Green Public Procurement and Buy Clean Policies and Programs Around the World

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Abstract

Because public entities exercise large-scale purchasing power in contracts for goods, services, and construction of infrastructure, policies prioritizing environmentally and socially responsible purchasing can drive markets in the direction of sustainability. In fact, public procurement accounts for an average of 12 percent of GDP in OECD countries, and up to 30 percent of GDP in many developing countries. A wide range of countries around the world practice some form of Green Public Procurement (GPP) (also called Buy Clean) to promote products and materials that are more environmentally friendly and have a lower energy or carbon footprint. This study assessed 30 such programs, 22 of which were at the country level, and five case-studies at the city and regional level, as well as GPP programs of three multilateral banks and the UN to promote sustainable production and consumption. Fifteen of the countries we reviewed are among the top 20 GHG-emitting nations. Based on this comparative analysis, we also identified four best practice GPP programs, one each from the regions of Asia, Europe, North America, and Oceania, and present them in detail. Based on this review, we identify barriers to green public procurement and provide policy recommendations for using the power of public purchasing to foster sustainability.

1. Introduction

Public procurement at the national level accounts for an average of 12 percent of gross domestic product (GDP) in Organization for Economic Cooperation and Development (OECD) countries, and up to 30 percent of GDP in many developing countries (UNEP 2017a). In the European Union (EU), public procurement accounts for an estimated 19% of GDP (2.3 trillion Euros annually) (Interreg Europe 2018). In the United States, many state procurement agencies spend over a billion dollars each year on government purchases. When public entities leverage their large-scale purchasing power by buying sustainable goods and services, they help drive markets in the direction of sustainability, reduce the negative impacts of their use of goods, and produce positive environmental and social benefits (UNEP 2017a).

The products that governments tend to procure (for example, large infrastructure such as roads, buildings and railways; and resources for services such as public transport and energy), account for a large percentage of carbon dioxide (CO_2) emissions. The construction sector alone accounts for 35% of CO_2 emissions in Europe, with a large part of these emissions attributable to construction materials such as cement, steel, and asphalt. In particular, cement and steel

production each account for around 6% of global CO_2 emissions (BAX & Company 2019). Not all construction included in these statistics is carried out by public entities, but government construction projects tend to be large scale, so green public procurement (GPP) policies can have a substantial impact on reducing the emissions associated with construction.

The European Commission, in its communication entitled “public procurement for a better environment,” defines GPP as "…a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured" (Interreg Europe 2018).

GPP’s potential has been increasingly recognized both nationally and internationally. The United Nations (UN) also highlighted the importance of public procurement in its sustainable development goals, specifically goal 12 on sustainable consumption and production (Interreg Europe 2018).

Many governments around the world have already recognized GPP’s value as a policy instrument and are trying to leverage the money they invest in large contracts to achieve green goals. Examples of GPP practices include encouraging reducing cement use or embodied CO_2 in cement (rather than those that would have to be transported from elsewhere) in large infrastructure projects. To realize GPP’s potential, policy frameworks such as the European Commitment to Green Public Procurement have been developed (BAX & Company 2019).

2. Methods

For this report, we reviewed GPP programs in 22 countries, 15 of which are among the top 20 greenhouse-gas (GHG)-emitting nations. We used a standardized format to describe the GPP programs in for each country so that the programs can easily be compared to one another.

From these 22 countries, we selected best practice countries from four different regions: Asia, Europe, North America, and Oceania. The topics addressed for each best practice country’s GPP program are:

- Laws, regulations, and policies associated with GPP
- Government agencies and authorities in charge of the GPP program
- Program goals and targets
- Institutions targeted
- Products and categories included in the GPP program
- Government agencies subject to the GPP policies
- Environmental concerns addressed by the GPP policies
- Monitoring of program performance
- Tools to aid GPP

3. International Green Public Procurement Programs – Best Practice Case Studies by World Region

Asia: Japan

Laws, Regulations, and Policies

Japan is the pioneer, both in Asia and world, in developing a GPP framework. Japan's policies and regulations to promote and implement GPP have been in place since the late 1980s (UNEP 2017b), starting with the Eco Mark environmental labeling program (Japan MOE 2016). The first edition of the "Basic Policy for the Promotion of Procurement of Eco-Friendly Goods and Services" (Basic Policy on Promoting Green Purchasing or Green Purchasing Law) appeared in 2001; the most recent version appeared in 2016 (MOE 2016; UNEP 2017a). The law requires that government agencies apply green purchasing criteria when procuring products in a wide array of categories (UNEP 2017b).

Japan's "Basic Policy concerning the Promotion of Contracts considering reduction of GHG Emissions by the State and Other Entities" (Basic Policy on Promoting Green Contract or Green Contract Law) was adopted in 2007 with the most recent revision in 2014 (UNEP 2017a). This law requires government agencies and public institutions to follow green contracting requirements when purchasing electric power, automobiles, energy services, or building design services. With its focus on GHG emissions reductions, the green contracting law complements the Act on Promoting Green Purchasing (Japan MOE 2016).

Government Agencies and Authorities in Charge of Green Public Procurement Programs

The Ministry of the Environment (MOE) is the main government agency managing GPP; MOE also develops basic policy details, such as designating evaluation criteria and items eligible for green procurement (UNEP 2017b; MOE 2016). Individual government agencies and public institutions develop and implement their own procurement policies, evaluate implementation, and report performance to the Minister of the Environment. Certification bodies and non-governmental organizations (NGOs) provide information about certification criteria and environmentally friendly products and services for both consumers and suppliers. The Green Purchasing Network (GPN) is a non-profit organization established in 1996 that supports nationwide green purchasing activities, particularly by providing training and information.

Program Goals and Targets

The Act on Promoting Green Purchasing requires that each ministry's or agency's procurement policy include GPP considerations and targets. As noted above, each ministry and public agency sets its own targets for the goods and services identified in the Basic Policy on Promoting Green Purchasing (UNEP 2017a; UNEP 2017b).

Environmental Concerns Addressed by Policy

Japan's GPP policies aim to reduce air pollution, preserve biodiversity, mitigate climate change, promote clean technology and eco-innovation, conserve energy, reduce use of hazardous substances, improve health, protect local environmental conditions, reduce ozone depletion, protect natural resources, ensure resource efficiency, protect soil, minimize waste, conserve water, and reduce water pollution (UNEP 2017a).

Agencies and Institutions Targeted by/Subject to Policy

All central government ministries, 47 prefectural governments, and Japan's 700 cities are subject to GPP policies (UNEP 2013). GPP is mandatory for all central government and incorporated administrative agencies (UNEP 2017b; UNEP 2017a). It is voluntary for local government and local administrative agencies (UNEP 2017a). Japan has the highest percentage (70%) of agencies implementing GPP policies compared to other countries in the world (UNEP 2017b).

Products and Categories included in Program

Japan's green procurement list includes 246 items in 19 product and service categories: paper, stationery, office furniture, office machines, mobile telephones, home electronic appliances, air conditioners, water heaters, lighting, vehicles, fire extinguishers, uniforms and work clothes, interior fixtures/bedding, work gloves, other fiber products, facilities, emergency goods, public works projects, and services (UNEP 2013).

Monitoring / Measures of Program Success

At the central government level, each ministry and administrative agency is required to track totals of procured goods and services that fall into the categories defined in the government's basic policy as well as the ratio of eco-friendly goods to the total number of goods and services and report this information to MOE. The results are compiled and published by MOE on its website (UNEP 2017b). The purposes of this reporting are to: a) quantify the total number of designated products/services purchased (in units) and assess the evolution in overall consumption based on the data, and b) quantify the percentage of designated products that comply with GPP environmental criteria in order to evaluate progress in the level of green purchases. At the end of each fiscal year, each organization submits a standardized report to MOE. Local-government monitoring is based on a questionnaire about efforts by local authorities to implement and promote GPP. Based on the data collected, MOE prepares a general report (UNEP 2017b).

Following the 2001 adoption of the Act on Promoting Green Purchasing, the market share of environmentally friendly products increased in Japan. GPP is estimated to have reduced GHG emissions by 210,000 tons of CO_2 equivalent (Japan MOE 2016).

Tools to Aid Green Public Procurement

GPN publishes Green Purchasing Guidelines and maintains an on-line Eco-Products Database of environmentally friendly products and services (Japan MOE 2016). Green Purchasing Guidelines list key environmental aspects that must be considered when purchasing a product. As of March 2016, GPN had prepared green purchasing guidelines for 19 products and service categories. The Eco-Products Database is the largest database (more than 15,000 products as of March 2016) of information about products and services and their rating under the Green Purchasing Guidelines. A number of local governments use this database. The database indicates which products meet the criteria of the Basic Policy of the Act on Promoting Green Purchasing.

Europe: The Netherlands

Laws, Regulations, and Policies

In 2005 the Netherlands introduced its first set of comprehensive GPP criteria and targets for the approximately 7,500 contracting authorities that are involved in public procurement. The Procurement Law of 2012 established the Netherlands' Socially Responsible Procurement Policy and criteria and was based on the political commitment in the 2005 parliamentary motion Koopmans/De Krom.

Government Agencies and Authorities in Charge of Green Public Procurement Programs

The Ministry of Infrastructure and the Environment is responsible for GPP policy development and leadership-by-example initiatives. PIANOo, the Dutch public procurement expertise center, provides information on sustainable procurement.

Program Goals and Targets

The Netherlands is a frontrunner in GPP, having achieved, according to its own monitoring results, the government's ambitious 2005 target of 100% GPP by 2010 for central government procurement. Subsequently a 100% target was set for other public authorities to meet by 2015 (DMIE 2010) (see Table 4).

Table 4. GPP targets for various levels of Dutch government for 2010 and 2015 (DMIE 2010)

GPP Targets	2010	2015
Central government	100%	100%
Provinces	50%	100%
Municipalities	75%	100%
District waterboards	50%	100%

Environmental Concerns Addressed by Policy

Environmental issues considered by the DuboCalc software tool, which is used to support implementation of the Netherlands' GPP policy, are: global warming; ozone layer depletion; toxicity to humans; ecotoxicity to fresh water, marine, and terrestrial environments; photochemical oxidation; abiotic depletion; depletion of fossil energy sources; eutrophication; acidification; and carbon emissions. DuboCalc can calculate CO_2 emissions as kilograms (kg) CO_2-eq, and includes other GHG emissions such as CH_4 and N_2O (Rijkstwaterstaat 2019).

Agencies and Institutions Targeted by/Subject to Policy

The agencies and institutions targeted by the Netherlands GPP programs are the central, provincial, and municipal governments as well as district water boards.

Products and Categories included in Program

The Dutch government has developed sustainable purchasing criteria for all major products and services that are procured. This covers 45 product groups that are broken down into seven clusters. This includes a cluster for office buildings which encompasses seven product groups, and a cluster for civil and hydraulic engineering that encompasses 17 product groups. Example product groups include civil engineering structures; earthworks; roads; and new construction, renovation, and demolition of buildings (PIANOo 2019).

Monitoring / Measures of Program Success

To track GPP progress, the Dutch national government published monitoring reports in 2006 2008, and 2010. On average, 94% of all surveyed followed GPP principles for all product groups and government bodies involved (DMIE 2010). Although surveys show the Dutch GPP program reaching most of its targets, a 2013 GPP policy evaluation shows that 59% of respondents always included minimum GPP criteria, 31% included minimum GPP criteria in a portion of their procurement, and 10% of respondents never included minimum GPP criteria (Ecofys 2013).

Overall, these criteria were found to have helped reduce CO_2 emissions. However, about half of these procurement policy criteria were found to be as stringent as current industry standards, suggesting that such criteria are not necessarily pushing industry to increase green procurement practices (European Commission 2016).

Tools to Aid Green Public Procurement

A tool is available that allows procurers to quickly collect relevant GPP criteria for products: https://www.mvicriteria.nl/en.

The DuboCalc life-cycle cost and carbon emissions tool is a software tool created in 2002 to calculate the life-cycle environmental impacts of materials and energy, from extraction to the demolition and recycling phase, for designs associated with infrastructure tenders.

The CO_2 Performance Ladder scheme, developed in 2009 and now adopted by a wide range of Dutch government entities and private companies, is used for procurement of construction works and materials. The scheme is managed by an independent non-profit party, SKAO (SKAO 2019). The CO_2 performance of suppliers participating in the scheme is certified at levels ranging from 1 to 5, with incentives to continually improve. The CO_2 Performance Ladder is entirely voluntary and focuses on the embodied carbon emissions of activities and processes involved in a project (OECD 2015).

North America: The United States

Laws, Regulations, and Policies

U.S. federal government procurement of green products began in 1993 with Executive Order 128733 by President Clinton. The order required agencies to align procurement policies with Section 6002 of the Resource Conservation and Recovery Act (RCRA) to use recycled products to the extent practicable and competitive. It also directed the United States Environmental Protection Agency (U.S. EPA) to establish Comprehensive Procurement Guidelines (CPGs) for recycled content in products and instructed federal agencies to adjust their procurement programs to comply with these EPA standards to the maximum extent practicable (Ganley 2013).

In 2001, Executive Order 13212 required agencies to increase energy conservation. Based on this order, the Federal Energy Commission developed best practices to promote federal purchases of U.S. EPA-designated energy-efficient electronic equipment (OECD 2015). The Bush Administration later issued Executive Order 13221 requiring federal agencies to purchase electronic products that consumed no more than one watt of standby power. Congress also expanded procurement of green products by extending federal buying preferences to include "bio-based" products under a United States Department of Agriculture (USDA) program in the 2002 Farm Security and Rural Investment Act, and by adopting the Energy Policy Act of 2005 (EPACT). EPACT added a provision for federal procurement of energy-efficient products to the National Energy Conservation Policy Act (NECPA) (Fischer 2010). In 2007, Executive Order 13423 required agencies to purchase paper made with a minimum of 30 percent recycled content and to meet 95 percent of their electronic equipment requirements using products that have the Electronic Product Environmental Assessment Tool (EPEAT) voluntary certification.

In his October 2009 Executive Order 13514, President Obama broadened the mandate to address GHG emissions in federal operations. The order laid out numerous environmental goals, from reducing use of toxic chemicals to promoting integrated energy planning. The order also contained wide mandates for federal green procurement, requiring agencies to increase energy efficiency, conserve water, and reduce waste in operations and supply chains through federal procurement and building management (Fischer 2010; Ganley 2013; OECD 2015). All

sustainability mandates have also been incorporated into the Federal Acquisition Regulation (FAR), which covers all procurement requirements for federal purchases (OECD 2015; ICLG 2019).

In the US, 55% of GHG emissions attributed to public institutions are a result of government-purchased goods and products. Some cities and states view procurement-based policy as a key opportunity to reduce carbon emissions. Implementation of the Buy Clean California procurement policy may provide a model for other jurisdictions considering embodied carbon regulations (Simonen et al. 2018).

In January 2021, President Biden issued Executive Order 14008 to establish a task force to develop a federal procurement plan to procure carbon pollution-free electricity and clean, zero-emission vehicles (White House 2021). Two bills were proposed in March 2021 to realize these goals: the Climate Leadership and Environmental Action for our Nation's (CLEAN) Future Act and the Better Utilizing Investments to Leverage Development and Generating Renewable Energy to Electrify the Nation's (BUILD GREEN) Infrastructure and Jobs Act. The CLEAN Future Act proposes to reduce embodied emissions in projects involving federal funds by increasing transparency of embodied emissions in construction products, establishing a Federal Buy Clean program, and creating a Climate Star program (E&C 2021). It would establish a publicly accessible National Environmental Product Declaration (NPD) Database. The initial list of eligible materials will consist of aluminum, iron, steel, concrete, and cement. The BUILD GREEN Act focuses on electrification of the transportation sector, which accounts for 29% of US emissions, and upgrading infrastructure (EPA 2019). Modelled after the Department of Transportation's (DOT) BUILD grant program, it proposes to invest $500 billion in grant funding for states and local governments to electrify public transit systems and modernize roads, bridges, and rail. Eligible projects are required to add renewable energy generation to cover the energy consumed by the project (Warren 2021). This legislation would greatly augment the scope of federal GPP in the United States and increase public awareness of embodied emissions. However, it remains to be seen whether the bills will be passed in their current form.

Government Agencies and Authorities in Charge of Green Public Procurement Programs

The Office of Management and Budget (OMB) provides broad guidance on GPP through various policy documents, as does the Office of the Federal Environmental Executive (OFEE), which is housed at the U.S. EPA. Some procurement criteria are set by specific agencies. U.S. EPA, the General Services Administration (GSA), OFEE, and other agencies have databases that identify green products. OMB requires agencies to have green procurement plans and report annually on their GPP activities. Those reporting requirements appear to be largely qualitative, but quantitative reports are available for recycled content and alternative-fuel products (Fischer 2010). Aside from U.S. EPA, two other agencies, the U.S. Department of Energy and the U.S. Department of Agriculture, take the lead in designating products and providing purchasing

recommendations and have designated environmental criteria for more than 300 product categories (OECD 2015).

Program Goals and Targets

The goals of Executive Order 13514 are (Fischer 2010, Ganley 2013, OECD 2015) to reduce Scope 1 and 2 GHG emissions by 28% and Scope 3 GHG emissions by 13% compared to a 2008 baseline, by 2020; and reduce potable water intensity by 26% compared to a 2007 baseline by 2020.

Section 2(h) of President Obama's 2009 Executive Order 13514 reinforces compliance with all sustainable acquisition standards and mandates that "…the head of each (federal) agency shall: …ensure that 95 percent of new contract actions…are energy-efficient (ENERGY STAR or Federal Energy Management Program [FEMP] designated), water-efficient, bio-based, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool [EPEAT] certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives…." (Fischer 2010, Ganley 2013, OECD 2015).

Environmental Concerns Addressed by Policy

The environmental benefits targeted by GPP in the U.S. are reduced toxicity, promoting energy efficiency, prioritizing recycled content, and fostering renewable energy and clean technologies.

Agencies and Institutions Targeted by/Subject to Policy

U.S. GPP requirements cover all 50 states, six territories, and 87,525 local governments (Conway 2012).

Products and Categories included in Program

Currently, sustainable acquisition requirements apply to products that are supplied or used as part of services contracts and fall into the following categories: electricity, design and/or construction, operations and maintenance, janitorial products/services, office supplies, furniture, cafeteria ware/services, fleet management, hospitality (uniforms/bedding/linens, meetings and conference services), and information technology (OECD 2015).

The CLEAN Future Act's National Environmental Product Declaration Database will apply to products made primarily of aluminum, iron, steel, concrete, and cement. A secondary list consisting of flat glass, insulation, unit masonry, and wood products is provided for consideration at the discretion of the U.S. EPA Administrator, who will be responsible for maintaining the eligible materials list. The list can be modified in response to petition (E&C 2021).

Monitoring / Measures of Program Success

As noted above, OMB requires agencies to report annually on their GPP activities. The federal government reports to the U.S. Congress every two years on the results of its green procurement monitoring. Additionally, the CLEAN Future Act proposes the EPA produce two reports to congress. The first, on federal procurement, will quantify and evaluate the level of spending and volume of eligible materials procured by the federal government. The second, on material efficiency, will review current research and policy recommendations for improving material efficiency of eligible materials (E&C 2021).

Tools to Aid Green Public Procurement

The U.S. Department of Energy (U.S. DOE) Green Buy Program provides U.S. DOE sites around the country with recognition for reporting on purchases of 40 priority products that go beyond minimum compliance in terms of their sustainability. The priority products list represents optional stretch goals for sustainable acquisition. Sites can tailor this list to meet their specific circumstances, allowing them to select categories and products of most value for their local situations. Facilities may report additional green products and are encouraged to nominate new candidates for the list. This list also assists sites in engaging with the suppliers and informing contract language and related reviews. The recognition program rewards effective procurement programs by giving incentives to procure and report on products whose use demonstrates exceptional commitment to sustainability (OECD 2015).

U.S. EPA collaborated with the General Services Administration (GSA) to integrate U.S. EPA's Recommendations of Specifications, Standards, and Eco-labels into major federal procurement vehicles, which help federal purchasers identify credible, effective standards and eco-labels that have been established by the private sector for products and services (EPA 2017).

The Federal Procurement Data System (FPDS) continues to be refined and improved as a tool to help agencies accurately report compliance with the sustainable acquisition mandates (OECD 2015).

Architecture 2030 recently launched the Carbon Smart Materials Palette, a decision-making tool that provides designers with attribute-based guidelines for (1) designing buildings with low or zero embodied carbon, and (2) specifying construction materials with low or no embodied carbon. The tool is designed to support and complement life-cycle assessment and EPDs (Simonen et al. 2018).

Oceania: Australia

In 2011–12, the Australian Government spent more than $41 billion on contracted goods and services (DSEWPC 2013), and in 2016–17 entered into contracts for goods and services valued

at more than $47 billion (DEE 2018). Australia's Commonwealth Procurement Guidelines (CPGs) were adopted in March 1998 with the aim of government agencies engaging in best-practice procurement. Environmental and other policies were a part of the guidelines framework (APEC 2013a). Updated CPGs took effect on December 1, 2008 (Eco Buy 2009).

Meanwhile, in 2007, the Australian Procurement and Construction Council (APCC) developed the Australian and New Zealand Government Framework for Sustainable Procurement. This framework was intended to guide the national, state, and territorial governments of Australia and the government of New Zealand in integrating sustainability principles into procurement decisions (APEC 2013a; Bosse 2017).

Sustainable procurement is a strategy under Australia's National Waste Policy, in which the government has committed itself to embodying and promoting improved resource management within its own operations. Under the National Waste Policy Implementation Plan of July 2010, the government also committed to supporting implementation and reporting on the uptake of sustainable procurement principles and practices (DSEWPC 2013).

Government Agencies and Authorities in Charge of Green Public Procurement Programs

Australian states have direct responsibility for executing sustainable procurement and are at varying stages of developing green procurement policies, institutionalizing sustainable procurement objectives, and implementing strategies to meet these objectives. Each state has environmental procurement policies and guidelines as well as web tools to increase awareness and expertise on low-impact options. State procurement boards have been engaged in various capacities, including advising procuring authorities on the environmental attributes of products and integrating performance targets for water, materials, and energy efficiency into procurement decision making. Several states have included environmental standards in supplier pre-qualification schemes and listings. Integral to the states' efforts is the Good Environmental Choice eco-label (IISD & TERI 2007).

Program Goals and Targets

GPP supports Australia's contribution to meeting the UN's Sustainable Development Goals, notably Goal 12—Responsible Consumption and Production.

Environmental Concerns Addressed by Policy

The environmental concerns addressed in the Australian Government Environmental Purchasing Guide include: reducing energy and water consumption, improving resource use efficiency, reducing waste, reducing environmental health impacts of products and services, reducing

pollution, providing markets for new environmentally preferable products, closing the loop on recycling, improving the viability of recycling, and encouraging industry to adopt clean technologies and produce products with low environmental impacts (ECO Buy 2009).

Agencies and Institutions Targeted by/Subject to Policy

The Australian state, territory and local governments are subject to Green Public Procurement/ Sustainable Public Procurement (DSEWPC 2013).

Products and Categories included in Program

The categories and products for which environmental criteria are established and that are included in GPP in Australia are: construction, maintenance, and renovation of public buildings (water, cooling and heating systems, energy); energy-efficient office products (printers, photocopiers, monitors and screens, light bulbs/ light tubes, personal computers and laptops, refrigerators); office supplies (ink and toner cartridges, paper); and office cleaning and waste management services (APEC 2013a).

Monitoring / Measures of Program Success

The ECO-Buy Local Government program is working to improve tracking and reporting of green product expenditures. As a result of the ECO-Buy program, local authorities report improvement in buying green. In 2008, 49% of members had a tracking system in place and, in 2009-2010, 65 percent of ECO-Buy members were informed about green purchasing. Despite the improvements in reporting, results also showed the difficulties of monitoring the procurement of green products. The results of green procurement are widely disseminated, and certificates are delivered to members commemorating improvements in green purchasing performance (ECO-Buy 2009/2010; APEC 2013b).

Australian Government agencies are required by the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) to include in their annual reports information about their performance in following ecologically sustainable development (ESD) principles. Incorporation of environmental purchasing practices is a common step that agencies take to protect the environment (APEC 2013a).

Tools to Aid Green Public Procurement

The Eco-Buy program, described above, provides the following support services and tools: a database of environmental products, ECO-FIND; trainings and events; consultancy services; organization of trade fairs; and the ECO-Buy Sustainable Procurement Assessment Tool to measure sustainable procurement performance. Other green product databases listed by Eco-Buy include Good Environmental Choice Australia, Ecospecifier, EcoDirectory, Social Enterprise Finder, and Sustainable Choice (NSW) (Zeppel 2014).

4. Barriers to Green Public Procurement

Although GPP is considered an effective policy instrument to reduce environmental harm, and the prior case studies demonstrate positive progress around the world, countries face many obstacles in implementing GPP policies (Renda et al. 2012; Van der Zwan 2018). These barriers range from lack of products on the market that meet the environmental criteria defined by GPP programs to lack of information about GPP and its financial and environmental benefits, and from lack of human or financial resources to implement GPP programs to lack of criteria for establishing what products or services are eligible for green procurement.

According to APEC (Annex D 2013b), GPP barriers encountered in Canada were associated with early adoption of stewardship criteria. Industry was reluctant to manufacture green products because of concerns that consumers would prioritize price, features, or aesthetics of products over environmental responsibility attributes. Similarly, in China, lack of education and information about GPP is a major barrier to GPP (Qiao and Wang 2011). Other problems include problems with management and approach, lack of uniform definitions of green procurement criteria and eligible products, and lack of mandatory requirements. Thus, implementation of green procurement should focus on integrating environmental considerations into centralized procurement instruments and developing tools and guidance for purchasing within the federal government.

A number of key challenges to the implementation of GPP in the EU have been identified in the RELIEF project and European Commission survey on Green Public Procurement in Europe 2006 (EC 2016), including lack of political support, perception that green products cost more, lack of legal expertise in applying environmental criteria, lack of practical tools and information, and the same problems identified above. For many product and service groups, public authorities do not have access to clear and verifiable criteria that allow them to incorporate environmental considerations into their tendering while complying with the requirements of procurement directives and other sources of procurement regulation.

5. Conclusion and Policy Recommendations

Because public entities exercise large-scale purchasing power in contracts for goods, services, and construction of infrastructure, policies prioritizing environmentally and socially responsible purchases can drive markets in the direction of sustainability. Significant GHG emissions are attributable to products and services that are commonly procured by governments, for example, large infrastructure such as roads, buildings and railways; public transport; and energy.

A wide range of countries and institutions around the world practice some form of GPP to promote environmental and social good. This report reviewed data on 30 of those programs, and selected four best-practice national government case studies from four different regions to present detailed information about.

Although GPP programs vary in the numbers of types of products and services covered, most aim to address a range environmental concerns from mitigating climate change, reducing GHG emissions, and promoting energy efficiency to protecting soil, water, biodiversity and health. Some GPP programs include social criteria, such as giving preference to small businesses in a percentage of contracts awarded.

GPP programs have deployed a number of tools to support implementation. A large number of GPP programs rely on in-country, international, or independent eco-labels or other certification schemes such as EPDs to establish the products and services that are eligible to be procured under GPP policies. A popular method of assessing the sustainability of products and services is life-cycle analysis, which examines the environmental impact of a product over its entire lifetime from production through transport, use, and disposal. Training in evaluating life-cycle cost offers procurers a means of weighing environmental benefits in lieu of using the traditional approach of simply awarding public contracts to the lowest bidder.

GPP programs have demonstrated success. Many countries that monitor and quantify GPP program impacts report that implementation of the programs is followed by significant decreases in CO_2 emissions and increases in numbers of green products procured and contracts awarded to small enterprises where the latter is part of the GPP criteria.

Recommendations

The foremost recommendation for using the power of public purchasing to foster sustainability is that all countries that do not currently have a GPP program should develop one. Countries that already have GPP programs can apply international best practices to improve their programs.

Given the pressing nature of the climate change crisis, we recommend that countries explicitly address energy-efficiency and embodied GHG emissions reductions in their GPP criteria, especially for products such as steel, cement, concrete, glass, and construction materials that have a significant GHG footprint.

To improve GPP programs, we recommend several measures and tools. First, countries should continually revise their GPP by periodically review their GPP criteria versus market conditions and make criteria more stringent to raise the bar for cleaner products. Governments can adopt tools such as eco-labeling, EPDs, and life-cycle analysis, which have benefitted the procurement programs of some of the countries reviewed in this paper. Such tools can simplify the process of establishing purchasing criteria for governments newly developing GPP programs and allow a focus on environmental impacts rather than just lowest cost bids in evaluating potential procurement contracts.

References

Andrea Renda et al. 2012. The uptake of Green Public Procurement in the EU 27, Centre for European Policy Studies and College of Europe.

Asia-Pacific Economic Cooperation (APEC) Annex B 2013a. Factsheets of GPP Policies in 18 APEC Member Economies

Asia-Pacific Economic Cooperation (APEC) Annex D 2013b. Best Practices on Green Public Procurement Factsheet

BAX & Company. 2019. Green procurement: the pathway to reduce emissions. https://baxcompany.com/insights/green-procurement-the-pathway-to-reduce-emissions/(2times)

Bosse, J. 2017. The WTO and Green Public Procurement in Australia

Conway, D. 2012. Sustainable Procurement Policies and Practices at the State and Local Government Level.

Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) 2013. Sustainable Procurement in the Australian Government Report

Department of the Environment and Energy (DEE) 2018. Sustainable Procurement Guide

Dutch Ministry of Infrastructure and Environment (DMIE) 2010. Monitor Duurzaam Inkopen 201. Resultaten monitoringonderzoek duurzaam inkopen 2010.

Eco Buy 2009. Green Purchasing in Australia

ECO-Buy 2010. Local Government Annual Report 2009-10

Ecofys 2013. Ex post beleidsevaluatie duurzaam inkopen – Eindrapport

Environmental Protection Agency (EPA) 2017. Sustainable Marketplace: Greener Products and Services.

European Commission (EC) 2016. Green and Sustainable Public Procurement. Available at http://ec.europa.eu/environment/gpp/versus_en.htm

Federal Public Service Health/Food Chain Safety and Environment (FPSH/FCSE) 2019. EPD database. Available at https://www.health.belgium.be/en/database-environmental-product-declarations-epd

Fischer, E. 2010. Green Procurement: Overview and Issues for Congress

Ganley, S. 2013. Federal Green Product Procurement Policy in the United States

International Comparative Legal Guides (ICLG) 2019. USA: Public Procurement 2019

International Institute for Sustainable Development (IISD) and the Energy and Resources Institute (TERI) 2007. State of Play in Sustainable Public Procurement

Ministry of the Environment (Japan MOE) 2016. Introduction to Green Purchasing Legislation in Japan.

Organization for Economic Co-operation and Development (OECD) 2015.Going green: best practices for green procurement.

PIANOo 2019. Sustainable Public Procurement. Available at https://www.pianoo.nl/en/public-procurement-in-the-netherlands/sustainable-public-procurement-spp

Qiao, Y. & Wang C. 2011. Issues and Challenges in Implementing China's Green Public Procurement Program.

Rijkstwaterstaat 2019. DubCalc Portal. Available at https://www.dubocalc.nl/en/

Simonen, K., Huang, T., Huang, M., 2018. Draft Buy Clean Washington Study

SKAO 2019. Sustainability with the CO2 performance ladder. Available at https://www.skao.nl/home_en

United Nations Environment Program (UNEP) 2017a. Factsheets on Sustainable Public Procurement in National Governments.

United Nations Environment Program (UNEP) 2017b. Comparative Analysis of Green Public Procurement and Ecolabelling Programmes in China, Japan, Thailand and the Republic of Korea: Lessons Learned and Common Success Factors

United Nations Environment Programme (UNEP) 2013. Sustainable Public Procurement: A Global Review. Final Report. https://globalecolabelling.net/assets/Documents/unep-spp-report.pdf.

Van der Zwan Judith 2018. Green Public Procurement as environmental policy tool: A theoretical framework. http://www.a-id.org/wp-content/uploads/2018/05/Green_rpcurement_May_2018.pdf

Zeppel H. 2014. Green Procurement by Local Government: A review of Sustainability Criteria