurement has the opportunity to observe GPP practices in other economies to reduce technical trade barriers. Additionally, cooperation would create the adequate framework to establish measures in trade tariffs policies. Website about GPP could foster GPP including more information in English. Products with environmental standards, energy efficiency products and paper should be reviewed to converge with standards of other economies.

CHILE	CHALLENGES	OPPORTUNITIES
Market	There has not been identified a domestic eco-labelling scheme (Type I) in Chile. Eco-label schemes in public purchasing guidelines refer to single attribute or overseas labels, like Nordic Swan. The choice of foreigner eco-labels should observe those ones that are most recognized in other APEC economies. It provides incentives to invest in green products and scale up production.	The strengthening of SPP policy in Chile would promote the creation new companies that meet sustainable and social standards, favoring the creation of new jobs.

6.3.4 China

CHINA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Albeit China has enacted framework legislation for GPP and provided trainings and political and institutional support, the impact of this policy on industry and environmental is not reported. Inclusion of social criteria in current framework policy.	GPP in China is formulated through a legislation that applies to governmental purchases. Experience achieved should be transferred to regional and local governments. At the same time, dissemination of GPP policies at local level would contribute to improve information available in relation to the influence of this policy in greening the industry and improve environment.
Trade barriers and promotion of trade		China Environmental Labelling has mutual recognition agreements with other eco-labels for designated items. This information should be communicated in the description of environmental list of products. Information about GPP policies is published in procurement website; nevertheless it is only in Chinese.	Extending mutual recognition agreements with other eco-labels for common products purchased according to GPP practices in APEC governments. Analysis of policies to reduce tariffs of trade in green products commonly purchased by APEC governments. It supports and promotes trade in these products and, thus, the establishment of producers.
Market		China has not established transition stages for the adaptation of market and neither policy measures for SMEs.	To devise a strategy that reduces trade barriers would raise competitiveness of Chinese companies. Companies would have to compete with other providers, but also it would facilitate the access to other markets. Promoting GPP policy at international scale would boost the establishment of new companies, or their adaptation to a greener production, with the creation of new employment.

6.3.5 Hong Kong, China

HONG KONG, CHINA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Inclusion of social criteria into procurement standards. Change to sustainable public procurement. Although monitoring is in place, there is no data to analyze the impact of this policy on market and environment.	Other APEC economies are starting to include social criteria. Hong Kong, China; could cooperate with them to homogenize social criteria in the early stages of implementation in each economy. Government could strengthen cooperation with Hong Kong Green Council, to improve green public procurement uptake by local governments and private business and disseminate benefits of the policy.
Trade barriers and promotion of trade		No challenges identified.	Exchanging information with other economies about green products purchased by economies would facilitate the definition of programs to benefit trade in green products. Hong Kong, China; has similar environmental requirements for energy efficiency products of database with Japan, (ink and light bulbs and office furniture). Analysis of policies to reduce tariffs of trade in these products could support and promote trade and, thus, the establishment of producers.
Market		The lack of availability of products is one of the most significant barriers to GPP in Hong Kong, China; above all for tailored products and particular products that have to meet new environmental standards.	Promotion of trade in green products would promote technology transfer to fulfill new environmental requirements and increase competitiveness of the market. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new jobs.

6.3.6 Indonesia

INDONESIA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Lack of enforcement of policy and supporting tools to implement green public purchasing, according to environmental concerns in public procurement rules. Lack of integration of policies developed. Lack of trust about the objective aimed with the application of GPP policies.	Public procurement system is under development and with cooperation of APEC economies to exchange information and collaborate, this is a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach.
Trade barriers and promotion of trade		The lack of supporting policies is a barrier to promote trade in green products.	Development of GPP policy should observe current technical trade barriers identified in order to define a policy that promote trade in green products.
Market		Lack of availability of green products and certification companies during first period of GPP initiative implemented.	Promotion of trade in green products would promote technology transfer and capacity to the Indonesian market to accomplish with environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.7 Japan

JAPAN		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Legal framework does not oblige local and regional governments to implement the "Law of promotion of environmental goods and services" and the green contract law" Local governments have the obligation to make due efforts. Trainings should be promoted to local agencies. Lack of standardized tools to communicate financial/ environmental benefits achieved according to GPP practices already in place in Japan, although monitoring and track system is required by legislation.	Strong and widespread presence of GPN in Japan can be used as a platform to support local agencies establishing synergies and improving the adoption of framework policies in GPP in Japan. Promotion of GPP initiatives to local governments in Japan would raise the good performance of GPP achieving the desired benefits for environment, society and market. By means of collaboration with associations government can provide trainings and tools targeted to local governments. Number of green products awarded by Eco Mark program has been increasing since its creation. Eco-Mark program covers a wide range of products of green market. Information about evolution of products awarded makes easy the estimation on one hand, financial benefits, and on the other, environmental benefits, assessing the achievement of green growth strategy.

JAPAN	CHALLENGES	OPPORTUNITIES
Trade barriers and promotion of trade	Japanese green procurement criteria can be linked with standards identified by ECO-MARK, which exceeds criteria set by government. The acceptance of ECO-Mark labeled products and information about environmental criteria are available through website in Japanese, but only part of information is available in English. Japan has already included terms for the promotion of sustainable development through collaboration and agreements among APEC economies for facilitating information about environmental laws and regulations but there are not special terms for the promotion of trade in EGS and/or public procurement.	As forerunner APEC economy in the uptake of GPP policies, Japan has the opportunity to promote its EGS produced enabling the creation of common policies to facilitate trade among APEC economies of EGS for public and private procurement. Agreements of collaboration and mutual recognition of ECOMARK with other eco-labels (Korea; Thailand; Chinese Taipei and New Zealand) should be promoted to facilitate the access of Japan green products to other economies as for example Chinese Taipei with Green Mark eco-label. Analysis of policies to reduce tariffs of trade in these products could support and promote trade in this product and, thus, the establishment of producers of this product.
Market	The lack of products that meet environmental criteria has been reported by procurers. Although, share of some products category of public procurement in some products have raised up to 93%, as for example staplers or bulb lights.	Japanese GPP has promoted cleaner production through GPP adoption. Japan market in green products has increased but more efforts should be carried out to develop those products with more environmental impact following the example of green vehicle market.

6.3.8 Republic of Korea

KOREA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Review of tracking system of GPP in Korea to improve communication of environmental and financial benefits from the formulation of this policy. Inclusion of social criteria in green public purchasing initiative.	Other APEC economies are starting to include social criteria. Korea could cooperate with them to homogenize social criteria in the early stages of implementation in each economy. Collaboration with the Korean Green Purchasing Network to find synergies for training and dissemination of GPP.
Trade barriers and promotion of trade		Information about GPP policy and environmental standards is only published in Korean. The website that provide information about green products (shopping mall) is also only in Korean.	Korea has developed an e-procurement system that facilitates the participation of overseas companies to public tenders. Korea can use the platform to improve communication of green procurement policy to other economies.
Market		However transition stages are included in GPP policy for the adaptation of companies to new environmental requirements, the lack of availability of products is one of barriers for GPP development in Korea.	Promotion of trade in green products would cover products that meet new environmental and promote technology transfer to fulfill new environmental requirements and increase competitiveness of the market. Korea and Japan convergence in the use of Eco-mark label, for some products classified under the category of office products with energy efficiency. Analysis of policies to reduce tariffs of trade in these products could support and promote trade in this product and, thus, the establishment of producers of this product.

6.3.9 Malaysia

MALAYSIA		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Establishment of policy tools to implement green public purchasing, according to the commitment of Malaysian Government to GPP.	GPP initiative is under development. Malaysia has the opportunity to collaborate with APEC economies on planning and definition of the policy. This is a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach. Domestic eco-label has been established, since 2011, Sirim Eco-label (GPP could integrate eco-label scheme for the verification of products fostering, at the same time, the eco-label scheme. Mutual recognition agreements of eco-labels should be developed.
Trade barriers and promotion of trade		The lack of framework policies and environmental criteria is a barrier to promote trade in green products for governmental procurement in Malaysia.	The development of GPP policy should observe current technical trade barriers identified to define a policy that promote trade in green products.
Market		Economy of Malaysia is trade-reliant. There are no incentives of local market to participate in the development of products with less environmental impact.	Promotion of trade in green products would promote technology transfer and capacity to the Malaysian market to accomplish with environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.10 Mexico

MEXICO		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Definition of policy tools and list of products of environmental preference purchasing are not defined. Integration of life cycle approach in environmental considerations. Training about the application of guidelines for green purchasing. Communication of GPP scheme and environmental standards. Development of monitoring system of GPP to estimate the impact of the policy on the market and the environment.	Mexico has different challenges for the development of GPP. Mexico. With the cooperation of APEC economies to exchange information and collaborate, Mexico has a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach. To develop framework policy that support and promote the participation of SMEs. Through cooperation, other barriers like the lack of trust of green products or the lack of standards to verify the accomplishment of environmental requirement could be jointly addressed.
Trade barriers and promotion of trade		The lack of framework policies and environmental criteria is a barrier to promote trade in green products for governmental procurement in Mexico.	Mexico is participating in NAFTA and CEC. Mexico can exchange information with the USA and Canada to formulate domestic policies that promote trade in green products within the context of NAFTA and APEC.
Market		Framework policies to extend the establishment of GPP initiative that provide incentives to producers and suppliers to change to a cleaner production.	Promotion of trade in green products would promote technology transfer and capacity to the Mexican market to accomplish with environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.11 New Zealand

NEW ZEALAND		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Extending the list of goods and services with environmental standards defined. Effective tracking system of GPP in order to improve the communication of environmental and financial benefits from the formulation of this policy. New program for training officers delivered by New Zealand Procurement Academy that include particularly GPP. Inclusion of social criteria in all products of green public purchasing initiative.	Other APEC economies are starting to include social criteria. New Zealand could cooperate with them to homogenize social criteria since early stages of the implementation in each economy. Taking the advantage of the participation of New Zealand in Marrakech Task Force for Sustainable Public Procurement to define social criteria. Environmental criteria in New Zealand define the different foreign eco-labels to certificate the accomplishment of environmental criteria in the guidelines published by government. It facilitates the communication of recognition of overseas eco-label schemes. This practice could be spread to other economies to promote this best practice.
Trade barriers and promotion of trade		Environmental criteria for products defined by the government of New Zealand differ widely with other economies (products of database of this project).	Enhance the cooperation established with Canada through the APCC (Australian Procurement and Construction Council of Australian and New Zealand Government Framework for Sustainable Procurement) to define common tools to promote green products and trade according to APEC economies standards. Environmental criteria defined for paper in New Zealand is similar to Australia; Hong Kong, China; Japan; Thailand and United States. Analysis of policies to reduce tariffs of trade in these products could support trading, and thus, the establishment of producers of this product.

NEW ZEALAND	CHALLENGES	OPPORTUNITIES
Market	There are no transition stages defined in GPP policy for the adaptation of companies to new environmental requirements and specific measures addressed to SMEs.	Fostering the participation of foreigner participants in public procurement would increase the competitiveness of green products demanded by government. In turn, this would foster the research on more innovative technology to meet requirements. This is an opportunity to create new companies and employment in green services and research on green products.

6.3.12 Peru

PERU		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Definition of policy tools and list of products with environmental preference purchasing. Integration of life cycle approach in environmental considerations. Training about the application of guidelines for green purchasing. Communication of GPP scheme and environmental standards. Integration of monitoring system of GPP to estimate the impact of the policy on the market and the environment.	Peru is currently reviewing the scheme of GPP implemented. With the cooperation of APEC economies to exchange information, Peru has a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach. To develop framework policy that support and promote the participation of SMEs.
Trade barriers and promotion of trade		The lack of framework policies and environmental criteria is a barrier to promote trade in green products for governmental procurement in Peru.	The review of GPP policy should observe current technical trade barriers identified in order to define a policy that promote trade in green products.
Market		Framework policies to extend the establishment of GPP initiative providing incentives to producers and suppliers to change to a cleaner production.	Promotion of trade in green products would promote technology transfer and capacity to the Peruvian market to accomplish with environmental standards. In addition, the international approach of GPP policy should provide incentives to local market to invest in changing the production towards a sustainable procurement. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.13 The Philippines

THE PHILIPPINES		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Definition of clear technical specifications for a list of goods and services to apply environmental criteria. Integration of life cycle approach in environmental considerations. Training about the application of guidelines for green purchasing. Communication of GPP scheme and environmental standards. Development of monitoring system of GPP to estimate the impact of the policy on the market and the environment.	The Philippines are currently defining GPP policy. With the cooperation of APEC economies to exchange information and collaborate, The Philippines has a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach. To develop framework policy that support and promote the participation of SMEs, with the definition of transition stages. Government has the opportunity to collaborate with the Philippine Center for Environmental Protection and Sustainable Development for the establishment of GPP policy and planning training and dissemination of the new policy. The Philippines have based the definition of GPP environmental criteria on domestic eco-label, type I. From the beginning, government has the opportunity to start discussions for mutual label recognition agreements with other APEC economies for products commonly purchased by governments.
Trade barriers and promotion of trade		The lack of framework policies and environmental criteria is a barrier to promote trade in green products for governmental procurement in the Philippines.	The definition of GPP policy should observe current technical trade barriers identified to define a policy that promote trade in green products.
Market		Framework policies to extend the establishment of GPP initiative providing incentives to producers and suppliers to change to a cleaner production.	Promotion of trade in green products would promote technology transfer and capacity to the Philippine market to accomplish with environmental standards. In addition, the international approach of GPP policy should provide incentives to local market to invest in changing the production towards a sustainable procurement.

THE PHILIPPINES	CHALLENGES	OPPORTUNITIES
		Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.14 Singapore

SINGAPORE		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Definition of a framework policy and legislation addressed to provide tools for green public purchasing. So far, GPP is formulated within the context of energy efficiency program. Integration of life cycle approach in environmental considerations. Training about the application of environmental criteria of green purchasing. Communication of GPP scheme and environmental standards. Development of monitoring system of GPP to estimate the impact of the policy on the market and the environment.	Extending the list of goods and services with environmental considerations. Singapore has the choice to contemplate current policies in GPP, above all regarding environmental criteria ,of most common products purchased in other economies. Integration of social considerations in environmental requirements of new requirements of products with an international approach. To develop framework policy that support and promote the participation of SMEs, with the definition of transition stages. Collaborate with green purchasing network Singapore to support training in green public procurement, dissemination of the initiative and benefits for businesses and environment.
Trade barriers and promotion of trade		Singapore government has defined own eco-labels to certify and validate green products, eco-buildings and offices. It is not clear how to establish procedures for mutual recognition of foreign eco-labels, type I.	Singapore has the advantage of having environmental criteria for energy efficiency products like printers, photocopiers in order to identify common criteria to promote trading in green products among APEC economies.
Market		Framework policies to extend the establishment of GPP initiative providing incentives to producers and suppliers to change to a cleaner production.	The promotion of trade in green products would boost the investment in clean technology and, at the same time, would promote technology transfer and capacity market to accomplish with environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.15 Chinese Taipei

CHINESE TAIPEI		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Effective application of type 3 of products that include social criteria. Communication of GPP scheme and environmental standards. Policies addressed to foster the participation of SMEs in public tenders.	Other APEC economies are starting to include social criteria. Chinese Taipei could cooperate with them to enhance the effective application of social criteria included in their criteria. Definition of social criteria with international approach. Collaborate with Green Purchasing Alliance to support green public procurement in trainings and dissemination of the initiative and benefits to business.
Trade barriers and promotion of trade		Use of eco-labels type I (from other economies). In the environmental criteria, only list of environmental label is included without specifying underlying environmental criteria.	Promotion of mutual recognition of eco-labels and publishing the list of environmental criteria. Chinese Taipei should review the environmental criteria of office products with energy efficiency category in order to identify and define common environmental criteria of products to formulate policies to promote their trade with other economies.
Market		Establishment of transition stage for the adaptation of companies to environmental criteria. Framework policies to extend the establishment of GPP initiative that provide incentives to producers and suppliers to change to a cleaner production.	Promotion of trade in green products would boost the investment in clean technology and, at the same time, would promote technology transfer and capacity market to accomplish environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.16 Thailand

THAILAND		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Monitoring system to analyze the impact of policy on the industry and the market. Communication of GPP scheme and environmental standards. Policies addressed to foster the participation of SMEs in public tenders. Change towards the inclusion of social criteria in GPP policies.	To enact GPP policy taking into accounts the initiatives of other APEC economies, to extend the approach of framework legislation to international level. The formulation of framework policy could include social criteria. To find common environmental, economic and social indicators to communicate the benefits of GPP through APEC platform (website). Collaborate with Thailand Green Purchasing Network to support the formulation of green public procurement, to train public officers and disseminate the benefits to business and society.
Trade barriers and promotion of trade		Information about green public procurement and environmental criteria are published in a website. However the data is available in Thai.	The exchange of information among APEC economies would facilitate the formulation of policies to promote trade in green products. Thailand has similar environmental criteria with Japan and Hong Kong, China; for some products, (light bulbs and paper) categorized in the groups of office products with energy efficiency of database. The exchange of information in order to identify common environmental criteria of products will support the formulation of policies to promote trade in these goods.

THAILAND	CHALLENGES	OPPORTUNITIES
Market	Lack of products in the market that meet environmental criteria. Establishment of transition stage for the adaptation of companies to environmental criteria. Framework policies of GPP initiative that provide incentives to producers and suppliers to change to a cleaner production.	Promotion of trade in green products would cover the demand of environmental products. International approach of GPP enables companies to scale up production processes. Promotion of technology transfer and capacity market to accomplish environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.17 The United States

THE UNITED STATES		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Effectively monitoring of GPP to analyze the impact of policy on the industry and the market. Communication of GPP scheme and environmental standards. Change towards the inclusion of social criteria in GPP policy. Integrate GPP in online procurement systems.	The United States have enacted framework legislation to purchase green products since 1976. Sharing their experience in devoting GPP would support the effective implementation of these initiatives in other APEC economies. In addition, it would help the achievement of environmental and economic targets in APEC economies.
Trade barriers and promotion of trade		No challenges identified.	As forerunner APEC economy in the uptake of GPP policies, the USA has the opportunity to promote its EGS produced enabling the creation of common policies that facilitates trade among APEC economies. Energy Star label is widely included as one of the environmental criteria of office products with energy efficiency. This is an opportunity to formulate policies of trade preferences for products that possess this eco-label.
Market		Extend the policy of transition stages to other groups of products (currently for recycled and biobased products). Policies addressed to foster the participation of SMEs in public tenders of GPP.	International approach of GPP enables companies to scale up production processes. Promotion of technology transfer and capacity market to accomplish environmental standards. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

6.3.18 Viet Nam

VIET NAM		CHALLENGES	OPPORTUNITIES
Government and green growth strategy	• Legal framework and environmental criteria • Political and institutional support • Environmental criteria • Monitoring • Training • Communication of benefits	Establishment of policy tools to implement green public purchasing, according to Circular 142/2004/TT-BTC-BCT of Vietnamese government.	Government has stated their intention of including environmental criteria in public purchasing. Viet Nam has the opportunity to review and exchange information and collaborate with APEC economies in planning and formulation of the policy. This is a great opportunity to establish a procurement policy that includes social and environmental standards with an international approach.
Trade barriers and promotion of trade		The lack of framework policies and environmental criteria is a barrier to promote trade in green products for governmental procurement in Viet Nam.	Development of GPP policy should observe current technical trade barriers identified to define a policy that promote trade in green products.
Market		There are no incentives addressed to local market for the development of products with less environmental impact through public procurement policies. No tools for SMEs who are not in compliance with environmental requirements Studies about readiness of market to provide green products.	GPP and increase of competitive advantage Promotion of trade in green products would promote technology transfer and capacity to Viet Namese market to accomplish with environmental standards and social issues. Increasing technological capacity of local market would benefit the establishment of new companies in the green sector and the creation of new and higher qualified jobs aligned to social requirements of GPP.

7 Training formulation to encourage GPP and proposals for procurement officials

Training ensures proper development and implementation of GPP initiatives, supporting and guiding all stakeholders involved in the enforcement of the policy. It should be provided and adapted to all stages of GPP development and addressed to each key player involved. Training programs should be proposed in order to guarantee:

- Engagement of stakeholders: politicians, policy makers, public officers, suppliers and related industry.
- Politician's commitment to implement the policy at all levels of government.
- Awareness raising on GPP initiatives and associated economic and environmental benefits among public staff, policy makers and citizens.
- Public procurers capacity building on GPP policy, plans and tools.
- Dissemination of business opportunities in trade in green goods. Sessions addressed to industry should encourage GPP policy compliance.

This section describes how APEC economies have developed training programs on GPP that are mainly addressed to public procurers and stakeholders. This chapter aims at identifying the progress of training in APEC economies with GPP measures established. Finally, a proposal for training formulation in APEC region is defined according to common issues identified in the economies.

7.1 Description of approaches formulated by 18 APEC economies and proposals to encourage training for procurement officials

Information about courses, workshops, seminars, on-line courses and guiding tools on GPP conducted by APEC economies is presented in the following tables. They collect the description of the type of training sessions, institutions that organize trainings, topics covered in the seminars and proposals on training according to the progress of GPP initiative and the specific needs in each economy.

Tables have been elaborated for the 18 APEC economies with GPP measures implemented or in progress. Information about Brunei Darussalam; Papua New Guinea and Russia is not here included since no information has been reported and there was no information available about GPP measures in place.

Table 12. Information about training on GPP in Australia and recommendations

TRAINING TO ENCOURAGE GPP IN AUSTRALIA	
Type of training	Information about trainings is not published in the Australian governmental website on green public procurement[51]. These sites offer information, guidelines and resources to purchase environmental purchasing for public officers. Training is offered by the network ECO-Buy that launched the State Government Program in 2008-2009 (http://www.ecobuy.org.au/director/business/Associate.cfm). It provides state government entities with expertise; advice and support needed to meet their policy commitments in the area of sustainable procurement. This program incorporates capacity building via in-house workshops. So far, ECO-Buy has worked with 40 government departments.
Contents Summary	The website about Australian GPP policies publishes information about: • Government waste reduction and purchasing guidelines. • Whole of life policy considerations. • Environmental purchasing guide. • Environmental purchasing checklist. • Guidelines to develop a purchasing trial. • Success stories.
RECOMMENDATIONS FOR TRAINING IN AUSTRALIA	
Government should create training programs to ensure that public officers are properly trained to integrate green criteria into purchasing decisions. Since tools and guidelines are already available, the courses should address the following issues: • Communication and dissemination of documents and tools on GPP for governmental procurement. • Information about environmental labels and environmental criteria. • Practical considerations to select and integrate green criteria in public tenders and contracts. • Procedure to monitor GPP implementation. • Government can involve the ECO-Buy network in the development of governmental training program due to its expertise in the field of GPP in Australia.	

[51] http://www.environment.gov.au/sustainability/government/purchasing/policy.html and http://www.environment.gov.au/sustainability/government/purchasing/index.html

Table 13. Information about training on GPP in Canada and recommendations

TRAINING TO ENCOURAGE GPP IN CANADA	
Type of training	Two types of courses about GPP are organized by the government of Canada, a free on line course offered by the Canada School of Public Service and webinars hosted by Public Works and Government Services Canada. Free on-line course: the course is addressed to federal public servants. It was established in 2006 and extensively updated in 2011. The course is mandatory for functional specialists in most departments. Webinars: in 2011, a series of webinars were held in PWGSC to demonstrate the greening of 7 key goods and services: IT hardware, vehicles, office equipment, office supplies, furniture, professional services, and IT services. Frequency: On-line course: learners may take the course at their convenience. Once completed, the course content continues to be available for reference. Webinars: the webinars continue to be available and promoted to federal government employees. Attendees: On-line course: 19,000 participants since 2006. Webinars: Difficult to track participants, since they are still available.
Contents Summary	Free on-line course: The online course is broken down in 8 modules as follows: • 1- Basic concepts: background information about why we should buy environmentally preferable goods and services, what it means, and how it has been applied elsewhere. • 2-The policy: objectives, applications and implementation of the Policy on Green Procurement. • 3-Evaluating environmental performance claims: terms and claims that you are likely to encounter, and gives practical tips on assessing goods and services for environmental priority. • 4-The life cycle: the considerations to be made for each of the life cycle stages – planning, acquisition, use/maintenance, and disposal. • 5-Resources for buying green: green procurement related tools and resources. • 6-Practical considerations: additional factors you may encounter such as consideration of alternatives, working with suppliers and dealing with resistance, and it outlines some overall key success factors. • 7-Guidelines for greening specifications: guidelines to developing green specifications and criteria before making a purchase. • 8-Case Study: Putting it all together. Webinars • Identification of green criteria to look for in specific goods and services. • Determination of green goods and services. • Environmental considerations addressed through centralized procurement instruments of PWGSC. • What you can do to get the greenest goods and services.

TRAINING TO ENCOURAGE GPP IN CANADA	
	• Purchasing demos using PWGSC e-tools and resources.

RECOMMENDATIONS FOR TRAINING IN CANADA
Training on GPP in Canada covers a wide range of related policy topics. However, it should be further assessed the participation of public officers in workshops to identify their needs and their potential barriers to implement GPP policy in Canada. International approach of GPP could be addressed through a series of events in order to disseminate additional benefits for businesses. It is recommended to explore the integration in trainings the information about social issues included in public procurement that are addressed separately within the Government of Canada.

Table 14. Information about training on GPP in Chile and recommendations

TRAINING TO ENCOURAGE GPP IN CHILE	
Type of training	Chile government organizes courses and e-procurement modules where GPP policy is introduced. Trainings are mainly addressed to public procurers.
Contents Summary	Two modules on GPP focus on the following topics: • Sustainable Purchasing. • Energy Efficiency. Participants received information about criteria to be considered in sustainable procurement, the procedures to implement environmental requirements and bad practices in GPP by public sector.
RECOMMENDATIONS FOR TRAINING IN CHILE	
E-modules on GPP organized for officers in charge of public procurement should be extended in order to explore in detail specific issues of GPP policy in Chile. Seminars and workshop should be addressed to suppliers about meeting environmental requirements of products and services and accreditation procedures. Training on GPP should also provide tools for a sound performance monitoring on GPP policy and its impact on the Chilean market. The enhancement of GPP dissemination and the provision of capacities to stakeholders could be achieved through the establishment of collaboration programs with domestic organizations, public and private sector and universities. In addition, Chile participates in the Marrakech Process, which is a platform to launch GPP policy and engage private sector and those organizations that would strengthen training programs.	

Table 15. Information about training on GPP in China and recommendations

TRAINING TO ENCOURAGE GPP IN CHINA	
Type of training	The Government of China conducts trainings annually addressed to public officers. The aim of trainings is to improve teamwork, cohesion and optimize the work environment to heighten the competitiveness of procurement agencies[52]. Two types of capacity building sessions are offered to public procurement officers[53]: • Self-training of staff to implement GPP and raise environmental awareness. Outstanding staff meetings supplement trainings to exchange experiences and improve operational capacity. • External trainings delivered by experienced professionals in GPP policies in China aimed at advancing methods and strategies in sustainable practices in procurement. Training for suppliers is offered by the China Qualification Center, introducing an overview of GPP policy in China and environmental requirements of public procurement.
Contents Summary	Trainings cover operational issues for the implementation of GPP in China. So far, the Government has not standardized workshop's contents. Seminars are organized by different agencies, without an official program[54].
RECOMMENDATIONS FOR TRAINING IN CHINA	
Contents of training in China should be standardized and updated according to current environmental requirements. This would guarantee the quality and effectiveness of training sessions to all levels of public procurement. Courses on green procurement should increase environmental awareness of public officers. Social related issues on public purchasing and information about policies implemented overseas could be introduced in trainings in order to disseminate current trends on GPP. Programs addressed to industry should be reinforced to transfer capacity and knowledge to suppliers in order to be in compliance with Public Procurement Law.	

[52] Supp-Urb Project, 2011. *Driving force and barriers for sustainable public procurement of China*, Paper n. 15, Sustainable Public Procurement in Urban Administration in China, SWITCH-Asia Program, page 20.

[53] *Ibid.*

[54] Q., Yuhua and W., Conghu, 2011. *Issues and Challenges in Implementing China' Green Public Procurement Program*, Journal of Environmental Protection, vol. 2, page. 1041.

Table 16. Information about training on GPP in Hong Kong, China; and recommendations

TRAINING TO ENCOURAGE GPP IN HONG KONG, CHINA	
Type of training	Government organizes workshops/seminars addressed to officers responsible of public procurement. The objective of the seminars is to update the information about green specifications and review knowledge about policies on green purchasing in Hong Kong, China. Attendees will learn the benefits of green procurement and share experiences and good practices. In addition, the Government of Hong Kong, China; also provides talks to private sector and professionals to promote green procurement. Frequency: Seminars: at least once a year (started in 2011). Talks for professionals: about two times a year (ongoing). Attendees: Seminars: about 150 per training. Talks for professionals: around a hundred for each talk.
Contents Summary	Seminars: Three presentations were delivered in the seminar organized in 2011. Topics included in the session were the following: • Introduction to GPP, public procurement and GPP policy in Hong Kong, China. • Use of conformity assessment activities to assure the quality of goods: certifications and conformity. • Introduction of ENB Circular of Green Procurement in the Government. Talks for professionals: Information about green procurement in different sectors. The session included GPP policy in Hong Kong, China; and specific information about environmental impacts and green products for each sector.
RECOMMENDATIONS FOR TRAINING IN HONG KONG, CHINA	
Seminars program should be expanded to ensure that procurers acquire, besides information on GPP, the skills needed to integrate green specifications in public tenders. Additionally, the contents of sessions should include environmental benefits already achieved as a result of GPP policy in Hong Kong, China; and introduce the concept of sustainable public procurement as a global challenge to foster sustainable production and consumption. Talks on GPP addressed to private sectors should be enhanced in order to disseminate GPP policy and sustainable production patterns. Lack of availability of products was appointed as a barrier to GPP development. Workshops and specific courses on GPP and environmental criteria should provide professionals with tools and knowledge to tackle those barriers that are preventing companies from investing in sustainable technologies, eco-design, etc. Dissemination of win-win benefits for companies and government should be promoted in order to encourage industry in this regard.	

Table 17. Information about training on GPP in Indonesia and recommendations

TRAINING TO ENCOURAGE GPP IN INDONESIA	
Type of training	Capacity building sessions and workshops have been conducted by Indonesian government, but they are not organized regularly and participation has been low. According to survey of GPP in 2008[55], only 17% of public procurers have attended sustainable public procurement workshop. Trainings are usually held abroad and only related institutions had been invited.
Contents Summary	Training contents are currently not available.
RECOMMENDATIONS FOR TRAINING IN INDONESIA	
Trainings and capacity building in Indonesia should cover specific needs of public procurers, suppliers and stakeholders to overcome potential barriers that may arise in GPP policy implementation. It is noteworthy that Indonesian Government is starting to define a GPP policy and capacity building should also be addressed to policy makers and politicians to ensure their commitment. International institutions and forerunner economies in GPP could support Indonesian government at this stage to drive the definition of training programs. It could be achieved by means of workshops and meetings aimed at raising the understanding and expertise on GPP as a tool for sustainable development. In addition, seminars on how to apply GPP policy and the opportunities for industries should be conducted for public and private sector.	

[55] Sadikin, S., 2008. *Public Procurement Sustainability in Indonesia: Environmental, Social or Economics Tradeoffs*, 3rd International Public Procurement Conference Proceedings, 30 August 2008, page 603.

Table 18. Information about training on GPP in Japan and recommendations

TRAINING TO ENCOURAGE GPP IN JAPAN	
Type of training	Briefing sessions are carried out by Japanese Government in eight prefectures every year. Seminars cover information about "Law on Promoting Green Purchasing". To encourage the enforcement on green purchasing law by local public institutions, a workshop targeted to local procurers is held 3 times every year. The workshop aims to engage those public bodies that are not implementing GPP. Frequency: briefing session – once a year; workshop 3 times per year.
Contents Summary	The session shows the details of renewed basic policy (the participants are providers of eco-friendly goods and procurers in the state, other entities, and local government).
RECOMMENDATIONS FOR TRAINING IN JAPAN	
Briefing sessions and workshops should be standardized (in person or on-line course) in order to ensure procurer's awareness and knowledge about green purchasing. Lack of training has been identified as a barrier to GPP development in Japan. Contents of the program should further explore: • Introduction of the concept of green public procurement and sustainable public procurement, benefits and overseas initiatives. • GPP policy in Japan: "Law on Promoting Green Purchasing". • Life cycle considerations in green purchasing. • Resources and practical tools to implement GPP policy. • Guidelines for greening specifications: advice on developing green specifications and criteria before making a purchase. • Case Studies.	

Table 19. Information about training on GPP in Republic of Korea and recommendations

TRAINING TO ENCOURAGE GPP IN REPUBLIC OF KOREA	
Type of training	PPS Human Resources Development Center of Republic of Korea launched the "Green Purchasing Education Program" in August 2010. The aim of training is to provide procurement officers specific knowledge about green purchasing, certification policies and purchasing methods. Course also promotes the exchange of information and sharing experiences of integrating green criteria in purchasing. On site visit to a green industry is foreseen in the course program. Lecturers of "Green Purchasing Education Program" are internal professionals of PPS and specialists from external organizations related with green policies. Feedback from attendees was very positive. Most of participants were satisfied with the training. They expressed that the trainings were very useful to understand the roles of government in the green market and gain broader knowledge of specific procedure of green purchasing. Frequency: the course is held twice a year.
Contents Summary	The course covers the following topics: • Low carbon green growth led by green purchasing. • Public green purchasing on the job. • Understanding of green certification. • Understanding and designing of eco-friendly buildings. • Measures to improve energy efficiency in public buildings. • Visit green manufacturers.
RECOMMENDATIONS FOR TRAINING IN REPUBLIC OF KOREA	
Program course initiated in 2010 approaches domestic GPP policies. Trainings on GPP in Korea should be extended with information about GPP initiatives and other policy tools in other APEC economies with the aim of promoting GPP and exchanging information on best practices. Sustainable public procurement should be promoted by introducing this concept in trainings.	

Table 20. Information about training on GPP in Malaysia and recommendations

TRAINING TO ENCOURAGE GPP IN MALAYSIA	
Type of training	No courses.
Contents Summary	No training program.
RECOMMENDATIONS FOR TRAINING IN MALAYSIA	
GPP policy in Malaysia is under development and therefore tools related to green public procurement are not yet established. Green Purchasing Network in Malaysia (GPNM) and the organization that develops the Eco-labelling Scheme in the Econoy, SIRIM, should promote and encourage the Government to foster a GPP plan given the embryonic stage of the initiative in Malaysia. Organizations, like GPNM and SIRIM placed in Malaysia, should be able to raise government's and society's awareness of benefits of GPP through the organization of seminars and fairs.	

Table 21. Information about training on GPP in Mexico and recommendations

TRAINING TO ENCOURAGE GPP IN MEXICO	
Type of training	GPP policy is in progress in Mexico. The central Government has provided procurers guidance to integrate environmental considerations to apply in the procurement of stationery through guidelines. There is no specific information about seminars or workshops to qualify public officers for GPP. Seminars and workshops about GPP have been organized by PNUMA, within the context of Marrakech Process and regional initiatives to promote sustainable production and consumption.
Contents Summary	Guideline published by Mexican Government in 2010, "Guideline on Environmental Management System" covers topics on green procurement as follows: • Overview of international initiatives to promote GPP (OECD, Marrakech Process, etc.). • Current state of GPP in Mexico. • Environmental recommendations to purchase stationery (paper, cleaning products, pen and pencils, practices for greening procurement).
RECOMMENDATIONS FOR TRAINING IN MEXICO	
Training for procurers and industry should be conducted during the design stage of GPP policy. Contents should be aligned with the progress of the policy. Trainings for public procurers should explore: • Introduction of the concept of green public procurement and sustainable public procurement, benefits and overseas initiatives. • GPP policy in Mexico. • Life cycle considerations in green purchasing. • Resources and practical tools to implement a GPP policy. • Guidelines for greening specifications: advice on developing green specifications and criteria before making a purchase. • Case studies. The inclusion of social criteria in public purchasing (sustainable public procurement) should be disseminated to public officers through courses/workshops. Finally, talks to encourage companies to invest in cleaner production illustrating business opportunities at domestic and international level should be conducted.	

Table 22. Information about training on GPP in New Zealand and recommendations

TRAINING TO ENCOURAGE GPP IN NEW ZEALAND	
Type of training	Government procurement personnel receive training through the New Zealand Procurement Academy (NZPA) in partnership with the Victoria University Professional and Executive Development. Training options include study for an Advanced Diploma in Procurement from the Chartered Institute of Purchasing & Supply Australasia (CIPS). The collaboration with CIPS provides NZPA access to courses of CIPS that covers the topic of Green Purchasing Fundamentals and Frameworks and specific skills courses, comprising "Green Contracts and Tenders". Level 5 of the Advanced Diploma in includes sustainable procurement as an optional unit. This unit was launched in September 2009. Trainings are delivered by external procurement experts from consultancies and professors.
Contents Summary	GPP related topics in level 5 are outlined below: • Analyze the opportunities for sustainable procurement. • Policy on and sources of sustainability: green procurement, energy. • Efficiency, recycling, biodegradability, ethical procurement. • Mechanisms and EU/UK rules on enhancing access by SMEs and minority owned. • Businesses: splitting large contracts: geographically, by category; preference. • Schemes; outreach, meet the buyer, Internet, multilingual documentation. The optional unit of sustainable procurement comprehensively explore the following topics: 1. Defining and developing sustainable procurement (weighting 20%). 2. Operational implementation of sustainable procurement policy (weighting 20%). 3. Operating a sustainable procurement approach (weighting 30%). 4. Sustainable procurement challenges (weighting 30%). Further details of voluntary course on sustainable public procurement can be found at: http://www.cips.org/Documents/Study%20and%20qualify/Level%205%20unit%20content%20guide%20web.pdf.
RECOMMENDATIONS FOR TRAINING IN NEW ZEALAND	
Integration of key contents of the voluntary unit (to choose among 5 topics) into the studies of the NZPA. Regarding contents, according to Unit content guide, Level 5 provides theoretical and practical information about barriers to GPP implementation. Events should be organized to disseminate GPP initiative to industry and local governments in New Zealand. The Government should explore potential synergies with the eco-labelling system in the economy (Environmental choice New Zealand) to exchange information and promote public – private cooperation, through seminars, workshops and fairs.	

Table 23. Information about training on GPP in Peru and recommendations

TRAINING TO ENCOURAGE GPP IN PERU	
Type of training	No courses reported.
Contents Summary	No training program.
RECOMMENDATIONS FOR TRAINING IN PERU	
GPP policy in Peru is currently under review with the aim of incorporating sustainable measures to the preliminary initiative in Governmental department. Planning for the development of a GPP policy in Peru should foresee training programs and seminars for procurers and industry. Trainings should be updated according to the level of development of the policy. In Peru, as in other economies where GPP is not yet implemented, the purpose of training is double. On one hand, to train and provide procurers with skills needed for greening procurement. On the other, it should engage and encourage public procurers to implement GPP. Networks that promote GPP are not established in Peru. Government should lead the promotion of GPP in both, public and private sector in order to gain the objectives of sustainable development.	

Table 24. Information about training on GPP in the Philippines and recommendations

TRAINING TO ENCOURAGE GPP IN THE PHILIPPINES	
Type of training	No training courses.
Contents Summary	No training program.

RECOMMENDATIONS FOR TRAINING IN THE PHILIPPINES

The government of The Philippines undertakes the steps to establish GPP according to the legislation issued in 2004. The Philippines are facing several challenges to put into practice GPP, and training could help to overcome barriers to GPP development and promote the policy.

According to available information, the National Ecolabelling Program Board (NELPB) will offer training and guidance on GPP. The contents of this training should provide skills and information to public servants to include environmental and social requirements in public procurement.

Besides, trainings at this level of GPP development, dissemination events addressed to politicians should be conducted to gain political commitment.

Issues that training for procurers should explore are as follows:

- Introduction of the concept of green public procurement and sustainable public procurement and benefits and overseas initiatives.
- GPP policy in The Philippines.
- Life cycle considerations in green purchasing.
- Tools, resources and practical tools to implement GPP policy.
- Guidelines for Greening Specifications: guidelines to developing green specifications and criteria before making a purchase.
- Case studies.

The first topic should be emphasized in order to provide background information needed about certifications and sustainable practices.

Finally, trainings and guidance should be provided to local industry to provide technical information and capacity in order to ensure the availability of products demanded by public sector in the market.

Table 25. Information about training on GPP in Singapore and recommendations

TRAINING TO ENCOURAGE GPP IN SINGAPORE	
Type of training	No training courses reported.
Contents Summary	No training program.
RECOMMENDATIONS FOR TRAINING IN SINGAPORE	
The Government of Singapore has established different programs that imply the integration of environmental criteria in procurement, most of them related with the acquisition of energy efficiency technologies for offices and public buildings. However the Ministry of Finance of Singapore has no reported trainings addressed to public officers neither industry nor manufacturing industry. Public officers could gain knowledge and skills needed to improve the performance of those environmental policies that require the purchasing of environmentally preferable products. Capacity building sessions and workshops would stimulate procurers to integrate environmental concerns in all procurement activities. Topics of training would cover general concepts of GPP policy in Singapore, international policies on GPP. In relation to trainings addressed to public officers, they should compile and deliver the information on environmental programs and requirements in purchasing designated products. It should emphasize the integration of monitoring system to analyze the impact of the policy in Singapore, in terms of energy savings, environmental and economic benefits. Finally, trainings and guidance on technical information and capacity should be provided to local industry in order to ensure the availability of green products demanded by public sector in the market.	

Table 26. Information about training on GPP in Chinese Taipei and recommendations

TRAINING TO ENCOURAGE GPP IN CHINESE TAIPEI	
Type of training	Trainings to disseminate GPP law in Chinese Taipei have been designed and conducted by the Environmental Protection Administration (EPA). It delivers trainings since 2000; one year after of the promulgation of GPP law in Chinese Taipei. EPA has trained general, provincial and prefecture government agencies. EPA has also coordinated the promotion of GPP to local governments and, in 2002; it conducted trainings to government hospitals, schools and enterprises. In addition, the Government founded initially the trainings on Green Mark eco-label and green procurement to government and private sector which are offered by the Environment and Development, a non-profit organization. Finally, Green Purchasing Alliance in Chinese Taipei also offers trainings and courses.
Contents Summary	Training materials are not available. However EPA has created the "Green Living Information Platform" website where it can be found general description of GPP, specificities of GPP policy (law on GPP in Chinese Taipei, environmental criteria, designated products, reporting system), statistics and results of GPP and information about Eco-mark and procedures to submit a product to become Eco-Mark label qualified. Contents of trainings offered to industry by the Green Purchasing Alliance in Chinese Taipei are split in 4 themes: • Green consumption and green mark. • Government green procurement. • Private sector green purchasing. • Promotional skills.
RECOMMENDATIONS FOR TRAINING IN CHINESE TAIPEI	
In order to enhance opportunities for businesses that have already invested in clean technologies, international approach on GPP should be included in the contents of capacity building activities. Training contents should promote the effective integration of social requirements in purchasing goods and services (Type 3 of designated items).	

Table 27. Information about training on GPP in Thailand and recommendations

TRAINING TO ENCOURAGE GPP IN THAILAND	
Type of training	Training, workshops and seminars on GPP have been organized by the Pollution Control Department in the period of 2006-2012. Trainings were conducted for: • Governmental officers. • Manufacturers, retailers and service providers to promote GPP and introduce environmental requirements in public procurement. Frequency: Training: at least once a year Seminars (officers and manufacturers): around once a year Attendees: Training: 30 Seminars (officers and manufacturers): 300
Contents Summary	Training content: • GPP policy introduction, • Production list • How to use GPP directory and database Seminars aimed to provide knowledge and disseminate policy on GPP in Thailand. Example of contents disseminated in a workshop held in 2006 are: • Rationale behind the uptake of GPP initiative: principles, promotion of sustainable development and role of government. • GPP in Thailand: guidelines for application, selection of categories of products and environmental criteria. • Information for GPP development in governmental agencies: eco-labels, availability of products, database of green products. Pollution Control Department of Thai Government publishes the manual of green procurement. It contains references applicable to green government procurement, environmental criteria for purchasing goods and services and practices in procurement of environmentally preferable products.
RECOMMENDATIONS FOR TRAINING IN THAILAND	
The Government of Thailand has defined the strategic plan for GPP which has the objective to strengthen the knowledge of governmental agencies in charge of procurement and raise awareness of: • Public sector enterprises and agencies in government supervision. • Operators, manufacturers, service providers and suppliers. • Citizens. According to the feedback from officers, more efforts should be made to increase knowledge about the identification and verification of non-labeled products and the accomplishment of environmental criteria. To this end, seminars and workshops will be organized to encourage the implementation of GPP policy and green procurement. Seminars addressed to manufacturers and supply chain should emphasize the business opportunities provided by the domestic public market. It should describe overseas initiatives in GPP and introduce opportunities of trading in green products. In this sense, Government could collaborate with Thailand Green Purchasing Network to support both training public officers and Thai manufacturing industries to enhance green and sustainable production and potential opportunities for trade since lack of availability of green products has been selected as a barrier of GPP development in Thailand.	

Table 28. Information about training on GPP in the United States and recommendations

TRAINING TO ENCOURAGE GPP IN THE UNITED STATES	
Type of training	Several trainings and guidelines are available for public officers through websites of governmental departments involved in environmental programs and federal agencies to acquire green products. On-line training tools and resources are also available in: • Environment Protection Agency (http://www.epa.gov/epp). • Fedcenter.gov, the Federal government's home for comprehensive environmental stewardship and compliance assistance information. It provides a comprehensive list of on-line webinars and presentations. Some webinars include self-assessment after the finalization of presentation. There are also green purchasing courses available through the Federal Acquisition Institute and the Defense Acquisition University and Federal agencies have internal trainings websites, such as the U.S. General Services Administration's on-line. On-line courses are not compulsory for purchasing officers; however, in 2012 General Services Administration (GSA) Federal Acquisition Systems (FAS) required purchasing staff to take a suite of courses from the Federal Acquisition Institute. Among these courses, one focuses on purchasing green products through GSA's Multiple Award Schedules. Trainings addressed to suppliers are organized under the GSA Expo conference and exhibition held annually. Seminars are open to contractors and government employees. FAS meets contractors and FAS' Vendor Support Center web site (https://vsc.gsa.gov/) provides information about Federal green purchasing requirements and related news.
Contents Summary	The range of on-line resources and webinars covers a number of topics related to GPP implementation in the United States. They include general description about GPP policy (related environmental programs, designated categories and environmental criteria and web resources) and detailed information about categories, programs and contracting procedures.
RECOMMENDATIONS FOR TRAINING IN THE UNITED STATES	
GPP policy and training and capacity building is implemented in the USA mainly through hands-on tools, webinars and documents available on-line providing knowledge needed for compliance of green procurement requirement by executive orders, acts and environmental programs. Topics delivered could be expanded to provide information about sustainable public procurement. Trainings are focused on rules and procedures of domestic GPP. Issues of trainings could include information about GPP policies in place in other economies in order to inform businesses about new opportunities of trade in EGS.	

Table 29. Information about training on GPP in Viet Nam and recommendations

TRAINING TO ENCOURAGE GPP IN VIET NAM	
Type of training	No training courses.
Contents Summary	No training program.
RECOMMENDATIONS FOR TRAINING IN VIET NAM	
Vietnamese Government is defining the policy to implement GPP. Therefore, seminars at this stage should focus on the needs of public procurers, politicians and market according to its context.. Collaboration with other economies to exchange experience in GPP and with organizations, such as the Vietnamese Purchasing Network, should be explored by the Government. At this level of development, seminars should be conducted in order to promote benefits of GPP, including social benefits, as a tool to achieve green growth. Vietnamese market must gain technology capacity that would enable market to meet environmental requirements. To this end, benefits and opportunities for industries from changing towards a cleaner production should be disseminated in order to encourage companies to invest in sustainable manufacturing process.	

7.1.1 Conclusions

The level of development of GPP policies in APEC economies determines the formulation of training courses. The six economies that have not reported trainings on GPP are mainly those where the definition of the policy is still in progress. This is the case of Malaysia; Mexico; Peru; the Philippines; Singapore and Viet Nam.

Regarding the 12 APEC economies that have conducted trainings, most of these governments hold seminars and workshops to communicate GPP policy and benefits, whereas few economies organize specific courses addressed to public procurers. The organization of workshops provides the basis for GPP implementation; nevertheless, specific courses on GPP would ensure that procurers have gained the technical skills that guarantee the implementation of the policy properly, and therefore, its effectiveness. Table 30 summarizes information about type of training and target group in those economies with GPP measures put in place.

Table 30. Summary of trainings on GPP in APEC economies

Economy	Type of training					Target Group
	Workshop/ Seminars	Webinar	Courses		Web platform	
			On-line	In Person		
Australia					●	Public procurers
Canada		●	●			Public procurers
Chile		●				Public procurers
China	●					Public procurers/Suppliers
Hong Kong, China	●					Public procurers/Suppliers
Indonesia	●					Public procurers
Japan	●					Public procurers/Suppliers
Republic of Korea				●		Public procurers
Malaysia						-
Mexico						-
New Zealand				●		Public procurers
Peru						-
The Philippines						-
Singapore						-
Chinese Taipei	●				●	Public procurers/Suppliers
Thailand	●			●		Public procurers/Suppliers
The United States	●	●	●	●	●	Public procurers
	●	●	●	●	●	Suppliers
Viet Nam	-	-	-		-	-
Total Economies	8	4	3	5	4	-

Source: Own elaboration.

Concerning contents of workshops and courses provided in APEC economies, the following common issues have been identified:

- Trainings are based on domestic approach of GPP and do not provide information about international GPP initiatives. Description of overseas policies on GPP would help both, supplier and public sector, to explore opportunities of trade in green products and promote cleaner industry.
- Social requirements that may be integrated in public procurement are not introduced in trainings. The inclusion of information about social issues in workshops would promote the concept of SPP that would foster the transition from GPP to SPP.
- Lack of standardization of training contents in public agencies.
- Workshops and seminars should be conducted in the early stages of definition of the policy, mainly addressed to politicians and stakeholders. These trainings are aimed at gaining political commitment to GPP development and coordinating the process with the industry.
- Governments should collaborate with networks and non-profit organizations involved in the promotion of GPP to facilitate private-public cooperation. The collaboration with these organizations may provide skills, incentives and information to suppliers to foster the manufacturing of environmentally preferable products. In this way, markets could cover the demand for green products by the public sector.
- Technological capacity of suppliers should be strengthened in developing economies through international collaboration.
- Workshops and seminars on GPP should be extended into courses to ensure the effectiveness of the policy.

7.2 Proposal to encourage training on GPP in APEC region

This section provides guidelines and describes those elements to be considered when defining training such as the scope, target groups and methods. According to the identified issues, the contents of training addressed to public procurers in APEC region are suggested. It emphasizes the need to exchange information about GPP practices between APEC economies in order to search for new opportunities and improve the performance of GPP in APEC economies.

7.2.1 Training and stages of development of GPP policy

During GPP development, and although GPP policy is not yet implemented, it is recommended the organization of trainings since the early stages and throughout the entire process of GPP development. Objectives pursued by trainings, scope and target group would vary according to the stage of GPP process.

The procedure for GPP implementation defined by the Marrakech Process, which is composed by four steps, is taken as the standard process that may be adopted by any GPP process development. These four steps are: GPP project set up, assessment, policy definition and action plan and implementation. Type of trainings and contents depend on the level of development of GPP and target group, being adapted to the specificities and needs of each economy. Table 31 collects the objectives, target groups and scope of trainings in each phase of GPP development.

Fig. 13 illustrates the stages of GPP UNEP's and the recommendation of conducting trainings in each one.

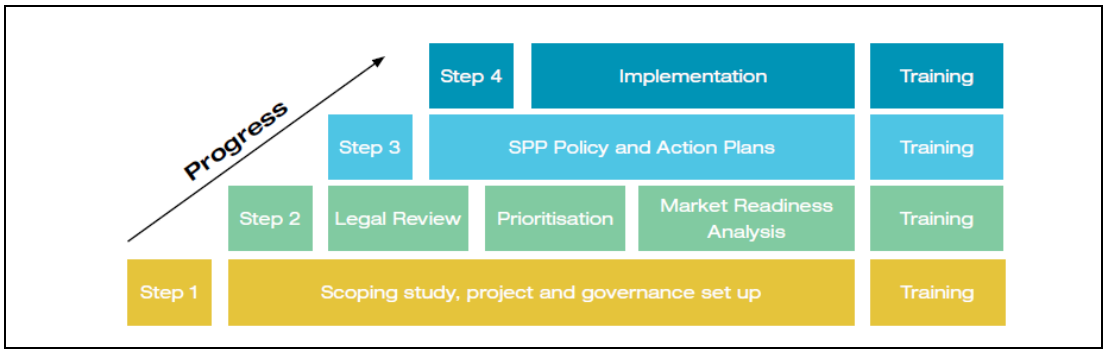


Fig. 13. GPP Process according to SPP approach published by UNEP in 2012.

Source: UNEP DTIE, 2012. Page 12.

Table 31. Description of training in each stage of development of GPP policy

Stage	Objective	Scope	Target group	Type/Method
Implementation	Ensure proper application of GPP development to achieve sustainable objectives goals of GPP.	GPP policy application and requirements for public officers. Capacity building session for suppliers. Best cases and results.	Public procurers and professionals from suppliers.	In person or on-line courses, webinars. Workshops to inform about updates and financial and environmental benefits.
Policy definition and action plan	Define GPP policy and action plan according to market readiness and priorities of government.	Explore the implications and results of different policies to implement GPP.	Public procurer managers, head of departments involved in environmental policies.	Workshop and round tables.
Assessment and review	Analysis of situation of the market, review of legislation and prioritize group of categories.	Review of legal framework and market readiness with procurers and industry.	Public procurers and officers from agencies involved in environmental policies and financial issues. Managers of companies suppliers to government.	Workshops with public officers and interviews with professionals from the supply chain.
GPP initiative set-up	Engage policy makers in order to ensure the development GPP measures.	To disseminate GPP policies and their benefits. Politicians' awareness raise of GPP policies.	Politicians, policy makers and head of public departments.	Meetings and workshops.

Source: Own elaboration.

In all stages of GPP development, the design of trainings should consider the following aspects:

- Standardize training materials and contents of workshops and courses.
- Update regularly training materials and contents.
- Include information about GPP at international level and how to integrate social requirements in training contents.
- Analyze the industry needs to provide them with the skills and knowledge for supplying green products.
- Develop trainings using different types of methods, combining on-line courses and in person, webinars and workshops.
- Seek collaboration with non-governmental third parties with the aim of promoting green procurement and organizing trainings addressed to suppliers.

7.2.2 Proposal of training contents on GPP for APEC region

APEC may foster the implementation of GPP through a platform that would support the development of initiatives to facilitate trade of green products and participation of foreign suppliers in green public procurement. It might contain basic information about GPP, best practices on GPP in other economies, information about environmental requirements in APEC economies and provide training materials.

The elaboration of common training materials would support economies to develop this policy within a more international approach. Below is presented a suggestion of contents for trainings targeted to both, supplier and public officers. Each economy is likely to adapt the contents of trainings according to their context and the technological development needs.

1. GPP initiative set up – raise awareness:
   - Sustainable development: main impacs of current economic development on the environment.
   - Definition of GPP as a tool to achieve sustainable development.
   - Case studies on GPP at international scale. Examples of financial and environmental benefits achieved.
2. Implementation
   - Introduction of the concept of green public procurement and sustainable public procurement as a tool for sustainable development.
   - Description of a GPP policy in the economy.
   - Life cycle considerations in green purchasing.
   - Tools and resources to implement GPP policy. Certification systems of green products.
   - Guidelines for greening specifications: advice on developing green specifications and criteria before making a purchase.
   - Monitoring, measuring and reporting on GPP progress.
   - International approach of GPP initiatives: similar policies to promote sustainable development. Trade issues and GPP and WTO rules.
   - Integration of social requirements in GPP.
   - Description of clean technologies to supply green products, eco-innovation, sustainable management etc. (targeted to industry sector).
   - Case studies.
   - On-site visit to manufacturers.
   - Sharing best practices and common issues with other public agencies.

8 Conclusions and recommendations

8.1 Conclusions of the workshop

The workshop on GPP was held in Jakarta (Indonesia) January 31 and February 1, 2013. Over the two-day workshop the following presentations were introduced:

- Presentations about green public procurement initiatives, benefits, obstacles to GPP development and recommendations by international organizations.
- Experiences, best cases and perspectives of GPP initiatives in APEC economies.
- Cost and benefits of GPP. Estimate of economic savings derived from the adoption of GPP policies.
- Presentation and conclusions of the present study on GPP in APEC economies: challenges and opportunities for green growth and trade.

Participants from APEC economies were interested in gathering relevant information to develop GPP or improve their current policies. The following common issues arose in the workshop:

- Attendees, and above all those representatives from economies without GPP policy in place or in early stage of, showed interest in identifying the first steps to follow to develop a GPP policy. They asked about how economies addressed the main challenges, how environmental criteria were set and the dialogue with stakeholders.
- It was commented on the need to strengthen the capacity of officers to adopt GPP in their daily activities. Capacity building sessions on GPP should also be addressed to supervisors and auditors to enable procurers the implementation of GPP. Professionalization of procurement is needed to ensure the proper progress of GPP initiative, and consequently, to achieve the goals and benefits expected from the development of this policy.
- Participants found interesting the examples presented in the workshop to estimate the benefits from GPP development. The cases gave specific

examples and numbers (environmental and economic benefits) that could stimulate governments the development of GPP policies. In addition, these examples could encourage industry the application of environmental considerations in their products and processes.

- The influence of GPP policy as a tool to shape the market towards a more sustainable development was showcased by forerunner economies in GPP as the United States. Nowadays the 60% of the paper produced in the USA is recycled, whereas 25 years ago the supply of recycled paper was complicated.

Before the end of the workshop, a round table session discussed the conclusions of the event. The main challenges and opportunities of GPP development in APEC economies, in relation to trade and green growth, were also identified and commented. Following, the relevant conclusions of the workshop are described:

- Challenges of GPP development in APEC economies are related to the definition of environmental criteria, the integration of GPP practice in the daily activities of procurers and officers, capacity building and the development of monitoring system.
- The co-existence of hundred of eco-labels is a challenge in terms of identification and selection of green products by policy makers and public procurers. The industry has to choose meeting the requirements of one or few labels or among a huge number of different environmental considerations set by APEC economies to produce one product.
- Differences among economies in the definition of environmental criteria and verification standards remain an important non tariff trade barrier that should be undertaken.
- These common challenges also present opportunities for trade in green products and cooperation regarding methods for estimating GPP benefits and the elaboration of environmental criteria databases. APEC can facilitate the exchange of best practices on green public procurement between developed and developing economies and promote future collaboration, capacity building and exchange of information regarding GPP.

- The database of environmental criteria defined in APEC economies is a useful tool to share information among APEC economies that would support the definition of strategies to promote trade in EGS.
- The collaboration of APEC with international working groups in GPP, as the Marrakech Task Force on Sustainable Procurement of the United Nations Environment Program, should be encouraged in order to facilitate capacity building, exchange information and best practices.
- The workshop encouraged the cooperation between APEC economies to exchange information and served as starting point to promote the collaboration in the promotion of GPP in the Asia-Pacific region.

8.2 Conclusions of the study

The following main conclusions and recommendation can be made from the elaboration of the study:

- GPP is implemented or in progress in most of APEC economies.
- However GPP policy is implemented in most APEC economies, policy tools, level of progress and environmental criteria differ widely between APEC economies.
- Supporting GPP components, such as training, definition of transition phases and incorporation of social issues or communication platforms, among others, play a key role in the performance of GPP measures.
- The divergence in GPP policy tools and environmental criteria make difficult the definition of strategic alliances and policies to trade in green products.
- Challenges of APEC economies result from various issues such as GPP implementation in each economy, the domestic approach in the definition of GPP policies, and the variety of definitions of green products according to trade rules (APEC and OECD list).

- Common barriers to GPP development and trade in EGS could be faced through cooperation among economies. Some recommended actions are defined below:
    - ✓ Analysis of common environmental criteria in green products.
    - ✓ Policies to encourage economies to sharing information about GPP policies by platforms.
    - ✓ To start the debate to define trade policies that promotes trade in EGS.
    - ✓ Elaboration of common monitoring system on GPP and communication of environmental and financial benefits.
    - ✓ Drive the change towards SPP.
    - ✓ Dissemination of reports and contents for training GPP and industries to invest in green products.

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Annex A – Questionnaires

Asia-Pacific
Economic Cooperation

Green Public Procurement in the Asia Pacific Region: Challenges and Opportunities for Green Growth and Trade.

Questionnaire

11th, July 2012

Asia-Pacific
Economic Cooperation

Introduction and Background

Green Public Procurement can be defined as *the purchase of any product or services that result in a lesser environmental impact.* In order to implement GPP practice and select the lesser environmental impact product or service, a list of products and criteria needs to be defined by a public authority. In this way, the economies *are accelerating the progress towards a "green economy by promoting trade and investment in environmental goods and services",* following the commitments of the APEC Yokohama Economic Leader's Declaration (2010).

In this framework APEC is currently developing the project: **"Green Public Procurement in the Asia Pacific Region: Challenges and Opportunities for Green Growth and Trade"**. The project aims at developing a study about key environmental criteria for stimulating public purchasing in APEC economies identifying, describing and analyzing the experiences, strategies, challenges and opportunities of green public procurement (GPP) in APEC economies.

To ensure a comprehensive analysis of existing framework policies and programs to introduce GPP in APEC economies, we would kindly ask you to fill this questionnaire to describe the framework policy, current initiatives, organisms involved in GPP and sectors and products where environmental criteria are applied in your economy.

You are kindly requested to fill the questionnaire before the **31th** of July 2012.

Contacts

You can also ask for further information to the following address:

E-mail: anna.gimenez@amphos21.com

Contact person: **Anna Giménez-Pujol**

Asia-Pacific Economic Cooperation

1. Contact Details

Name:
Position:
Organization/Department:
APEC Member Economy:
Phone:
Fax:
E-mail:
Web:

2. Framework Policies

2.1. Please select if there is any Green Public Procurement (hereafter GPP) policy/framework legislation or program implemented in your economy?

☐ Legislation ☐ Program

☐ Policy ☐ Plan

☐ Strategy ☐ Guidelines

☐ No, please comment if there is any other GPP related initiative developed or planned_____
_____
_____
_____
_____

Please describe below the policy / framework / legislation / strategy / program /plan briefly. *In addition, please send us by e-mail (anna.gimenez@amphos21.com) reports or guidelines in pdf or word file and indicate web links with relevant information.*

_____
_____
_____
_____
_____

2.2. Please, besides the organisms' responsible to develop GPP policy or legal framework to foster the implementation of GPP, is there any stakeholder with relevant information on GPP in your economy (trade unions, experts and other organizations)? Please indicate the contact details, if available.

Name	**Organization/Public Authority**	**Contact details (e-mail/phone)**

2.3. Please, indicate the references of guidelines or reports about the development, progress or impacts of the implementation of GPP in your economy. In addition, *please send us by e-mail (anna.gimenez@amphos21.com) reports or guidelines in pdf or word file and indicate web links with relevant information.*

_____
_____
_____
_____
_____
_____

2.4. Please select the range of the **yearly** expenditure of **public procurement** in your economy (in United States Dollars). *Please note that 1 Billion is equivalent to 1.000 million (English billion; short scale).*

- ☐ 0 -500.000 US$
- ☐ 500.000 US$ - 1.000.000 US$ (1 M)
- ☐ 1 M US$ - 500 M US$
- ☐ 500 M US$ - 1.000 M US$ (1 Billion)
- ☐ 1Billion US$– 500 Billion US$
- ☐ 500 Billion US$ - 1.000 Billion (1 Trillion)
- ☐ > 1 Trillion

Please indicate roughly the annual expenditure of public procurement, if available (in US$) and the percentage of public procurement in relation to GDP.

_____

2.5. Please select the range of the **yearly** expenditure of **GPP implementation** in your economy (in United States Dollars). *Please note that 1 Billion is equivalent to 1.000 million (English billion; short scale).*

- ☐ 0 -100.000 US$
- ☐ 100.000 US$ - 250.000 US$
- ☐ 250.000 US$ - 500.000 US$
- ☐ 500.000 US$ - 750.000 US$
- ☐ 750.000 US$ - 1.000.000 US$ (1 M)
- ☐ 1 M – 500 M US$
- ☐ 500 M US$ - 1.000 M US$ (1 Billion)
- ☐ > 1 Billion

Please indicate roughly the annual expenditure of green public procurement, if available (in US $) and the percentage of total public procurement.

_____

_____

2.6. Could you identify the main barriers of development of GPP policies/framework legislation/strategies or initiatives in your economy? (*You can choose more than one answer).*

☐ Lack of training for public procurement officers

☐ Lack of information/knowledge about financial benefits of GPP

☐ Lack of information /knowledge of environmental benefits of GPP

☐ Lack of financial resources

☐ Lack of legal framework to promote the use of environmental criteria in procurement decisions

☐ Lack of products in the market that meet environmental criteria defined

☐ Omission of green public procurement on the agenda or strategy of the government

☐ Others, please state_____

2.7. Please, state if a capacity building or training program for officers (public employees) or suppliers have been elaborated and implemented in your economy

If so, Please describe briefly below the program. In addition, *please send us by e-mail (anna.gimenez@amphos21.com) reports or guidelines in pdf or word file and indicate web links with relevant information.*

_____
_____
_____
_____
_____
_____
_____
_____
_____

3. Green Growth and Trade

3.1. Green Public Procurement has become an important objective in the framework of Green Growth Strategies. Are there initiatives in your economy regarding this issue?

☐ Yes, please indicate these initiatives _____
_____
_____
_____
_____

☐ No

3.2. Do you think that GPP could contribute to the promotion of trade?

☐ Yes, please describe how GPP could contribute to the promotion of trade
_____
_____
_____
_____

☐ No

4. Sectors / Categories

4.1. Please indicate in which of the following sectors/categories GPP have been implemented in your economy (You can choose more than one answer).

☐ Construction, maintenance, and renovation of public buildings

☐ Office cleaning

☐ Office products with energy efficiency

☐ Office furniture

☐ Office supplies

☐ Transport

☐ Paper

☐ Events organization

☐ Others, please state_____

4.2. Please indicate the contact details (person and organism) of any relevant stakeholder (associations, experts, etc.) involved in GPP implementation in the sectors/categories selected.

_____
_____
_____
_____
_____

4.3. Please fill the information available for each sector/category where GPP is implemented.

Sector / Category	Products / Services	Year of adoption	Timeframe implementation	Environmental criteria established (Yes/No)
Construction, maintenance, and renovation of public buildings	Building Materials			
	Water			
	Cooling & Heating systems			
	Energy			
	State others:			
Office products with energy efficiency	Printers			
	Photocopiers			
	Monitors & Screens			
	Light bulbs / Light tubs			
	PCs and laptops			
	Fridges			
	Water heaters/coolers/dispensers			
	Projectors			
	State others:			
Office supplies	Ink & Tone cartridges			
	Pencils & Pens			
	Standard Batteries			
	State others:			
Paper	Paper			
	State others:			
Office cleaning	Office Cleaning services			
	Waste management services			
	State others:			
Office furniture	Desks / bookcases			
	Chairs			
	State others:			

Sector / Category	Products / Services	Year of adoption	Timeframe implementation	Environmental criteria established (Yes/No)
Transport	Official vehicles (light weight cars - <2,5 Tn)			
	Medium weight cars			
	State others:			
Events organization	Hotels			
	Food/Coffee Catering			
	Dissemination materials			
	Passengers transport			
	State others:			

5. Best Cases

5.1. Please describe below if there is any example that could be selected as a best example of GPP in your economy, and state why.
Please indicate the contact details and organism of person in charge of this initiative.

_____
_____
_____
_____
_____
_____
_____
_____
_____

Please add comments as needed

To extend the information provided, we would kindly ask you to fill a second questionnaire, more focused on specific sectors / categories and best cases, according to the information received, during the following weeks.

Thank you very much for your collaboration!

www.apec.org

Annex B – Factsheets of GPP policies in 18 APEC member economies

Annex B – Factsheets of GPP policies in 18 APEC member economies

AUSTRALIA

CANADA

CHILE

CHINA

HONG KONG, CHINA

INDONESIA

JAPAN

REPUBLIC OF KOREA

MALAYSIA

MEXICO

NEW ZEALAND

PERU

THE PHILIPPINES

SINGAPORE

CHINESE TAIPEI

THAILAND

THE UNITED STATES OF AMERICA

VIET NAM

Green public procurement policy factsheet

AUSTRALIA

Green public procurement policy in Australia

Measures developed: Policy, guidelines and strategies.	**Year:** 1998-2003

Description

The Commonwealth Government of Australia has tackled green purchasing from different public competences and through various tools. Main milestones are briefly described below:

- The Commonwealth Procurement Guidelines were first launched by the Government in March 1998 with the aim of allowing for Government agencies to achieve best practice procurement through value for money on a basis of whole-of-life costing. Government policies, such as environmental were a part of the framework within which agencies need to achieve Value for Money.
- In 2007, the Australian Procurement and Construction Council (APCC) developed the Australian and New Zealand Government Framework for Sustainable Procurement, which provided a set of principles to guide the Australian Commonwealth, State and Territory Governments and the New Zealand Governments in the integration of sustainability principles into procurement decisions. The key principles of the framework consist of:
    - Avoiding unnecessary consumption;
    - Selecting products and services which have lower environmental impacts across their life cycle;
    - Fostering a viable market for sustainable products;
    - Support suppliers implementing social and ethical principles.
- The Environmental Purchasing Guide and Checklists were deeply revised in 2002-2003 to provide voluntary guidance to purchasers in the Australian Government regarding the consideration of relevant energy and environmental issues in procurement decision making.
- The environmental purchasing checklists cover a range of key goods and services procured by the Australian Government including: paper and cardboard, packaging, office equipment, office equipment consumables, refrigerators, dishwashers, desk lighting, recycled products, building management services, waste management services, cleaning services and printing services.
- Recently, the Commonwealth Procurement Rules (June 2012) have replaced the Commonwealth Procurement Guidelines issued in 2008. The CPGs are now rules and the value for money has been reworded so as to emphasize that other factors such as environmental sustainability have to be considered besides the price of the goods and services when assessing value for money.
- Besides, guidance and good practices on procurement connected policies have been issued by Finance Department, i.e.: Energy Efficiency in Government Operations, Domestic Packaging Covenant, Waste Policy, and Australian Government ICT Sustainability Plan (2010-2015).

- Policies for greening of government have also been implemented. Australian Government agencies are required by the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) to include information about their performance against Ecologically Sustainable Development (ESD) principles in their annual reports. In this context, the implementation of an Environmental management System (EMS) and the incorporation of environmental purchasing practices are a common step taken to contribute to the protection of the environment.

Categories

Within the voluntary guidance initiative, the Commonwealth Government of Australia elaborated criteria checklists for 15 groups of products. The checklists provide information on key environmental performance criteria and model tender specification to purchasers.

Besides criteria checklists covering a range of goods and services, criteria checklists have been developed regarding recycled products and packaging. These checklists cover a range of different products and services which can be either covered or not covered by other checklists, e.g. building products, furniture, office products and paper products.

The following table collects those categories and products where environmental criteria are established in Australia that are included in the database of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Water
	Cooling and Heating systems
	Energy
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and screens
	Light bulbs/ Light tubs
	PCs and laptops
	Fridges
Office supplies	Ink and toner cartridges
Office Paper	Paper
Office cleaning	Office cleaning services
	Waste management services

Progress of policy development and impacts

Reporting obligations under the EPBC Act require that Australian Government agencies include information about their performance against Ecologically Sustainable Development (ESD) principles, including green procurement, in their annual reports. The annual reports must:

- Report how the agency's activities are in line with the principles of Ecologically Sustainable Development (ESD).
- Identify how their departmental outcomes contributed to ESD.
- Document the agency's impacts upon the environment and measures taken to minimize those impacts.
- Identify the review mechanisms in place to review and increase the measures the agency takes to minimize its impact upon the environment.

Reporting Guidelines have been issued to assist Commonwealth agencies. Sets of generic indicators to assist agencies with on-going monitoring of their ESD and environmental performance have also been provided. A state of the environment report for Australia is prepared every five years.

However, the assessment on sustainable government procurement undertaken in 2009 identified a lack of consistency between monitoring and reporting approaches from different agencies and jurisdictions. The future homogenization of criteria between agencies and jurisdictions is considered to improve the sustainability of government procurement.

Furthermore, during the development of the present assessment, a certain lack of clarity on competent bodies, obligatory and voluntary requirements and existing guidance and tools has been identified which should be addressed in order to avoid the duplication of efforts and consolidate sustainable procurement policies in Australia.

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Green public procurement policy factsheet

CANADA

Green public procurement policy in Canada

Measures developed: Policy, strategy and guidelines.

Year: April 2006

Description

Green public procurement policy in the Canadian federal government was implemented in 2006 through the "Canada Policy on Green Procurement". Its objective is to advance in the protection of the environment and support sustainable development by integrating environmental performance considerations into the procurement decision-making process. According to this policy, procurement should follow the principle of "best value for money" that would include the consideration of environmental impacts of the products and services during the acquisition, use and disposal with a life cycle approach.

The Canadian policy on green procurement appointed the Public Works and Government Services to be the responsible authority to define the guidelines, standards, directives and training necessary for the fulfillment of GPP policy. Moreover this department is in charge for the development of performance measures for planning and reporting on green procurement, supporting the other departments in the implementation of the measures and the evaluation of the effectiveness of the policy. Environment Canada, Natural Resources Canada and Treasury Board of Canada Secretariat support Public Works and Government Services Canada in implementing the policy.

In 2010, green public procurement was included into the Federal Sustainable Development Strategy (FSDS), in accordance with the Federal Sustainable Development Act enacted in 2008. The FSDS describes the government activities to achieve the sustainable targets of Canada which is revised every three years by the Parliament. The targets 8.10 and 8.11 of FSDS related to green procurement are the described below:

> **Target 8.10: Establishing specific, measurable, achievable, relevant and time-bound (SMART) Green Procurement Targets:** *As of April 1, 2011, each department will establish at least 3 SMART green procurement targets to reduce environmental impacts.*
>
> **Target 8.11: Setting green Procurement Management Framework Targets:** *As of April 1, 2011, each department will establish SMART targets for training, employee performance evaluations, and management processes and controls, as they pertain to green procurement decision-making.*
>
> *For both targets, guidelines to give officers guidance on how to determine and meet the goals set are available.*

Since 2006, fundamental tools have been developed to support the policy, such as a mechanism for monitoring and reporting, free online training for federal employees, web content, guidelines for integrating environmental considerations into procurement management frameworks, guidelines for greening services procurement, guidelines on green procurement implementation, target-setting and reporting, green procurement plans and step-by-step guides. Most of these tools are available on either the website of the Office of Greening Government Operations

(http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/indexeng.html) or the website of the Green Procurement Team (http://buyandsell.gc.ca/green). Some tools are only posted to the Government of Canada's intranet website.

Apart from this guidance developed for officers a webpage to help suppliers to accomplish environmental requirements in purchasing goods or services was created (https://buyandsell.gc.ca/initiatives-and-programs/green-procurement).

Categories

The Government of Canada establishes government-wide procurement instruments for commonly procured goods and services. These instruments are continually being renewed and officials seek to include increasingly stringent environmental considerations in each renewal through a green procurement planning process. The environmental considerations are publically available via green procurement plan scorecards (https://buyandsell.gc.ca/initiatives-and-programs/green-procurement/sell-green/green-scorecards).

Where no centralized instrument exists, officials are also encouraged to include environmental considerations in consultation with available tools and resources.

The following table collects the categories and products where environmental criteria are established in the federal Government of G50Canada, that are included in the database of products and categories of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Office Building in general – meet the Green Building Council's Leadership in Energy and Environmental Design (LEED - Canada) Gold level.
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and Screens
	PCs and laptops
	Projectors
Office supplies	Ink and Tone cartridges
	Pencils and Pens
Office paper	Paper
Office cleaning	Waste management services
Office furniture	Desks / bookcases
	Chairs
Transport	Official vehicles (light weight cars ≤2,5 Tn)
Events organization	Hotels
	Food/Coffee catering
	Passengers transport (car rental)

Progress of policy development and impacts

Yearly the Canadian government spends in public procurement around 16 US $ Billion. In 2008 public procurement of Canada accounted for 12% of GDP[1].

For the 2012-13 fiscal year, 71% of departments (representing over 90% of full time equivalent employees) reported on green procurement in their departmental Reports on Plans and Priorities.[2]

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[1] OECD, Government at glance 2011. Public procurement market

[2] Reported by Canadian CTI contact

Green public procurement policy factsheet

CHILE

Green public procurement policy in Chile

Measures developed: Plan, strategy and guidelines.	**Year:** 2009

Description

ChileCompra, the Department in the charge of public procurement in Chile, has defined the promotion of a more sustainable market as one of its strategic objectives. To achieve this goal, ChileCompra coordinates the elaboration of a Sustainable Public Procurement Policy. To this end, the steering committee in sustainable procurement was established. The committee is composed by private and public sector, universities and NGOs.

One of the first policies addressed to reduce the environmental impact of the government through public procurement was the "Energy Efficiency Procurement Program". This program aimed to drive Chilean public purchasing towards more efficiency products available in the market. A guideline on procurement of energy efficiency products defining the recommended green standards on energy related products were carried out in 2008 as guidance for the government.

The policy on Sustainable Public Procurement has implemented different actions to disseminate the sustainable procurement concept and benefits in Chile. The actions or initiatives carried out so far are:

- Development of the "comprassustentables.cl" website, to disseminate the concept of sustainable procurement in Chile, with key information, news and events.
- Publication of "Directivas de Compras" which are instructions for the Chilean Departments and public organizations attached to Law n. 19.886 (2003) about administration contracts for suppliers and provision of services. The following are the instructions approved regarding sustainable public procurement:
  - ✓ Directiva de Compras Nº 9 (2008) for the adoption of energy efficiency criteria for the provision of goods and services.
  - ✓ Directiva de Compras N°13 (2011) for the execution of sustainable contracts in the Chilean "Public Market".
- Studies and diagnosis on the capability of the market and procurers to adopt environmental requirements have been carried out.
- The regulations of the Law n. 19.886 allowed the inclusion of environmental and social responsible considerations in the evaluation of tenders.

Categories

The following table collects the categories and products where environmental criteria are established in Chile, that are considered in the database of products and categories of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Building materials
	Cooling and Heating systems
	Energy
Office products with energy efficiency	Printers
	Monitors and Screens
	Light bulbs / Light tubs
	PCs and laptops
	Fridges
Office supplies	Products are not specified under this category
Office paper	Paper
Office cleaning	Office cleaning services
Office furniture	Products are not specified under this category

Progress of policy development and impacts

The target of 15% in sustainable public purchasing in 2012 was set in the Sustainable Public Procurement Policy of Chile. Since the adoption of environmental criteria in public procurement in 2009, the percentage of GPP on total public procurement has increased annually as follows:

Year	April 2009	April 2010	April 2011	April 2012
%	2,7	5,2	10,5	28,5

Source: Loyola, C. (2012), Compras Sustentables en el Mercado Público[3]

Currently "ChileCompra" is executing the second stage of the development of the policy, with the extension of criteria to social responsibility consideration in decision making purchasing. The new policy on "Social Responsibility of Public Procurement"; from sustainable to social responsibility was published in March 2012.

[3] Available in: http://www.comprassustentables.cl/index.php?option=com_phocadownload&view=category&id=2&Itemid=2

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Green public procurement policy factsheet

CHINA

Green public procurement policy in China

Measures developed: Legislation, policy, guidelines and programs**.**	**Year: 1990**

Description

GPP policy started in China in the 1990s. Government Procurement Law and the Clean Production Law of the People's Republic of China are the center pieces of green procurement initiative. The development of Chinese policy involved three main stages as follows:

1. The embryonic stage (1993-2004).
2. The development stage (2004-2007).
3. The comprehensive development stage (2007 – present).

At the end of the first stage, The Government Procurement law was enacted and implemented. Since 2004, the protection of environment played an important role in the activities of the Government; emphasizing people´s environmental responsibility and sustainable development.

The Ministry of Finance of People's Republic of China has published procurement's policy to promote energy conservation and environmental protection in other relevant departments and worked out two lists of environmental designated products: (1) "The Governmental Procurement List for Energy Efficient Products" and (2) "The Governmental Procurement List for Environmental labeling products". Additionally, during the third stage, China has made an important effort in order to meet the requirement of The World Trade Organization (WTO)'s Agreement on Government Procurement. In this stage China enacted various laws to promote further green public procurement.

Regarding tools and guidelines, different GGP initiatives were developed by China. The following ones are some examples:

- ✓ The purchasing list of China, which includes different kind of certification in several areas, regarding quality, energy efficiency, energy conservation, water conservation, environment, etc.
- ✓ Life cycle costing in GGP focuses on parameters as control of total cost, transparency of operational cost and improves awareness /performance of the supply chain.
- ✓ Environmental system, which officially turns several ISO standards into Recommendation Standards as GB/T24000 – TSO14000.

According information provided by The Ministry of Finance about training programs, the central and local government holds annually training programs for staff in the procurement agent. With the support of institutions for the green governmental procurement, such as China Quality Certification Center, central and local government have held a training program for suppliers in which they introduced the requirements of governmental procurement and help the suppliers to get involved in green governmental procurement.

Categories

The following table collects the categories and products, where environmental criteria are established in China, that are included in the database of products and categories of this study. All criteria can be found in this website, (http://www.ccgp.gov.cn).

Categories	Products
Construction, maintenance, and renovation of public buildings	Water
	Building materials
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and Screens
	Light bulbs/light tubs
	PCs and laptops
	Fridges
	Water heaters/coolers/dispensers
	Projectors
Office supplies	Ink and Tone cartridges
	Standard batteries
Office paper	Paper
Office furniture	Desks/ bookcases
	Chairs
Transport	Official vehicles (light weight cars <2,5Tn)
	Medium weight cars

It is worth mentioning that up to the second half of 2012, the “Governmental Procurement List for Energy Efficient Products” has concluded with more than 50 categories and over 45,000 products, and “Governmental Procurement List for Environmental labeling products” has included more than 60 categories and over 19,000 products.

Progress of policy development and impacts

The expenses of public procurement in Green products were165.04 billion in 2011, accounting for 14% of total governmental procurement. On the other hand, green public purchasing related to energy conservation and environmental protection products have separately reached 82% and 60% respectively.

Despite implementation in GPP as well as economic growth in green public purchasing, China needs to overcome some obstacles as the lack of information/knowledge about financial and environmental benefits of GPP.

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Green public procurement policy factsheet

HONG KONG, CHINA

Green public procurement policy in Hong Kong, China

Measures developed: Policy, strategy, program, plan, guidelines.

Year: 2000

Description

Environmental criteria in public purchasing were implemented in 2000 in Hong Kong, China. Public Procurement is managed by the Government Logistics Department (GLD). Since then, the government has defined green specifications for products purchased by the government. Nowadays, the number of products included in the Government procurement list with green specifications has been expanded to 103 items by 17 categories. The environmental criteria are available in the website of Environmental Protection Department.

To guide the Departments in green purchasing of goods, a circular on green procurement by the government was issued in 2011. In addition, the adoption of environmental criteria in projects is also promoted by the government through the guidelines "Encouraging the Use of Recycled and other Green Materials in Public Works Projects".

Two seminars for the dissemination and sharing experiences of green purchasing practices organized by the Environmental Protection Department were held in 2011. 150 attendees responsible for procurement from government department participated in the seminars.

Categories

In 2010, the Government of Hong Kong, China, had already assigned 17 categories of products for Green Public Procurement.

The following table collects the categories and products where environmental criteria are established in Hong Kong, China, which are included in the database of products and categories of this study:

Categories	Products	
Office products with energy efficiency	Printers	PCs and laptops
	Photocopiers	Water
	Monitor and Screens	Fridges
	Light bulbs / Light tubs	Projectors
Office supplies	Ink and Tone cartridges	Pencils and Pens
	Standard batteries	
Office paper	Paper	
Office furniture	Bookcases	Chairs

Progress of policy development and impacts

The number of products with environmental considerations in purchasing has been increased from 31 product categories defined in the first specifications to 33 in 2006. In 2010, after a consultancy on green specifications the number of green products increased until 103 products, split in 17 categories.

The Government bureaux and departments are required to report to the Environmental Protection Department (EPD) their green procurement situation of the last calendar year by filling in a standard proforma attached. A circular on GPP was issued in 2011 to all governmental agencies.

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Green public procurement policy factsheet

INDONESIA

Green public procurement policy in Indonesia

Measures developed: Strategies and policy. | **Year:** 2010

Description

The concept of Green Public Procurement has been entered in the article 105 of Indonesian Presidential Decree 54/2010 on Governmental Goods/Services Procurement. The article 105 points out that:

- The Environment Friendly Concept comprises a process of complying with the needs for Goods/Services, as well as minimizes the impact on environmental damage.
- The Environment Friendly Concept may be applied in the Selection Document in the form of specific requirements in relation with the utilization of natural resources.

In order to ensure the success of GPP in Indonesia, the Government has based its strategy on an understanding of purchasing green products, as well as the integration of knowledge, skills and communication of good behaviors in the daily life to a new integrated process.

Concerning eco-labels, Indonesia implemented a Type-I eco-labeling program. It has a trademark-registered logo based on pre-set criteria and is third-party certified. This measure makes these logos, labeled products and services easy for consumers to recognize.

In addition, Indonesia is aware about problems of unsustainable and illegal practices in exports between economies. Because of these kinds of difficulties, additional targeted measures, like dialogues between the USA and Indonesia, were established in order to combat illegal logging and illegal trade in endangered species.

Categories

According to the information provided Indonesia has environmental considerations, but there is no specific information about how they are implemented.

Progress of policy development and impacts

So far, some initiatives have been implemented. The following are some examples:

- In the city of Yogyakarta, Indonesia, the mayor inquired to have an energy-saving bulb for street light. Consequently, the procurement unit procured energy safe bulb and the result was electricity bill savings as well as reductions in CO_2 emission.
- In order to raise awareness of environmental concerns and eco-products, the Sixth Eco-products International Fair (EPIF) was held in Jakarta, Indonesia, in March 2010. The fair plays a central role in disseminating information on eco-products, eco-services, eco-technology, and eco-business available in the Asia-Pacific region.

- The Resource Efficient and Cleaner Production (RECP) project was launched in June 2012, by the United Nations Industrial Development Organization (UNIDO). It aims to achieve cleaner and more resource-efficient industrial production methods in Indonesia's metal products, chemicals, food, beverage sectors and selected industrial zones. The project supports the creation of an Indonesian Network for Resource Efficient and Cleaner Production (INRECP).

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Green public procurement policy factsheet

JAPAN

Green public procurement policy in Japan

Measures developed: Legislation, policy and guidelines.	**Year:** 1992

Description

The Japanese Government took the initiative to promote Green Purchasing once the Rio Declaration on Environment and Developed was promulgated. Thereafter, the Government introduced the Green Purchasing legislation to address the issues highlighted in the Rio Declaration.

Since the beginning of the development on Green Public Procurement by the Government of Japan, the following results have been reached:

- In 1994, Japanese Government reviewed an Action Plan for Greening Government Operations for encouraging all administrations to buy “greener“ products.
- In order to promote the green purchasing among consumers, businesses and governmental organizations, in 1996 the Green Purchasing Network (GPN) was created by the initiative of the Environment Agency.
- In 2000, the government launched the Law on Concerning the Promotion of Procurement of Eco-friendly Goods and Services (known as the Law on Promoting Green Purchasing), which came into effect on April 2001. This Law established the compulsory implementation of green procurement for government institutions and the basic policy on Promoting Green Purchasing criteria.
- A committee to review annually and re-asses the criteria for green purchasing has been established.
- It has been created an integrated information system that enables the sharing of information between the public and the private sector, on the selection of goods and services designated for green purchasing, green criteria for goods and services, such as public construction projects and building managements.
- The Green Public Procurement has been included in the framework of Green Growth Strategies through the “Basic Plan for Establishing the Recycling-Based Society”.
- Annually, the government carry out briefing sessions of “Law on Promoting Green Purchasing” to show the details of renewed basic policy, eco-friendly goods and procurers. Moreover, about 3 times every year, there are held workshops in order to support procurers in local governments that are not currently engaged in green purchasing.

Categories

Japan takes into account 20 categories to indicate the criteria for Green Public Procurement. All criteria can be found in this website: http://www.env.go.jp/en/laws/policy/green/index.html The following table collects the categories and products where environmental criteria are established in Japan that are included in the database of this study.

Categories	Products
Construction, maintenance, and renovation of public buildings	Building materials
	Cooling and heating systems
Office products with energy efficiency	Printers
	Photocopiers
	Light bulbs/Light tubs
	PCs and laptops
	Fridges
	Water heaters/coolers/dispensers
	Projectors
Office supplies	Ink and Tone cartridges
	Pencils and pens
	Standard batteries
Office paper	Paper
Office cleaning	Office cleaning services
Office furniture	Desk/bookcases
	Chairs
Transport	Official vehicles (light weight cars ≤ 2,5 Tn)
	Medium weight cars

Progress of policy development and impacts

From 2000 to 2003, after approval the Law on Green Purchasing, the CO_2 emissions were reduced in 45.859 tn[4].

In 2010, the GPN of Japan was formed by 2.669 members (2.190 businesses, 228 local authorities and 251 NGOs).

Currently, Japan has already designated 20 sectors with more than 261 procurement items. Around 90% of central government agencies have already implemented green procurement policies. The environmental criteria set in the Green Purchasing Law are exceeded by the criteria for Eco-marks. For this reason, Eco-mark label have begun to be widely used as environmental certification for selecting eco-friendly products when organizations make purchases.

[4] Source: Ministry of Environment, Japan (March 2006).

The share of designated procurement items introduced in the market is expanding. The result of the survey conducted on the market share of 32 items in 10 categories of the designated procurement items confirmed this trend.

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Green public procurement policy factsheet

REPUBLIC OF KOREA

Green public procurement policy in Korea

Measures developed: Legislation, policy, plan and guidelines**.**	**Year:** 1992

Description

The Eco Label Program in Korea was launched in June 1992. In 1999, Korean Government established a Green Purchasing Network based on Green Consumer to draw up purchasing guidelines, publish eco-products catalogue, among others.

The central government procurement agency of Korea, known as Public Procurement Service (PPS), is the responsible organization of establishing the public procurement infrastructure.

Until today the Government of Korea has been carried out the following actions:

- In 2005, the Ministry of the Environment was assigned to set up purchasing Guidelines for Environmentally-friendly Products.
- In 2008, Korea set the domestic vision through the policy measures for "Low Carbon Green Growth" and established its strategies for the development of green technology and green industry.
- The creation of a Presidential Committee on Green Growth in February 2009, and the establishment a '5-year Green Growth Plan' in July 2009.
- The development of a domestic framework for sustainable public procurement: Low Carbon Green Growth Law and Enforcement Decree for the Law (2010), in which the certifications to categorize the products as green are detailed. Moreover, the Construction Law and Energy Use Rationalization Law also promoted a sustainable purchasing.
- The organization of a 'Green Product Selection Committee' with other organizations including the Ministry of Strategy and Finance and the Ministry of Environment to discuss methods for choosing Minimum Environmental Standard Products.
- A Guideline to design the Minimum Environmental Standard Products has been published in order to regulate the Implementation of Energy Use Rationalization by Public Organizations, the Certification of Energy Efficiency Rating for Buildings, the Ordering for Green Remodeling, and the notification on Designation of Green Construction materials for Direct Purchase.
- A procurement online infrastructure has been created from Korea on-line E-Procurement System (KONEPS[5]).

[5] KONEPS (Korea Online E-Procurement System) is the nationwide digitalized public procurement system of South Korea, which is developed and operated by PPS.

Categories

In 2009, Korea had 373 items with environmental criteria to indicate the bases for sustainable purchasing.

The following table collects the categories and products where environmental criteria are established in Korea that are included in the database of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Building materials
	Cooling and heating systems
	Energy
	Other 7 products are included in this category
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and screens
	Light bulbs/Light tubs
	PCs and laptops
	Fridges
	Water heaters/coolers/dispensers
	Projectors
	Other 9 products are included in this category
Office supplies	Others: toilet paper, document envelope
Office paper	Paper
Office furniture	Desk/bookcases
	Chairs
	One more product is included in this category

Progress of policy development and impacts

The purchase of eco-label products and recycled content products is a legal obligation for public entities in Korea but the high number of products designated with eco-label or recycled content makes difficult for procurement staff to obtain all the relevant information, and for the government to monitor the compliance and implantation by public entities.

A number of Minimum Environmental Standard Products and Fundamental plan for construction policies adopting green products is gradually implemented. The plan will designate a total of 100 items as Minimum Environmental Standard Products by 2013.

The PSS has developed the “Green Purchasing Educational Course” in the Public Procurement Human Resources Development Center. The program is oriented to procurement officers of public organizations. The training is undertaken twice a year with a total of 21 hours. All lecturers are specialists of green procurement. In 2011, the Government of Korea expended 3 Billion US$ on GPP implementation, accounting for 20% of total goods purchased.

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Green public procurement policy factsheet

MALAYSIA

Green public procurement policy in Malaysia

Measures developed: Strategy.	**Year:** 2010

Description

The development of GPP is the procedure to integrate economic progress with environmental preservation to spur economic growth, eradicate poverty and create job opportunities. In this regard, Malaysia has set, on the pathway towards low carbon economy and GPP, the instruments to support Malaysia's efforts to transform its economy into a greener economy.[6]

In order to achieve this goal, the Malaysian government faces various issues as follows:

- Development of domestic eco-labeling
- Scheme.
- Capacity-building in green purchasing.
- Eco-products database.
- Promotions and exhibitions.
- Using waste as a resource for production.
- Government-private sector partnership.
- Reduction in carbon emission.
- Environmental legislation database.
- Recycling.

Currently, there is no official eco-labeling scheme in Malaysia. To assist public and private sectors in the identification of green products and services, incorporation of environmental specifications in government tenders and life-cycle approach, is imperative the development of eco-labeling programmes in public purchasing. The government is accelerating this process through the following measures:

- ✓ Requiring potential suppliers to fully describe the positive environmental attributes of their products, processes, services and environmental-management systems.
- ✓ Award certification for those products that have been reused, or are made in a way that improves energy efficiency, reduces hazardous by-products or uses recycled materials; and
- ✓ Establish criteria or guidelines in Green Public decisions.

[6] Adham K., Siwar C., 2012. "Opportunities and Challenges for Asian Economies in the New Millennium". Working Paper prepared for the 13th International Convention of the East Asian Economic Association.

Regarding capacity-building in green purchasing; training in government green procurement is an important step in promoting green growth. Action plans and training programs engage employees in the process and encourage officers' responsibility for the environment.

Furthermore, there is a need to establish a green-technology and eco-products database system to track and identify credible green products. The Green Products Interactive Directory (a domestic electronic database) of the Green Purchasing Network Malaysia (GPNM) will be able to support "greener" procurement by the government and the private sector. The evaluation and selection criteria include concepts related to the overall environmental management of a firm, including its use of natural resources, new or modified production processes, as well as the environmental performance of suppliers.

Categories

There is not an official list of categories and products with environmental criteria established.

Progress of policy development and impacts

Regarding public-private partnership, the Government should promote effective dialogue among those parties. Other initiatives at forging Government – private sector collaboration in promoting green growth include:

- Other industry and non-governmental organizations to design and develop greener goods and services.
- Promote collaboration with agencies and organizations to better influence government purchasing power and to develop shared performance indicators related to procurement strategies.

The following cases illustrate measures put in place with the purpose of promoting GPP:

- The green purchasing forum; through this forum, the stakeholders could share information on green technology, products and services, influence on collective purchasing power and develop common procurement standards based on best practices. Workshops are important for participants from private-sector organizations and suppliers to come together to better understand different perspectives in accelerating the progress in greener government purchasing. These partnerships and meetings are also beneficial because, governments, at different levels, learn from the experiences of others.
- Reduction in carbon emission climate change; Malaysia has committed to reducing its greenhouse gas emissions by as much as 40 percent below the 2005 level by 2020.

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Green public procurement policy factsheet

MEXICO

Green public procurement policy in Mexico

Measures developed: Strategy and policy**.**	**Year:**2009

Description

In Mexico, the Secretariat of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales, Semarnat) carries on the Sustainable Management Program (Programa de Administración Sustentable). The main purpose of which is to decrease the negative environmental impact of daily activities at the workplace. The principal areas of action are: electrical energy savings, rational water use, responsible usage of paper, and sound waste management.

Currently, GPP policy is not put into practice in Mexico. However, the Government of Mexico City is coordinating measures and actions to greening local government. Below some of these measures are described:

- The Mexico City Climate Action Program and the Environmental Management System, both of them with the purpose of coordinating and evaluating green and energy efficiency (EE) purchasing programs. The City has established energy and CO_2 reduction targets for its public sector buildings, street lighting and subway system.
- Mexico City has also adopted a Green Plan (Plan Verde) and is implementing an Environmental Management System (EMS), which promotes the purchase of green products. EMS is focusing on “green” electricity and office supplies as well as products that yield water savings.
- Mexico City is working on an information system designed to show the investment in GPP, product variety, quantity and benefits. The Federal Government approved three labels: one for energy efficiency products (the Government also recognizes the Energy Star label), another for the recycled material content in paper and the last one for sustainable forests.

Categories

Although there is not an official description of categories and products with environmental criteria established, a database of recommendations related to different products is available in the following website, (http://www.semarnat.gob.mx/informacionambiental/publicaciones). Table below indicates those products included in the database of the present project:

Categories	Products
Office products with energy efficiency	Printers
	Photocopiers
	Light bulbs/ light tubs
	PC and laptops
Office paper	Paper

Progress of policy development and impacts

The Mexican Government is implementing different initiatives with the aim to achieve the following goals:

- ✓ Governmental and politic compromise in GPP.
- ✓ Legislation and regulation on GPP.
- ✓ Tools and information about green public purchasing.
- ✓ Improvement and balance about sustainable purchasing versus conventional purchasing.
- ✓ Principles of equality and transparency in GPP.
- ✓ Analyze of life's cycle of product (costs of purchasing, operation and useful life of products).
- ✓ Evaluation and benefits of available techniques.

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Green public procurement policy factsheet

NEW ZEALAND

Green public procurement policy in New Zealand

Measures developed: Guidelines and policy.	**Year:** 2006

Description

The New Zealand Government's approach is to embed sustainability in procurement and economic growth policies and strategies. In 2006, the government of New Zealand launched the project "The sustainable Government Procurement", among 5 different sustainable measures. The project is led by the Ministry for Economic Development's Government Procurement Development Group (GPDG).

In addition, to develop the GPP policy, New Zealand tested the Marrakech Process Approach of sustainable procurement of the United Nations Environment Programme (see section 2.2.2 of the report). Nowadays, New Zealand is testing this approach without the direct supervision of UNEP.

The results from the implementation of the New Zealand's project are:

- To create a new single procurement government policy: to integrate different sustainable public procurement practices.
- To develop a domestic framework for sustainable government procurement: the New Zealand Government created with the Australian Procurement and Construction Council (APCC) a working group with the main purpose of the creation of a common Framework for Sustainable Procurement in Australia and New Zealand (trans – Tasman)[7].
- Setting standards, guidance and targets: a number of priority categories have been designated and the minimum sustainability criteria will be defined. Under the framework of this project Category Review Teams were established to set priority categories and standards.
- New Standards, guidelines and targets: the new standards developed by the Category Review Teams were established in August 2007. The standards were developed for 5 categories: Paper (recycled content, duplexing, etc.), Timber and wood products (legally sourced and sustainably produced), Travel (motor vehicles, airtravel/video conferencing) and Light fittings.

These guidelines apply to the governmental authorities listed in First Schedule to the State Sector Act 1988[8]. Other departments or agencies are encouraged to follow them.

[7] Trans-Tasman alliance is understood as a co-operative relation between Australia and New Zealand.

[8] (http://www.legislation.govt.nz/act/public/1988/0020/latest/DLM130706.html)

Categories

The following are the categories and products with environmental criteria established:

Categories	Products
Construction, maintenance, and	Timber and wood products
Office products with energy efficiency	Printers
	Photocopiers
	Light bulbs / Light tubs
Office paper	Paper
Office cleaning	Office cleaning services
Transport	Official vehicles (light weight ≤ 2,5 Tn)
	Medium weight cars

Progress of policy development and impacts

The government has implemented the toolkits (manuals and guidelines) and has trained around 200 officers in sustainable procurement until 2009. These manuals give detailed description on environmental criteria to consider in each category and how to include them in the procurement process (definition of specifications and invitation to tenders, evaluation and selection of the suppliers, management of the contract and disposal). The information is available in the New Zealand's procurement webpage (http://www.business.govt.nz/procurement/for-agencies/key-guidance-for-agencies/procurement-planning-and-implementation#Sustainable_procurement).

According to data published in 2009[9], 10 agencies of the government were starting to put in place the sustainability criteria in some of the priority categories.

New Zealand's Energy Efficiency and Conservation Authority (EECA) has promoted energy efficiency of computers, monitors and laptops through its voluntary Energy Star mark program. New Zealand and Australia are now jointly considering introducing minimum energy performance standards (MEPS) for computers, monitors and laptops, plus energy rating labels for monitors. Subject to final government approvals, these MEPS are being considered for introduction in Australia and New Zealand from about April 2013.

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Green public procurement policy factsheet

PERU

Green public procurement policy in Peru

Measures developed: Guidelines.	**Year:** 2008

Description

The approach of the Government of Peru in Green Public Procurement is focused on the improvement of the quality of public service and the reduction of materials and energy consumption, and waste generation.

In 2008, the Government indicated through the Supreme Decree Nº184-2008-EF the main basis to apply sustainability criteria in Green Public Procurement. In 2009, as a result of the "Peru Eco-efficient Program", the Government approved the Supreme Decree Nº 009-2009-MINIAM, in which 8 different sustainable measures where established. These measures were also complemented by the Supreme Decree Nº 011-2010-MINAM about the use of recycled and biodegradable materials, the Ministerial Resolution Nº 021-2011-MINAM about the percentages and the Supreme Decree Nº 004-2011-MINIAM about the gradual application of the percentages detailed in the Supreme Decree Nº 004-2011-MINIAM.

From the current legislation, the Government of Peru has developed the following tools and strategies:

- A "Guide for implementing good practices of eco-efficiency in Public Sector Institution". This document gives a detailed description of the eco-efficiency measures to promote the Green Public Procurement
- An online server to report monthly the performance of the efficiency measures of the public administration buildings, such as the water consumption.

In addition, a Framework of Green Public Procurement among Latin-American countries and Caribbean has been formed to identify the good practices and the limitations to implement the Green Public Procurements.

Categories

The following table collects the categories and products where environmental criteria are established in Peru that are included in the database of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Energy
Office products with energy efficiency	Printers
	Monitors and screens
	Light bulbs/Light tubs
	PCs and laptops
Office supplies	Ink and Tone cartridges
	Pencils and pens
	Standard batteries
Office paper	Paper
Office cleaning	Office cleaning services

Progress of policy development and impacts

The content of recycled materials appointed in the Ministerial Resolution Nº 021-2011-MINAM is gradually implemented according to the products of the "Electronic Catalogue Stationery Framework". The "Superior Contracting Agency of the State (OSCE)" assesses and reports monthly at the Environmental Ministry about the accomplishment of the mandatory percentages of recycled content of products.

The deadline to accomplish these guidelines has been extended until 2013.

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Green public procurement policy factsheet

THE PHILIPPINES

Green public procurement policy in the Philippines

Measures developed: Strategy and policy.	**Year:** 2004 - 2012

Description

The Green Procurement Program of the government was established by the executive Order n° 301 issued in 2004. In January 2012, the Philippines Department of Environment and Natural Resources announced the signature of the Memorandum of Understanding (MoU) on GPP with other Ministries, (Department of Budget and Management (DBM), Department of Trade and Industry (DTI), Department of Energy (DOE), Industrial Technology Development Institute (ITDI), Department of Science and Technology (DOST), Philippine Center for Environmental Protection and Sustainable Development, (PCEPSDI), the Philippine Economic Zone Authority (PEZA), the Development Academy of the Philippines (DAP) and Quezon City local government).[10]

The Green Procurement Program of the Philippines involves goals and activities such as the following:

- Develop incentive program for suppliers related to products and services.
- Promote eco-labeling as an instrument to identify products and services.
- Purchase products, services in compliance with government procurement policy and international standards, such as the World Trade Organization Agreement.

The above mentioned departments are also members of the National Eco-labeling Program - Green Choice Philippines (NELP-GCP), which is one of the economies' initiatives to exercise the fundamentals of sustainable development. This program targets to change current behaviors in consumption and production that tend to abuse and degrade the environment.

Categories

The Philippines have drafted an Initial Technical Guidelines. These guidelines provide criteria to select products and services that reduce environmental impacts throughout their life cycles. One of requirements of the technical guidelines indicates that domestic Eco-labeling type I program shall be the basis to certificate environmentally preferable products.

Category of products recognized with the domestic Eco-Labeling type I are:

- PC and laptops
- Ink and toner cartridge
- Standard batteries
- Paper

[10] http://www.switch-asia.eu/fileadmin/content/PSC/SCP_Handbooks_Icons/Sustainable_Procurement_web.pdf

- Office cleaning services
- Desk/bookcases
- Building materials
- Cooling and heating systems
- Printers
- Photocopiers
- Monitors and screens
- Light bulbs/light tubs

Although eco-labeling certification, products considered are not included in the database of this project.

Progress of policy development and impacts

To enforce de Order n° 301, some mechanisms in GPP are required. For example, all departments and agencies must submit their respective green procurement programs to the domestic Eco-labeling Program Board (ELPB). The ELPB shall also serve as a competent third-party verifier of claims on the environmental soundness of products and services. The ELPB shall provide a list of all certified environmentally sound products that shall be updated regularly. Another example is the foundation of the Green Purchasing Alliance Movement (GPAM). GPAM was formed during a consultative meeting held October 15, attended by 52 representatives of government, private sector and non-government organizations. GPAM members are advocates of eco-labeling or environmental labeling, a system of assessing products based on their impact on the environment.

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Green public procurement policy factsheet

SINGAPORE

Green public procurement policy in Singapore

Measures developed: Strategy. | **Year:** 2009

Description

The government of Singapore established the E^2PO initiative (Energy Efficiency Program Office) with the objective of promoting and facilitating the adoption of energy efficiency measures in Singapore. Under this framework the program "Public Sector Taking the Lead in Environmental Sustainability (PSTLES)" was created for the adoption of environmental sustainability measures that encompass energy efficiency, water efficiency and recycling. Some of the actions taken according to the requirements of this program included environmental criteria, in terms of energy efficiency, for the acquisition of products and related administrative services and activities.

The initiatives involving environmental measures in public procurement under this program in Singapore are:

Procurement of Energy Efficient Equipment/Appliances: Public sector agencies are to procure the most cost-effective appliances, taking into account life cycle costs. New office information and communication technology equipment procured must meet the latest Energy Star standards.

Water Efficiency**:** Public sector agencies and schools must achieve the Water Efficient Building label for their buildings that includes environmental standards for the purchasing of water related products.

Eco-office label: Public sector offices must achieve the Eco-Office Green Office label. As in the case of the water efficiency label, the eco-office label also requires environmental criteria when purchasing some office products.

Green Mark Certification**:** New public sector buildings with more than 5,000m2 air-conditioned floor area, including buildings with development cost fully or partly funded by the public sector (e.g. new universities and hospitals) must attain the Green Mark Platinum rating.

BCA GREEN MARK

Categories

The development of the E^2PO initiative has defined a collection of environmental measures to be implemented by the public administrations to reduce the energy consumption. The following table collects the categories and products where environmental criteria are established in Singapore, that are included in the database of products and categories of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Public office buildings should attain Green Mark Platinum Rating
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and Screens
	PCs and laptops
	Projectors
	Fridges
	Water heaters/coolers dispensers

Progress of policy development and impacts

Nowadays the government is promoting this program among general citizen in order to promote good practices in energy efficiency and show the benefits from the reduction of energy consumption in relation to climate change and use of fossil fuels. Nevertheless, there is no information about the extension of the adoption of environmental criteria to other categories and sectors.

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Green public procurement policy factsheet

CHINESE TAIPEI

Green public procurement policy in Chinese Taipei

Measures developed: Legislation and policy.	**Year:** 1999

Description

GPPP in Chinese Taipei was introduced in May 1999 through the adoption of a green procurement article (Article 96). Later on, the Government promulgated an Action Plan for implementing Green Procurement by Government agencies in 2001 and stipulates designated product categories of green products and annual procurement goals. Green procurement principles consider the following four principal steps:

- Check the need of purchasing the product, before take action.
- Potential environmental impacts during life cycle of the products.
- Choose those that are caring the environment.
- Collect environmental information of product and supplier.

The implementation of the GGP in Chinese Taipei took part in two periods:

- ✓ The promotion period (from July to December 2001); which covered only the central government agencies and governments of the two largest cities in Chinese Taipei (Taipei and Kaoshiung).
- ✓ The official implementation period (started in January 2002), covering city and economy Government agencies, Government-owned enterprises and other public institutions.

In order to support several stakeholders in GGP program, training courses are offered to government procurement officers. Guidelines, telephone hotline and a GGP website have been established to provide information on GGP.

Categories

The following table collects those categories and products where environmental criteria are established in Chinese Taipei, which are included in the database of products and categories of this study. All criteria can be found in this website,

(http://greenliving.epa.gov.tw/greenlife/greenlife-v2/E_Criteria.aspx)

Categories	Products
Construction, maintenance and renovation of public buildings	Cooling and Heating systems
	Building materials
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and screens
	Light bulbs/ Light tubs
	PCs and laptops
	Fridges
	Water heaters/coolers/dispensers
Office supplies	Ink and toner cartridges
	Standard batteries
	Pencils and pens
Office paper	Paper
Office cleaning	Office cleaning services
Office furniture	Desk / bookcases
Events organization	Hotels
	Transport

There are the three types of environmental products, classified with three types of eco-labels:

- Type 1 products: is the equivalent of eco-label products under ISO 14024 requirements. All products above mentioned belong to this category.
- Type 2 products: products with regenerated material, recyclable production and energy saving. Moreover, the products or product materials have to be verified and awarded a certificate by a public third party.
- Type 3 products: products which reduce social cost and have been certified by one responsible agency such as the different government agencies or a public third party.

Progress of policy development and impacts

The preliminary stage of Chinese Taipei's green labeling set the standards for six product categories. At present, criteria have been announced for 115 items in 14 different category, and 7,913 individual products.

In recent years, the Green Mark plan has been extended to formulating Green Mark regulations for the service industry and rolling out a more comprehensive plan for total public participation in green consumption. New measures include: having green hotels encourage their guests to bring their own toiletries, having green restaurants encourage their customers to bring their own eating utensils, encouraging couples about to be wedded to plan out low-carbon wedding ceremonies, and providing information on eco-friendly behavior for every aspect of life – food, clothing, accommodation, travel, education, entertainment, etc.

Since 2002, the total amount spent on government green procurement has grown from US$ 84.5 million annually to approximately US$ 310.6 million in 2012. It is clear Chinese Taipei society is impacted by Green Market.

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Green public procurement policy factsheet

THAILAND

Green public procurement policy in Thailand

Measures developed: Policy, strategy, plan and guidelines.	**Year:** 1993

Description

After approval in 1992 the Law on Environmental Conservation and Promotion, the Government of Thailand started the Green Procurement strategies.

In 1993, the Thailand Business Council for Sustainable Development initiated the Thai Green Label Scheme, which was launched in 1994 by the Thailand Environmental Institute and the Thailand Industrial Standards Institute in consultation with the Federal Environmental Agency of Germany.

In order to promote and implement the Green Public Procurement in Thailand, the Government has executed the follows consecutive plans:

- Green Public Procurement Promotion Plan (2008-2012): this plan was approved by the cabinet in 22 January 2008 and was elaborated by the Ministry of Natural Resources and Environment, the Green Label Program, the Green Cart Program and the Green Leaf Program. The main aim of this plan was to increase the public purchasing of environmental friendly products and services.
- Green Public Procurement Promotion Plan (2013-2016): currently, the Pollution Control Department (PCD) has elaborated the second stage of the Governement Plan, which has been promoted by the 11th domestic Economic and Social Development Plan and the Environmental Quality Management Plan. This new stage of the plan is focused on enhancing the use of more environmental-friendly production processes and consumption.

Nowadays, in September 2012, the Pollution Control Department together with the German International Cooperation launched the “Sustainable Consumption and Production for Low Carbon Economy – Low Emissions Public Procurement and Eco-Labeling” project (SCP4LCE), which will be run until 2015. This project is financed by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and, has been established to evaluate the results of the first Plan and assist the implementation of the second Plan. In addition, the project also promotes the expansion of existing eco-labels in Thailand to cover the Green Public Procurement criteria.

Public Procurement in Thailand accounts a 20% of the total acquisitions of the economy. For this reason, it can drive the manufacturers to produce a larger quantity of green products.

Categories

The following table collects the categories and products where environmental criteria are established in Thailand, that are considered in the database of products and categories of this study:

Categories	Products
Office Products with energy efficiency	Printers
	Photocopiers
	Light bulbs / Light tubs
Office supplies	Ink and Tone cartridges
	Standard batteries
Paper	Paper
Office cleaning	Office cleaning services
Office furniture	State other products as metal furniture
Events organization	Hotels

Progress of policy development and impacts

Since 2008, the Pollution Control Department has been working to implement the Green Procurement Promotion Plan for public sector. In order to do this task, the Department has organized seminaries and staff trainings on green purchasing and manufacturing, and has developed an inventory of consumable products and services for green procurement.

After starting the Green Public Procurement Promotion Plan in 2008, the annual expenditure on GPP has been yearly fluctuating, as well as, the percentage of GPP on PP. The evolution since 2008 until 2011 has evolved as follow:

Year	The number of governmental agencies in GPP program (%)	Quantity of GPP (%)	Annual expenditure (US$) in green products ∗
2008	25	25	1.68 M US$
2009	50	30	7.77 M US$
2010	75	40	6.63 M US$
2011	100	60	8.53 M US$

Source: Thailand State of Pollution, Report 2008.

∗ Provided by Environmental Quality and Laboratory Division, Pollution Control Department (Thai Government).

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Green public procurement policy factsheet

THE UNITED STATES OF AMERICA

Green public procurement policy in United States of America

Measures developed: Legislation, program, policy, plan, strategy and guidelines**.**	**Year:** 1976

Description

Since 1976, requirements for green purchasing have been incorporated into Federal regulations and Executive Orders related to environmental preferable purchasing. In 1993, the US Environmental Protection Agency (EPA)[11] developed guidelines on Environmental Preferable Purchasing (EPP) Program.

Federal agencies have been advised to include environmental considerations in procurement decisions for more than 20 years. This direction has been promoted with congressional, executive, and agency actions. Currently, through the Executive Orders 13423 and 13514 the Federal agencies are required to consider full range of environmental attributes in purchasing decisions.

From 1976, the Government of the United States of America has stated a high number of measures for developing the Green Public Procurement criteria and practices. The most relevant actions are summarizing below:

- The establishment of domestic Laws, Regulations and Agreements to detail the policy, principles and procedures for acquiring environmentally preferable services.
- Setting standards guideline to define the main basis to acquire sustainability products.
- The promotion of databases, software tools, directories, catalogs, newsletters, libraries and programs to help on buying greener products.
- The implementation of a general inventory and online directory of green products. In addition, it has also been developed a tool to provide the cost estimation after implementing green public procurement criteria and give easy access to the wide variety of environmental products or services offered by the General Services Administration (GSA)[12].
- The organization of programs, trainings, presentations, and briefings to advice, emphasize and promote the Federal agencies about: responsible purchasing (cleaners, computers, copy papers, food containers, food services, green power, light-duty fleet vehicles, light-duty tires and wheel weights, lighting), post-consumer actions, and best practices.

Due to the large experience of USA in the development of GPP policy and the high number of useful tools to facilitate and promote GPP the policy itself could be considered as a best practice in all the key components identified in a GPP policy, i.e.: institutionalization development, definition of environmental criteria, eco-label, capacity building, engagement with local entities, promotion of trade and communication of benefits.

[11] http://www.epa.gov/

[12] http://www.gsa.gov/portal/category/100000

Categories

USA establishes 19 categories with 548 products to indicate the criteria for Green Public Procurement. All criteria can be found in this website: http://www.sftool.gov/GreenProcurement/ProductCategory/10.

The following table collects the categories and products where environmental criteria are established in USA that are included in the database of this study:

Categories	Products
Construction, maintenance, and renovation of public buildings	Building materials
	Water
	Cooling and heating systems
	Energy
	Other products have also stated
Office products with energy efficiency	Printers
	Photocopiers
	Monitors and screens
	Light bulbs/Light tubs
	PCs and laptops
	Fridges
	Water heaters/coolers/dispensers
	Projectors
	Other products have also stated
Office supplies	Ink and Tone cartridges
	Pencils and pens
	Standard batteries
	Other products have also stated
Office paper	Paper
Office cleaning	Office cleaning services
	Waste management services
Office furniture	Desk/bookcases
	Chairs
Transport	Official vehicles (light weight cars ≤ 2,5 Tn)
	Medium weight cars

Categories	Products
Events organization	Hotels
	Food/coffee catering
	Dissemination materials
	Passengers transport

Progress of policy development and impacts

The government has implemented software toolkits (manuals, guidelines, online database) and has undertaken continuous seminaries to train the officers in sustainable procurements. The information of these training is available online in the FedCenter website. (http://www.fedcenter.gov/programs/buygreen/).

Currently, the Environmentally Preferable Purchasing Program has summarized information about popular environmentally preferable products and services, including environmental attributes to look for procurement guidance, tools, case studies, and other useful resources. This information can be found visiting the EPA's website. (http://www.epa.gov/opptintr/epp/pubs/products/index.htm)

At the second annual GreenGov Symposium[13] (October 2011) the responsible organism brought more than 1200 representatives from across governments, the private sector, and the non-profit community to shape the future of Federal Government sustainability.

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http://www.fedcenter.gov/programs/buygreen

http://www.epa.gov/opptintr/epp

[13] The GreenGov Symposium provides an educational experience for federal and non-federal stakeholders to discuss the performance goals set in the Executive Order 13514. http://www.greengov2011.org/

Green public procurement policy factsheet

VIET NAM

Green public procurement policy in Viet Nam

Measures developed: Plans.	**Year:** in progress

Description

The Government, in collaboration with other organisms like The International Institute for Sustainable Development (IISD), is aware about the importance of promoting sustainable development across several subjects such as: international trade and investment, economic policy, climate change, measurement and assessment, and natural resources management. These environmental and sustainable challenges of Viet Namese government could be faced bringing to society the model of Green Public Procurement.

In spite of the absence of direct procurement policies to catalyze green industrial growth, Viet Nam has made considerable progress in formulating legislation that is aimed at "greening" procurement. However, there are still shortcomings in the content and implementation of existing, indirect green procurement policies.[14]

Regarding the promotion of green public purchasing and green purchasing practices, the establishment of The Viet Nam's Green Purchasing Network would encourage the enhancement of this policy. The Green Purchasing Network in Viet Nam was officially launched in late 2010 with the following purposes:

- Raising awareness of different groups (organizations, businesses, consumers) in the selection and use of green products.
- Advertising and promoting the application of scientific and technical advances in the research, production, manufacture and use of environmentally preferable products.
- Help businesses promote their products
- Expand opportunities for cooperation and employment between businesses, especially Vietnamese business enterprises from developed countries and economies.
- Build a network of shared experiences and improve the ability to apply scientific and technical knowledge in production Network Activity.

Categories

There is not an official description about categories and products with environmental criteria established.

[14] The International Institute for Sustainable Development, 2012. Procurement, Innovation and Green Growth: The story so far.

Progress of policy development and impacts

One of the main actions in order to promote SPP is the preparation and promotion of the Law on Green Procurement, in Viet Nam, in 2015, followed by the introduction of an instructive decree in 2017.[15] Specific opportunities for introduction and implementation of SPP in Viet Nam are aligned with the enforcement of the existing laws, regulations, policies, and action plans, especially those relating to environmental protection, energy saving, sustainable development and response to climate change.

Besides the works under development to introduce GPP in Viet Nam, the IISD and The Vietnamese Ministry of Agriculture and Rural Development (MARD) collaborated to carry out an assessment of Sustainable Public Procurement (SPP) preparedness in Viet Nam with a specific focus on the timber industry.[16]

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Annex C – Database of environmental criteria for green goods and services in APEC economies

#	Category criteria	General criteria	Specific criteria
1	Recycled material content	General	Total Weight
		Specific	Plastic Steel Paper Wood Aluminum Fibre Metal High density polyethylene Polyethylene terephthalate Rubber Concrete Ceramic Use recycled materials
2	Biobased material content	General	Total
		Specific	Plastic Higher than petroleum-derived plastic content
3	Specific chemical substances	General Hazardous substances content	Total
		Specific hazardous substances content	Harmful ozone-depleting substances Toxics Organic solvents Aromatic compounds Halogenated substances Volatile Organic Compounds Azo colorants Hexavalent chromium Polybrominated biphenyls content Polybrominated biphenyls ethers content Hydrofluorocarbons Benzo(a)pyrene Carcinogenic azo colorants

#	Category criteria	General criteria	Specific criteria
			Amines Formaldehide Chlorinated paraffin
		Specific chemical substances content	Phtalates Alkynophenol Ethoxylates Fluorine Polyvinyl choride (PVC) Blowing agents Linear alkylbenzene sulfonate Standard content Ink weight of forms
		Information	Available information about chemical substances content
4	Metals content	Specific metals	Cadmium Lead Copper Arsenic Chromium Nickel Mercury Aluminum Selenium
		General metal content	Total Total content of lead, cadmium, mercury and hexavalent chromium Total heavy metal Metal-shelves must not exceed the standard weight
5	Raw material content	Raw material content	Total
6	Source of raw material	Legal source	Legally harvested fibre Legally harvested wood
		Certified source	Wood from sustainable managed forest Paper from sustainable managed forest
7	Renewable energy	Renewable energy	Use renewable energy resources
8	Energy efficiency	Use of specific components	Use low-voltage tungsten halogen lighting T5 triphosphor fluorescent tubes Fluorescent lamps (CFLs) Prismatic controllers

#	Category criteria	General criteria	Specific criteria
			Multipurpose machines Metal-halide or high wattage compact fluorescent Liquid Crystal Display (LCD) monitors High frequency lamp Use efficient fittings
		Efficiency considerations	Consider energy efficiency Light efficiency
		Energy consumption	Energy consumption Power consumption Color rendering index (CRI)
		ON/OFF operations	Rapid-start Default time to sleep Standby power consumption
9	Vehicles fuel type and consumption	Type of fuel	Use alternative fuels Hydrogen fuel cell vehicles Clean diesel vehicles (maximum 10 passengers) Plug-in hybrid vehicles Hybrid vehicles Natural gas vehicles Electric vehicles Availability of using E10 fuels for renting vehicles
		Fuel consumption	Reduce the use of fossil fuels Fuel efficiency value
10	Use ICT technologies	Use ICT technologies	Online booking systems Expense manager tools Notebooks for administrative tasks
11	Waste management	Useful life time	Lifespam Consider useful life time
		Available information about final disposal	Tyre and oil Inks Mercury lamp
		Recycling	Recycle electronic products Information about final product recycling
12	Sustainable manufacturing process	Manufacturers commitment to the environment	Manufacturers commitment to the environment Compliance regulations

#	Category criteria	General criteria	Specific criteria
			Packaging and end products collection Company environmental quality certification
		Clean production requirements	Metal components manufactured using low VOC emitting technology Low waste production during the manufacturing Low environmental impact Production with biodegradable surfactants Water Chemical Oxygen Demand (COD) Processing without halogenated bleaching agents Elemental chlorine-free bleaching (ECF) Processed chlorine-free bleaching (PCF) Total chlorine-free bleaching (TCF) Bleaching percentage Not use optical brightener or fluorescent whitening agents Reduce the content of coal fly ash, ground granulated blast furnace slag, cenospheres and silica fumes in cement and concrete
13	Emissions during use of product	General air pollutants	Considers pollutants emissions Consider noise level Compliance with emission standard
		Specific air pollutants	Formaldehyde discharge rate Carbon monoxide Ozone Dust Mercury Nitrogen oxide Non-methane hydrocarbon carbon monoxide Isolation of urea-formaldehyde-based resins
14	Product environmental certificate	Ecologic and efficiency labels	Environmental-friendly labels Standards Environmental programs Eco-rating standard Certified product
15	Quality requirements	Quality requirements of service	Consider the period of supplying pieces after manufacturing Warranty period

#	Category criteria	General criteria	Specific criteria
16	Ecodesign product considerations	Requirements	Easy to remove batteries and mercury lamps Environmental-friendly design Components designed to be disassembled Components designed to be replaced by the users Consider packaging material Packaging designed to minimize wastes Compatible with remanufactures consumables
		Product size	Bulb diameter Small rechargeable battery
		Product weight	Product weight Reused material weight
17	Use recommendations	Use recommendations	Print on both sides Switch off computers if it is not using Select by default print saving measures Staff training in correct procedures Low consumables usage Water efficiency measures Reduce annually the water consumption

Annex D – Best practices on green public procurement factsheet

Annex D – Best practice of green public procurement factsheet

Contents

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Best practice of green public procurement factsheet

Promotion of Green Public Procurement and on –line purchasing in Korea

Public Procurement Service

Background | **Year:** 2002

In 2002, the Public Procurement Service (PPS) of Korea launched an on-line service for procurement, named (KONEPS). The on–line E-procurement (www.pps.go.kr/english/), service is an electronic contract system that enables quick and easy acquisition of products. This e-procurement service has been awarded as best practice, mainly due to the high volume of trade and the savings achieved in the cost of public procurement.

In addition the platform has been promoting the acquisition of green goods and services through different initiatives:

- Integrated webpage for public green purchasing information (http://green.pps.go.kr): this website wants to encourage public officers the adoption of greener products in their daily purchasing decisions. In the past, contracting officials of public organizations struggled with purchasing green products as related certifications and legal structure were too complicated. However, the launch of webpage made easier for the officials to access to the information and make a purchase of green products. The website is only in Korean.
- Green products mall: to encourage green purchasing through KONEPS, PPS launched green products mall composed of products awarded with Environment Mark, Good Recycled (GR) Mark, High Efficiency Equipment Certification, and Energy Saving Certification at KONEPS. The green products are organized by product names to make the shopping mall more user-friendly and support green products' market access. http: // shopping.g2b.go.kr, only in Korean.

Objectives

Through the development of the on–line procurement and the support of websites on environmental products (green products mall) and the green purchasing website, the Korean government aims to:

- Increase the efficiency and transparency of the procurement and reduce the paperwork and meetings.
- Provide clear information on green products to officers.
- Encourage green purchasing, through the green products mall which is organized by product names.

Definition of environmental criteria

Environmental criteria for the selection of products were defined in order to increase the market's share of green products. PPS embedded in 2010 "public procurement minimum environmental standards product" in the public procurement practices.

The minimum environmental standards were based on the United Kingdom's "Quick Wins" standards for products launched in 2003. In 2008, the number of products "Quick Wins" were improved and expanded. The criteria were updated with the inclusion of voluntary best practices and mandatory minimum standards.

PPS set the "Green Product Selection Committee" composed by the Ministry of Strategy and Finance and Ministry of Environment, with other entities to define the minimum environmental standards. The Committee, through public hearings in November and December 2009, designated 18 items, the most highly demanded, as minimum environmental standard products.

Minimum environmental standard for computers, washing machines, office machines, appliances and recycled products were designated in January 2010, and others like LED (light-emitting diode) lamps, hybrid vehicles, high efficiency equipment, regeneration ascon and concrete blocks and synthetic wood were additionally designated in August. The minimum environmental standards were also designated for a total of 20 items for safety and sanitation during 2011. It is foreseen a total of 100 items designated by 2013.

Training activities

The Korean PPS delivers training to public officers that are in charge of purchasing with the aim to provide them the knowledge and needed tools to them and, therefore, increase green public purchasing.

PPS launched the green purchasing educational course in the Public Procurement Human Resources Development Center's curriculum in 2010 and has invited professional lecturers and field trips. green purchasing education program is available at PPS-Human Resources Development Center from August 2010:

- Program period: 3days (21hrs), the program to be held twice a year.
- Participants: procurement officers of public organizations.
- Lecturers: professional lecturers from difference specialties of green procurement.

The training program schedule is summarized in the following table:

Table 1. Green Purchasing Training Program Schedule

Category	Relevant policies and regulations	Practical guidelines and Case studies	Site visit	Discussion	Total
Hours	7	8	4	2	21
Portion (%)	33	38	19	10	100

Source: Korean Government's Guidance on Promoting Green Procurement Practice 2010-12-22. PPS Korea.

The program was divided in 3 days, each one centered on one of the following topics:

- Green policy: practical guidelines, KONEPS e-shopping mall, case studies on green public procurement, selection criteria and understanding of eco-friendly buildings and designs.
- Green experience: building information modeling, energy analysis and visit to green manufacturing sites.
- Green practice: understanding green certification, green recycled, saving resources, public purchasing, green practice understanding and discussion on issues related to green growth and green procurement.

Results and environmental benefits achieved

In 2008 PPS purchased and supplied green products worth US$1.45 billion which accounts for 10.79% of the total domestic procurement (US$13.9 billion). In 2010 PPS spent about US$1.6 billion in green product, roughly 10% of the total procurement (US$15.54 billion).

The evolution of the performance of green purchasing in the period 2007-2010 split by type of products is illustrated in figure 1.

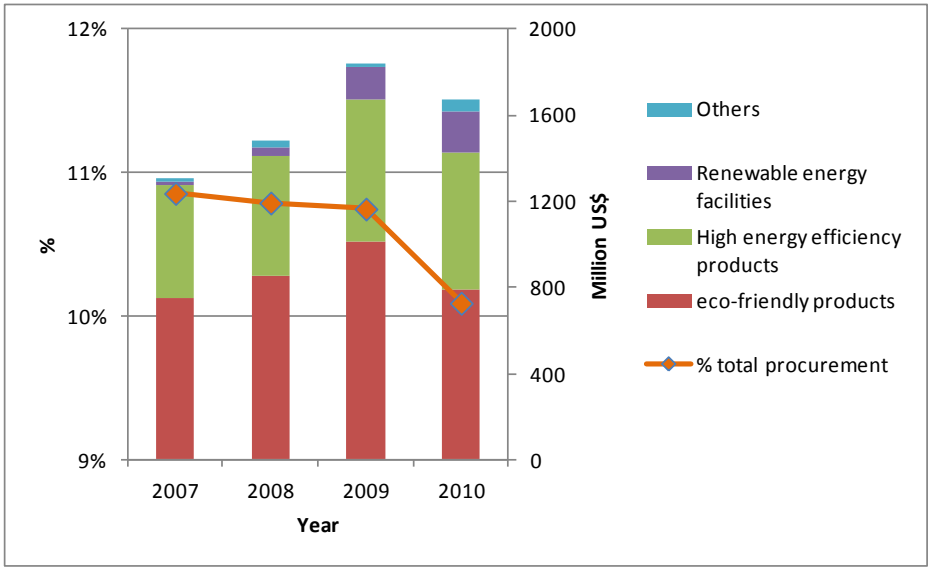


Figure 1. Evolution of annual expenditure in green purchasing in Korea in US$ million and the percentage of total domestic procurement in the period of 2007 -2010. *Source: PPS, 2010. Annual Report*.

Research conducted in 2009 reported that the direct and indirect cost savings achieved through KONEPS are estimated to be 8 billion USD per year. From this saving:

- USD 1.4 billion was due to administrative cost.
- USD 6.6 billion was due to the reduction in the private sector's transaction cost.

Funding

The annual expenditure of green public procurement was three billion US$ (green products purchased in 2011), accounting for 20% of total goods purchased.

Monitoring system

Yearly, PPS reports the activities of the Korean public procurement service and green public procurement. Reports are available in the website of PPS.

Way forward and main barriers

Main barriers to the development of GPP policies in the Republic of Korea have been identified as:

- Lack of products in the market that meet environmental criteria defined.
- Lack of information/knowledge about financial benefits of GPP.
- Lack of information /knowledge of environmental benefits of GPP.

PPS has set challenging targets in green procurement, aiming to double the green public market of 2009 up to US$5.4 billion by 2013. To remove barriers and stimulates the purchasing of green products in the public procurement market, PPS is expanding the incentives and updating the minimum environmental standard products yearly.

Main barriers to be faced and proposed actions within "Strategies to Expand the Green Public Procurement Market For Low Carbon, Green Growth" (13 July 2010) are the following:

Table 2. Strategies and detailed actions to expand green public procurement market.

Main strategies (3)	Detailed plan (16)
Lowering public procurement market barrier for green products	• Give advantage in bid assessment process. • Reflect economic benefits from energy saving and other factors in public tendering. • Certify as excellent products. • Ease financial burden of carrying out contract terms. • Eliminate non environmental friendly products.
Building infrastructure to expand public demand for green products	• Enact accounting rules on green specifications. • Set up procurement rules to promote green products purchase. • Provide education/training sessions on the comprehensive information network on green procurement. • Adopt and disseminate public procurement carbon cash-back. • Organize statistics on public green purchasing.
Promoting green design and construction in the public sector	• Promote green design in public building. • Give advantage to green construction companies in public tenders. • Assist with eco-friendly and energy saving remodeling of public buildings. • Increase the use of eco-friendly and energy saving construction materials.

Sources

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Best practice of green public procurement factsheet

Information technology procurement in Canada

Canada

Background | **Year: 2006**

The Canadian federal government's Policy on Green Procurement requires environmental performance to be considered in the planning, acquisition, use, maintenance and disposal of all goods and services. In this sense, the government has specified these requirements, in terms of performance or functional specifications, including environmental aspects.

The products within the category of Information Technology (IT) hardware of public procurement in Canada must meet several environmental criteria during the procurement process. The environmental standards are related to the products and to the manufacturer. The products included in the IT Hardware category are:

- Desktop microcomputers.
- Servers.
- Mobile.
- Storage Area Networks (SAN) and Network Attached Storage (NAS).
- Archive/Back-up (Tier 3 Storage: Tape drives, tape autoloaders, tape libraries, tape media and low-cost disk-based backup and archiving).

Objectives

Environmental standards to buy IT hardware within the Government of Canada were first introduced in 1994. Increasingly stringent environmental criteria have been introduced ever since using a phased, iterative approach. The standards cover a wide range of fields in terms of energy consumption, reduction of hazardous materials, design for reuse and recycle, environmental stewardship in the manufacturing process, packaging, supplier engagement and report and billing.

Environmental considerations for IT hardware aim to include the whole life cycle approach and the commitment of the supplier to good environmental practices.

Definition of environmental criteria

The definition of the key environmental impacts associated with the goods being procured is carried out with a life cycle assessment approach that requires the analysis of each phase of the procurement process: planning, acquisition, use and maintenance and disposal.

The Policy on Green Procurement is expected to contribute to environmental objectives, including but not limited to:

- Reducing greenhouse gas emissions and air contaminants.
- Reducing ozone depleting substances.
- Reducing hazardous waste.
- Improving energy and water efficiency.
- Reducing waste and supporting reuse and recycling.
- Reducing toxic and hazardous chemicals and substances.

For the particular case of IT hardware, the following environmental criteria are included:

Table 3. Environmental considerations in the scorecard for IT Hardware.

Environmental Considerations in the Scorecard for IT Hardware		
Proposed Standard Environmental Considerations for all Contracts		
GoC Commitment to Green Procurement	Standard paragraph stating commitment to integrating environmental considerations into GoC procurement.	
Reports and billing	Invoices and correspondence to be sent and processed electronically. Use of electronic signatures, where client capacity to accept them exists, to reduce paper consumption. Draft reports are sent electronically. Limitations on number of hard copies of documents provided. Paper is certified as originating from a sustainably managed forest and/or has a minimum of 30% recycled content.	
Reduction initiatives	Commodity group has taken action to encourage reduction in consumption. Reviewing asset life extension from 3 years to 4 years or more Optimal hardware specification to facilitate longest life cycle and offset future obsolesence	
Supplier Engagement	Adoption of Supplier supporting ultimate version of EPEAT [1]standard. Supplier communication to indicate environmental objectives in future years. Successful bidders' environmental information available (within the government, publicly)	
RFSO (Request for Standing Offer) GREEN PROCUREMENT CRITERIA		
Energy Efficiency	Early adoption of all new versions of Energy Star. EPEAT[1] Gold level - intially desirable, made mandatory 09/09/2010. Intel ACPI or AMD PowerNow. Low Voltage Desktop Processors. Low Voltage Server Processors - where applicable. 80Plus certified efficient power supply. DPMS for monitors. Small Form Factor Desktop. Wake on LAN. Green Grid - server manfufacturer membership. Best energyefficiency. Best practices in datacenter operation, construction, anddesign.	TCO Certified Notebooks 3. TCO Certified Desktops 3. Sever virtulaisation capabilities for greater density, higher utilization. LED backlit display technology for monitors and notebooks. User presence detect for auto power down/power up on monitors. New effciencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology -25% more power efficient. EnergyStar 2.0 for Servers - Server NMSO. 80Plus Gold certified power supplies - Server NMSO. Lower power "value" SFF desktop category added.

	Thin Client - low power desktop alternative. Electronic Industry Code of Conduct (EICC) member for server, desktop and notebooks.	Ruggedised mobile categories EPEAT[1] certified.
Reduction of Hazardous Materials	RoHS compliance for Desktops and Notebooks. RoHS compliance for Servers EPEAT[1] Silver level Gold . TCO ’03 compliance for monitors. Electronic Industry Code of Conduct (EICC) member for server,desktop and notebooks. TCO '05 for desktops, notebooks. TCO '06 compliance for monitors.	LED backlit display technology for monitors and notebooks. New effciencies with on-board notebook video controllers eliminate the need for separate, discrete controllers. Optical drives no longer part of the desktop default configuration - avialable if requested. Server and SAN/NAS - Adoption of 2.5 inch hard disk technology - 33% increase in density. Ruggedised mobile categories EPEAT[1] certified.
Design for Reuse and Recycle	TCO ’03 compliance for monitors. TCO '06 compliance for monitors.	EPEAT[1] Gold level. Tool-less desktop assembly.
End of Life Management for reuse and recycle	Manufacturer take back. EPEAT[1] Gold compliance. RoHS compliance.	
Environmental stewardship in the manufacturing process	ISO 14001 certification. Membership to National Environmental Electronics Industry Association. Member - Electronic Industry Code of Conduct (EICC) governing: Environmental Permits and Reporting.	Pollution Prevention and Resource Reduction. Hazardous Substances. Wastewater and Solid Waste. Air Emissions. Product Content Restrictions.
Packaging	Reduction of added toxics in packaging. Sepearable materials Declaration of recycled content.	Electronic Manuals and support materials available (in lieu of paper). Bulk Pacakaging - multi-unit containers.
Alternate Desktop Client and Server Technology	Thin Client. Thin Client categories modernised and embellished. Small form factor desktop.	High Densisty, low power blade servers available. Increase in the variety of low Power, ultra-portable mobile devices (e.g. slate tablet).

The Government of Canada has developed a website to facilitate the acquisition of computers, called Computer Acquisition Guide (CAG), http://computer.pwgsc.gc.ca/index.html?CFID=14587689&CFTOKEN=71022502. The website provides quick and easy access to standing offers for computers and computer-related equipment. The website offers useful information about suppliers, prices, performance specifications, environmental criteria and ordering instructions.

Some of environmental requirements of IT hardware products were defined as desired criteria, which will become mandatory criteria over the years according to to the schedule presented in the following figure:

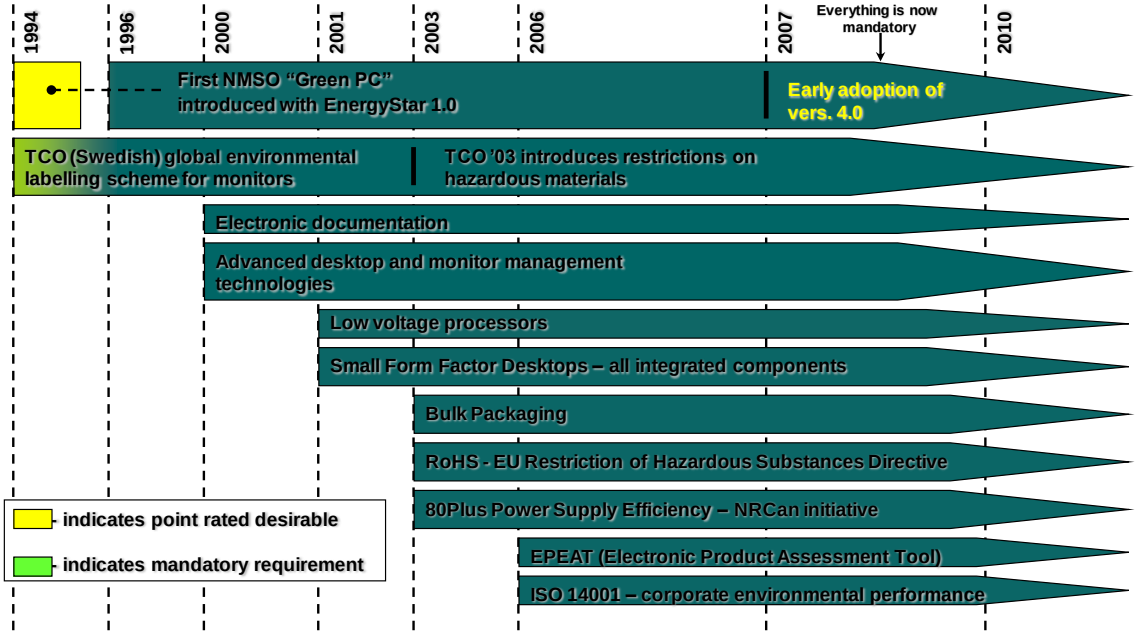


Figure 2. Diagram of evolution of the mandatory and desirable environmental requirements of IT Hardware. *Source: IT Greening, Success Stories, presentation provided by Public Works and Government Services Canada, Acquisitions Branch, Services and Technology Acquisition Management.*

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Training activities

Public Works and Government Services Canada (PWGSC) in collaboration with the Acquisitions Branch and the Office of Greening Government Operations hosted a series of webinars on green procurement on seven key goods and services. IT Hardware is one of these goods.

.The purpose of this webinar is to help federal government departments access the "greenest" goods and services through PWGSC's procurement instruments and meet their targets related to the Policy on Green Procurement and the Federal Sustainable Development Strategy. These sessions are intended for functional procurement, and material management staff as well as sustainable development coordinators. These webinars provide an understanding of:

- Environmental Impacts of the good/service
- Determination of Green goods/ services and Buyandsell.gc.ca/green;
- Environmental considerations addressed through PWGSC's procurement instruments;
- What you can do to get the "greenest" goods and services
- Purchasing Demos using PWGSC E-tools and Resources.

Regarding training on IT procurement, an online course has jointly been developed by Public Works and Government Services Canada (PWGSC), Treasury Board Secretariat, Environment Canada, Natural Resources Canada and the Canadian School of Public Service (CSPS). It has been designed for functional specialists in procurement and material management in the federal Government of Canada.

This online course introduces the federal government's policy on green procurement and provides detailed strategies and tools for applying its principles throughout the procurement process. The program of the training includes the understanding of the benefits from buying green, eco-label schemes and how to evaluate environmental performance claims. Federal employees also have on-line access to a Green Procurement Webinar on IT Hardware and a Step-by-Step Guide on Greening IT Hardware to guide them in the green procurement of IT Hardware.

In addition, departments and agencies should identify their positions and define their related operational and training requirements based on their own procurement processes.

Results and environmental benefits achieved

Besides the contribution to environmental objectives from the adoption of green procurement listed in the environmental criteria section, the Government of Canada expects to influence the market of environmentally preferable goods and services.

Environmental benefits expected with the implementation of the Policy on Green Procurement in the acquisition of IT Hardware were estimated in the report published in 2008 by Terrachoice. The report determined energy savings, greenhouse gas savings, air emissions savings, water emissions savings, toxic material savings, municipal solid waste savings, hazardous waste savings resulted from the procurement of IT products with environmental attributes in comparison with purchasing in 2003. The table below summarizes the environmental benefits achieved:

Table 4. Summary of environmental benefits achieved as a result of purchasing a 2008 (post-PGP) IT hardware unit compared with a 2003 (pre-PGP) unit. Savings were determined by subtracting pre-PGP values from post-PGP values.

Environmental Impact	**Environmental savings for one average IT Hardware Unit ∗**
Total Energy Saved (kWh/unit/lifetime)	470.31
Total Greenhouse Gases Saved (kg CO_2 equivalents/unit/lifetime)	102.58
Total Air Emissions Saved (kg air emissions/unit/lifetime)	1904.42
Total Water Emissions Saved (kg water emissions/unit/lifetime)	3.99
Total Toxic Material Saved (g toxic material/unit)	52.48
Total Municipal Solid Waste Saved (kg MSW/unit)	3.77
Total Hazardous Waste Saved (kg hazardous waste/unit)	1.97

∗Average of 2 Desktops and 1 Notebook

Source: TerraChoice (2008), Environmental Benefits Following the Implementation of the Government of Canada's Policy on Green Procurement (PGP) for IT Hardware (Desktops and Notebooks) and Printers. Office of Greening Government Operations.

Funding

Implementation of the Policy on Green Procurement is conducted within existing funding levels. No additional funding has been sought or provided for green procurement.

Monitoring system

All departments are required to report their forecasted and actual progress on green procurement annually through publically available parliamentary reports (the Report on Plans and Priorities (RPP) and Departmental Performance Report (DPR), respectively.)

An evaluation framework and government-wide performance measures were developed in order to monitor the policy implementation as well as assess its effectiveness.

Monitoring of the inclusion of environmental specifications and evaluation criteria in centrally managed procurement administered by Public Works and Government Services Canada is ongoing.

Main barriers and way forward

The barriers encountered were associated with the early adoption of the emerging stewardship criteria. Industry was reluctant to manufacture green products due to users would prioritize price, feature sets or aesthetics well before any consideration for environmental responsibility. Nowadays, these barriers have been overcome due to environmental awareness' raise.

Implementation of green procurement has focused largely on integrating environmental considerations into centralized procurement instruments and developing tools and guidance for purchasing within the federal government.

Moving forward, efforts to increase employee awareness and engagement should continue. In addition, increased attention could be placed on areas of federal purchasing that are decentralized.

Sources

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Federal Sustainable Development Strategy Guideline for Target 8.11: Setting Green Procurement Management Framework Targets. The Office of Greening Government Operations. November, 2010. FINAL version 2.0

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TerraChoice (2008), Environmental Benefits Following the Implementation of the Government of Canada's Policy on Green Procurement (PGP) for IT Hardware (Desktops and Notebooks) and Printers. Office of Greening Government Operations.

Best practice of green public procurement factsheet

Green policy in vehicles procurement in New Zealand

Background | **Year: 2008**

The Sustainable Government Procurement Project, launched in 2006 by the government of New Zealand aimed to provide targets and minimum environmental standards, tools, templates and training to public procurers creating a common understanding about green procurement.

As a result of its implementation, standards, guidelines and targets have been set. In particular, a number of priority categories have been designated and the minimum sustainability criteria have been defined.

Standards have been developed for four priority categories: paper (recycled content, duplexing etc), timber and wood products (legally sourced and sustainably produced), travel (motor vehicles, air travel/video conferencing) and light fittings.

The green procurement policy for motor vehicles is a good example as it is based on the 3 pillars of sustainability:

- Environmental (reducing emissions).
- Economic (vehicle maintenance).
- Social (vehicle safety and driver behavior).

Objectives

Through the implementation of the Sustainable Government Procurement Project public administration aims to accelerate the adoption of sustainable practices in public procurement in areas of greatest impact in New Zealand. The project support to:

- Government leadership in sustainability.
- Raise awareness and increase knowledge of sustainability issues in the government market.
- Develop a common guidelines and standards to sustainable procurement across public agencies.

Definition of environmental criteria

Within the Sustainable Government Procurement Project, standards, guidelines and targets for green public procurement have been defined by the “Category Review Teams”. These teams have elaborated a set of a minimum standards and targets for departments and the information materials for procurers on how to consider and integrate environmental criteria into purchasing practice.

The Category Review Team for motor vehicles have developed the standards and reviewed the targets. Table 5 collects the standards organized by the three fields of sustainability.

Table 5. Environmental standards for vehicle public procurement

Field	Consideration	Standard
Social	Safety Rating	Consider vehicles with safety ratings higher than ANCAP 4[1] when available, for all vehicles purchased, leased or hired Give priority consideration to vehicles fitted with an electronic stability control system (ESC) for delivery from 2008 when ESC is available and practicable for purpose (for all vehicles purchased, leased or hired) Consider vehicles with additional safety features for all vehicles purchased, leased or hired Develop a safe driving policy for all drivers engaged in driving vehicles that are purchased, leased or hired
Environmental	Reducing harmful emissions	Consider vehicles with higher emissions standards when leased or hired and delivered from the end of 2010 Remove older vehicles (ie, pre-Euro 4[2] or equivalent), which are likely to be high emitters, from departmental vehicle fleets that are owned or leased by 2010 or earlier, wherever possible
	Fuel consumption*	Actively reduce fuel consumption across the department's fleet of light motor vehicles (i.e., cars, vans and small trucks), and highlight the methods to be used in the travel plan (i.e. changing drivers' habits and behaviors) Incorporate in specifications the 'point-of-sale' labelling information for fuel consumption for light vehicles, once it becomes available
	Renewable fuel	Invite suppliers to include options for the use of renewable fuels in their responses to tender exercises for the purchase, lease or hire of vehicles. Renewable fuels include biofuels, electric, and road fuel gases Consider in tender evaluations that, when available, all petrol-driven vehicles purchased, leased or hired are able to run on bio-ethanol-petrol blends of 10 per cent ethanol Consider in tender evaluations that, when available, all diesel-driven vehicles purchased, leased or hired are able to run on low-level blends of bio-diesel Consider, when available, electric vehicles that utilise renewable electricity
Economic	Vehicle maintenance	Have a planned preventative maintenance programme in line with the manufacturer's recommendations and specifications for all vehicles in the fleet Have a fully auditable maintenance record that includes a history of all work carried out and associated costs for all vehicles in the fleet

*Fuel consumption also can be considered as economic consideration.

[1] ANCAP is the Australasian New Car Assessment Programme that assesses models for the Australian domestic market.

[2] Euro 5 standard for petrol-operated vehicles and diesel-operated heavy vehicles (ie, over 3.5 tonnes) are expected to be available from 2010.

Training activities

The New Zealand Procurement Academy assists public and private sector procurement practitioners and generalists in accessing procurement training courses and undertake study towards internationally recognised procurement qualifications.

Training options include study for an Advanced Diploma in Procurement from the Chartered Institute of Purchasing & Supply Australasia that includes sustainable procurement studies. In June 2009 about 200 government employees had been on sustainable procurement training.

Results and environmental benefits achieved

Within the implementation of the Sustainable Government Procurement Project and the definition of sustainability standards for purchasing motor vehicles, the government wants to improve values for money over whole life from departmental expenses reduce cost savings and foster the development of low carbon technologies whereas protecting the environment.

Funding

The Sustainable Government Procurement Project is a public initiative, funded by the government.

Monitoring system

The Sustainable Government Procurement Project has focused their efforts, so far, in the establishment of common environmental standards and guidelines in vehicle purchasing. Through the development of studies and projects the government is currently reviewing the performance on green procurement of public department and agencies.

Main barriers and way forward

According to the Green Sustainable Project, new challenges would be identified over the progress of the adoption of sustainable purchasing of vehicles. The project should support the analysis about the needs of the government agencies such as:

- Ensuring that sustainable public procurement is compatible with legal and regulatory frameworks and trade policies
- Long-term political commitment to sustainable public procurement.
- Application needs to be consistent and well thought through.
- Local and central government not aligned.

Sources

Ministry of Economic Development, 2008. Sustainable Government Procurement Project Category Reviews. Standards, guidelines, and targets for core Public Service departments. First revision.

Australian Procurement and Construction Council, 2007. Australian and New Zealand Government Framework for Sustainable Procurement.

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Best practice of green public procurement factsheet

EPP Program of Massachusetts Government

Background | **Year:1994**

The Commonwealth of Massachusetts' Environmentally Preferable Products (EPP) Procurement Program (EPP Program) started in 1994 at the Operational Services Division (OSD). Since then, the EPP Program has been an important resource for the Commonwealth agencies and departments, local government, school districts and higher education, as well as other governments and organizations across the economy with respect to environmental purchasing. The EPP Program has met or exceeded its established goals on an annual basis and has increased its expenditure in green products from 5 US$ million in 1995 to over $305 million in 2011.

The EPP Program has been recognized as one of the first comprehensive efforts in the adoption of green criteria in purchasing in states government. Over the years, the Program has received several awards and, in 2009, the program director was personally honored with Governor's Manuel Carballo award for excellence in public service.[3]

Main primary EPP Program initiatives include the following:

- Working with the staff at OSD.
- Participation in the development of green purchasing standards.
- Extending the current program to a broad audience that includes small businesses, educational purchasing cooperatives, consumers and others.
- Supporting business community in understanding the benefits of covering the current demand in EPPs by the state.
- Helping interagency teams to implement the green initiatives.
- Updating and simplifying the online tools to track both the economic and environmental benefits of using EPPs.

Objectives

The main goal of the EPP Procurement Program is to foster the Commonwealth green procurement in order to reduce the environmental and health impacts of the state government's activities. The EPP Program aims to stimulate markets for recycled content products and promote the purchase of those goods and services that conserve energy, water and other resources while reducing waste and toxic substances.

Definition of environmental criteria

Massachusetts defines EPPs as products and services that have a lesser or reduced effect on human health and the environment when compared to competing products and services that serve the same purpose. The EPP Program is in charge of incorporating environmental standards and criteria into the state contracting process. Examples of EPPs include:

[3] www.mass.gov

- Recycled-content paper and plastic products.
- Waste reducing compostable items.
- Reduced-toxicity cleaning products and practices such as integrated pest management.
- Furnishings made with sustainable materials.
- Renewable energy and alternative-fuel vehicles.
- Water conservation practices and devices.
- Energy efficient office and industrial equipment, lighting and fixtures.

The OSD has prepared the "Guide on Recycled and Environmentally Preferable Products and Services" in an attempt to assist Commonwealth agencies and political subdivisions in identifying and procuring such kind of products and services.

The guide provides introductory information on purchasing environmentally preferable products and accessing statewide contracts. In addition, it provides information about the products and services related to recycling or other EPP. For each of the products/services listed, the guide provides:

- A summary of the items with recycled content or other environmentally preferable features.
- List of contractors (i.e. vendors on contract) who offer EPPs.
- OSD (or lead agency) contract manager as well as OSD's EPP contact person.
- Actual product pricing (where possible).
- Sources of additional information/tips for using the contract.

So far, 47 products and 7 services are included in the guide. The EPP Program is scheduled to update the guide twice a year to include new EPPs. Latest guide (September 2012) is available for downloading at the EPP Program of Massachusetts Government.[4]

In addition, EPP Program is currently preparing product and service factsheets to provide purchasers with a summary of selected environmentally preferable products and services currently available in the marketplace.

Training activities

Training activities is one of the most active initiatives of the EPP Massachusetts Program. During FY[5] (fiscal year) 2010–2011, EPP participated in 13 training activities. The main objective is to contact buyers and business through the organization of several events. The following is a list of some of the interesting sessions:

- Healthy Schools Network (HSN): September 2010 – The EPP Program provided information on the Massachusetts statewide contract green cleaning products, programs, equipment and supplies and the progress the state has made on green cleaning initiatives. www.healthyschools.org/index
- OSD's Training and Outreach Agency Workshop: September 2010 – The EPP Program director and OSD's training director conducted a training session on the requirements of Executive Order 515 and how to use statewide contracts to achieve compliance.

[4] http://www.mass.gov/anf/budget-taxes-and-procurement/procurement-info-and-res/procurement-prog-and-serv/epp-procurement-prog/publications-rpts-and-tools/guides-to-epps-on-massachusetts-state-contracts.htm

[5] Fiscal Year: July 1st.– June 30th .

- Leading by Example Awards at the State House: October, 2010 – OSD and the EPP Program supported this event by conducting outreach to state agencies and municipalities to encourage participation.
- Supplier Diversity Office (SDO) Kick-off Conference: October, 2010 – the Program staffed a table to speak about the benefits of offering green products and services for the purpose of encouraging women/minority owned businesses to adopt EPP policies.
- EcoLogo Standards Development for CCD-146: June, 2011 – This process involved several conference calls with organizations across the economy and a final submission of comments on how the EcoLogo CCD-146 Standard for hard surface cleaning products should be updated.

Results and environmental benefits achieved

The EPP Program has developed model contract language for dozens of statewide contracts and hundreds of products to enable public purchasers to incorporate green public procurement measures.

The main results reported by the EPP Program in the FY 2011 are:

- An increase of 6% in the purchase of EPPs (from US$288 million to over US$305 million over the fiscal year).
- US$3 million in cost savings and a reduction of 20,000 tonnes of carbon emissions.
- Led the interagency Toxics Reduction Task Force.
- Actively participated in the awarding of three new statewide contracts that include EPPs.
- Recognized by the US Environmental Protection Agency for innovative leadership in utilizing state contracts to achieve “best practices” in procuring energy efficient equipment.

One of the key components of the EPPs Program best case consists in the creation and dissemination of tools that associate the purchase of green products with the environmental and financial benefits achieved. Thus, procurers know potential benefits, in terms of environmental and costs savings, from the inclusion of environmental standards in procurement. Within this context, EPP developed the calculator EnviroCalc.

EnviroCalc is an excel spreadsheet tool designed by OSD’s EPP Program staff to calculate energy and cost savings. It has the capability to quantify environmental benefits for a number of products made with recycled materials. The outputs of the spreadsheet are based on data gained from product suppliers, obtaining credible information for public purchasers. The user introduces the number of products that meet environmental standards and the EnviroCalc estimates the energy savings, monetary savings based on energy conservation, greenhouse gas (GHG) emission reductions, weight of materials recycled, weight of materials reused, landfill space savings, number of trees saved and avoided oil extraction.

Besides, EnviroCalc the EPPs Program website disseminates other tools such as:

- Energy Star Savings Calculator: to estimate the energy consumption and operating costs of office equipment and the savings generated from using the power management features built into the equipment (developed by US EPA).
- EPEAT, The Electronic Product Environmental Assessment Tool: to select desktop computers, notebooks and monitors based on environmental attributes. EPEAT was created by the non-profit organization Zero Waste Alliance.
- HEV Cost Calculator Tool: to determine the costs and benefits of using hybrid electric vehicle instead of fuel vehicles. The calculator was developed with the support of U.S. Department of Energy.

Funding

The Environmentally Preferable Products (EPP) Purchasing Program is funded by the regional Government and administered by the Operational Services Division (OSD).

Monitoring system

The EPP Program annually tracks the purchases made by state agencies and other entities using the statewide contracts in order to illustrate the impact of their efforts on Commonwealth purchasing practices.

To this end, the EPP Program requires contract vendors to report their sales. The periodicity of reports from contract vendors has been changed in 2012 to increase the accuracy of the data obtained.

Main barriers and way forward

The tracking of purchases made by all statewide contract vendors identifies potential challenges for the launch of future initiatives. In FY2011 the EPP reported the following working areas that must be improved:

- Developing a more efficient and accurate system of tracking and reporting the EPP purchases.
- Improving the contract utilization of the green cleaning products statewide contract.
- Providing greater support to domestic organizations, and for example with the National Association of State Procurement Officials to raise the awareness of green purchasing benefits.
- Collaborating with related agencies and non-profits to build a comprehensive program of education and training.
- Researching on-line tools and/or working to improve current tools, to more easily calculate the benefits of environmental purchasing.

As a result of the importance given to the strategic sourcing techniques to improve upon the state contracting process, the EPP Program anticipates even greater growth next year in environmental purchasing. EPP is increasing the work on the following strategies in order to improve the performance of the EPP Program:

- Total cost of ownership, a benefit inherent to most environmental purchases.
- Developing a strategy that includes environmental and public health impacts of a purchase.
- Tracking purchasing results in order to better direct the success of the long-term procurement.

Sources

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Best practice of green public procurement factsheet

Green Council and Hong Kong Green Purchasing Charter

Background | **Year: 2007**

Green Council, constituted in May 2000, is a non-profit organization committed to promoting and assisting Hong Kong's (China) business sector in incorporating good environmental practices into business strategies.

Green Council has contributed to the increase of awareness on the purchasing of environmentally preferable goods with the following initiatives:

- Green Label Scheme: certification of environmentally preferable products.
- Hong Kong Green Purchasing Charter (HKGPC): green procurement task force constituted by companies and organizations, international and local advisors and technical vetting committee aimed to guide GPP in Hong Kong, China.
- Cyber Green Center: on line platform on environmental products and technologies.
- Hong Kong Green Awards: recognition for companies that have pursued and achieved outstanding performance and results in the areas of green purchasing, green management and green governance.
- Events and trainings.

Objectives

Green Council has three principal objectives:

- Raise public awareness for the need of a better environment.
- Encourage and improve environmental management and performance of local industries, through the establishment and promotion of the Green Label Scheme.
- Promote the image of Hong Kong as a city that gives high importance to environmental protection.

These objectives will be achieved through the promotion of: education and training for environmental preservation, green consumerism, green management concepts and practices, easing environmental burden, waste recycling and waste reduction, energy conservation and sustainable development.

In relation to green purchasing (green consumerism), the green council launched in 2007, the Hong Kong Green Purchasing Charter (HKGPC) scheme with the ultimate goal of raise awareness and promote the use of green purchasing as a means to reduce and avoid adverse environmental impacts.

HKGPC and other local green purchasing networks help organizations to strengthen their green purchasing schemes and accelerate the expansion of the scope of product categories addressed.

Definition of environmental criteria

Green Council developed the voluntary scheme for the certification of environmentally preferable products launched in December 2000: The Hong Kong Green Label Scheme.



Figure 3. Hong Kong Green Label logo

The aim of the eco-label is to encourage manufacturers to supply products with good environmental performance and provide proper tools for consumers to recognize products that are more environmentally responsible. This label is classified as a type 1 label according to ISO (International Organization for Standardization) 14024, which involves a third-party certification requiring considerations of life cycle impacts. Some of the key criteria contained in these standards also require compliance with applicable legislation.

The procedure for the establishment of product categories and criteria consists of two main stages:

1. Selection of Product Categories.
2. Development of Product Environmental Criteria.

1. The selection of product categories takes into account the following key considerations:

- The concerned product category does pose a potential threat to environmental quality, and cannot be totally replaced by other environmentally benign alternatives.
- Environmental criteria have already been established for the concerned product category in other green labelling schemes.
- The concerned product category is widely used in Hong Kong, China.
- The concerned product category poses no health or safety threat to human beings.

To designate an environmentally preferable product their environmental impacts would be compared with similar products in this category.

2. The development of product environmental criteria involves the following stages:

(a) Collection of relevant information on other green labeling schemes; market and technological data of the products; and views/suggestions from interested parties such as the supporting organizations, trade associations, manufacturers, suppliers and environmental experts.

(b) Development of criteria, which consists of:

- Benchmarking with relevant criteria used in other established green labelling schemes, with focus on schemes that have adopted life cycle analysis (LCA) in their criteria development.

- Using LCA approach to ensure applicability and that the environmental criteria used are related to various life cycle stages of the product.
- Reference to local applicable standards e.g. the Hong Kong SAR Government's energy efficiency label scheme.

(c) Criteria Review and Endorsement: the HKGLS is the final authority in deciding on the environmental criteria to be applied in the scheme.

Training activities

Green Council officials provide its members with training and education on: green procurement; sustainable management concepts and practices; re-use, reduction and recycling; as well as renewable energy alternatives.

Since 2008, the HKGPC launches regular seminars and workshop on experience sharing regarding green purchasing.

Results and environmental benefits achieved

According to Green Council, benefits of environmental labels are that consumers can easily recognize products with less environmental impact. Moreover, the manufacturers and suppliers are increasing the financial benefits of producing products with less environmental impact. HKGLS have issued 108 licenses and 66 of them are still operational.

For the particular case of Hong Kong Green Label Scheme, the following considerations have been identified:

- Effective marketing tool: the green label shows the commitment of the manufacturer or supplier with the environment through the easy recognition of the green label.
- A sensible cost savings move: the effective use of resources would lead the reduction in the related costs in energy, water. In addition, the costs of waste management will be also reduced.

Funding

The Green Council is funded by membership fees, public donations and sponsorship from organizations, businesses and individuals. Membership category is defined by the staff employed by the applicant:

- SMEs: manufacturing business which employs fewer than 100 persons in Hong Kong, China; or a non-manufacturing business which employs fewer than 50 persons in Hong Kong, China (from US$ 259 to US$775).
- Large corporations: manufacturing business which employs more than 100 persons in Hong Kong, China; or a non-manufacturing business which employs more than 50 persons in Hong Kong, China (from US$ 1290 to US$6450).

There are three types of membership categories, with different obligations:

- Associate Member: develop and adopt green purchasing policy and strategy in order to meet the core HKGPC membership requirements.
- Member: implement, assess, and report on green purchasing policy, strategy, efforts and achievements, in order to evolve to Fellowship Member status.
- Fellow Member: "Take the Lead" by demonstrating strong, progressive and sustained corporate social responsibility, while guiding and assisting other organizations in launching and practicing green purchasing.

Monitoring system
Actually the association is constituted by around 50 members, and it would be needed to develop a track system to illustrate the impact of the efforts and activities carried out by the green council.
Main barriers and way forward
Green Council is currently preparing the Green Purchasing Network with the aim to create a close connection between organizations which practice green procurement and environmentally preferable products suppliers. Moreover a monitoring system should be created in order to track the progresses made by their members to analyze the benefits of members from participating in the green council activities and from the Hong Kong Green Label Scheme products awarded.
Sources
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Best practice of green public procurement factsheet

ECO-Buy - Local action to support GPP in Australia

Background

Year: 2001

ECO-Buy was born in 2001 as a result of the alliance of 24 local governments to buy recycled products. Nowadays, ECO-Buy has become a non-profit organization with a wide range of services to promote and assist public and private entities to purchase environmentally preferable goods. The associates has raised until 180 members that includes local governments across Victoria and interstate, departments and agencies of the Victorian Government and interstate, higher education institutions and corporate.

The support of ECO-Buy enabled local organizations to increase their expenditure in green products from around AUD $5 million in 2001 to AUD $70 million in 2008. The reporting of local GPP performance and other activities, such the ECO-Buy's awards, has encouraged institutions to increase their efforts in the adoption of green criteria when purchasing a product.

Support services include:

- Database of environmental products: ECO-FIND.
- Trainings and events.
- Consultancy services: research on green products alternative, best practices, development of projects, etc.
- Organization of trade fairs.
- The ECO-Buy Sustainable Procurement Assessment Tool: to measure the sustainable procurement performance (http://assessment.ecobuy.org.au/).

Objectives

The main objective of ECO-Buy consists in influencing the market towards environmentally preferable choices. ECO-Buy undertakes several initiatives in order to achieve this objective providing and assisting organizations with information, tools and knowledge to uptake green purchasing policy.

Moreover, the association promotes the supply of green goods and services supporting manufacturers and suppliers with the information needed to reduce the environmental impact of their products.

Definition of environmental criteria

ECO-Buy has developed ECO-Find, a database of environmentally preferable products that must:

- Be environmentally preferable to comparable or competing products or services.
- Have attributes that address their major environmental impacts, based on life cycle thinking and assessment.

In general, green products included in the database can have one or more of the following attributes:

- Recycled content.
- Water saving.
- Energy saving.
- Low-toxicity.
- Sustainably sourced materials.

In addition, products already awarded by independent eco-labelling scheme are directly incorporated in the ECO-Find database. The Eco-labels recognised are:

- The Good Environment Choice Label (Australia).
- Equivalent international eco-label (certification body member of Global Eco-labelling Network (GEN)).
- Greentag.

ECO-Buy has already defined environmental criteria for cleaning products, paper, timber products, commercial printing and insulation. For other product categories, a guide of the attributes[6] that the product must have to be considered in the ECO-Find database has been created. The environmental considerations include:

- Reduced resource intensity.
- Reduced toxicity of raw materials.
- Proven water and energy efficiency.
- Reduced impact on biodiversity.
- Secondary environmental features for consideration.

Training activities

Training is one of the most significant activities developed by ECO-Buy, which offers several courses and workshops both public and in-house. The most popular trainings are provided below as an example outline:

1. Fundamentals on sustainable procurement**:** to provide basic understanding of the benefits and considerations of sustainable procurement.
2. Green contracts and tenders: this module provides the information needed to procurement staff to incorporate environmental and social criteria in purchasing.

In addition, ECO-Buy hosts workshops in capital cities across Australia offering training around the following topics:

- Fundamentals of sustainable procurement.
- Writing a sustainable purchasing policy.
- Assess and prioritize your green spend.
- Greening your contracts and tenders.
- Supply chain engagement.
- Tracking and reporting green spend and marketing green products and services.

[6] Suppliers are asked to provide / demonstrate evidence of environmental attributes of the product and verify material sources where applicable.

Results and environmental benefits achieved

Over the history of the ECO-Buy Local Government Program, main results obtained are described below:

- The expenditure by all reporting ECO-Buy local government members has increased from AUD $5 million (here after $) in 2000–2001 to $71.5 million in 2007–2008 and a slight drop to $67.4 million in 2009-2010.
- The number of green products purchased by members has grown from 80 in 2000-2001 to over 430 in 2009-2010.
- Over 37,500 tonnes of CO_2 were avoided, 9.9 giga litres of water and 84 hectares of land were saved as a result of green products purchased in 2009-2010.
- Recycled product spend has increased by $3.3 million from 2008-2009 to 2009-2010, in part due to the increase in fleet management products.
- In 2009-2010, 77 percent of members are making good progress in developing policies and strategies.

Funding

Initially, ECO-Buy was financially supported by the Sustainability Fund and Sustainability Victoria (government department). In May 2007 ECO-Buy became an independent, self funding, non for profit organisation. Annual membership fees help to cover the cost of developing and delivering the ECO-Buy program. There are two membership options, base and accelerator.

The accelerator program is available for those members wanting to 'accelerate' their green purchasing journey.

Monitoring system

ECO-Buy Local Government program is making efforts to improve the tracking and reporting of green product expenditure. Thanks to this program, local authorities are one of the sectors that report their improvement in buying green. In 2008, 49% of members had a tracking system in place and, in 2009-2010, 65 percent of ECO-Buy member informed about its green purchasing. Despite the improvement in reporting, the results showed the difficulties to monitor the procurement of green products.

The results of green procurement are widely disseminated and certificates are delivered to members illustrating their improvement in green purchasing performance.

Main barriers and way forward

ECO-Buy is drawing the action plan for the following periods according to the results achieved, feedback received from governments and companies and needs identified. The new challenges appointed by the association for 2011-2012 are summarized below:

- Paving the way towards sustainable procurement: ECO-buy has established a strategic goal of extending the concept of purely green procurement to sustainable procurement. Nowadays, clients and members of the association are more interested in the adoption of sustainable procurement measures, since they need support for implementing initiatives and tools to implement this measure.
- Working with ECO-Buy clients*:* tailored products will be developed for clients according to their needs and the state of development of their sustainable procurement policy.
- *C*ommunication*:* a review of ECO-Buy communication tools will be carried out (website, newsletter, etc.). In addition, the association aims to increase the number of articles and opinion pieces in publications.

- Partnerships: the agreement with the Chartered Institute of Purchasing and Supply Australasia (CIPSA) will be consolidated. Other similar partnerships will be pursued by the association.

Sources

ECO-Buy Local Government Annual Report 2009-10

ECO-Buy Green purchasing in Australia 2009

ECO-Buy Annual report 2010/2011

ECO-Find Listing Criteria. October 2010

ECO-Buy Training brochure