CLIMATE GOVERNANCE PAPERS

Green Public Procurement: An Overview of Green Reforms in Country Procurement Systems

Climate Change Governance

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Preface

In many countries, the government is the single largest purchaser of products, services and works. Green Public Procurement (GPP) enables governments to reduce the environmental impact of their purchases. It also serves as a powerful tool for governments to simultaneously achieve their environmental and development policy objectives.

Governments in high income countries first started integrating environmental considerations into procurement over twenty years ago. In developing countries, GPP is still an emerging practice. There is growing recognition that buying green offers value for money over the longer-term and that governments need to consider the environmental costs associated with their purchases. This is particularly important in the context of climate change.

Countries can make a start by launching pilot green tenders for commonly procured items, using simple environmental criteria such as ecolabels. Scaling up requires leadership and investments in an enabling framework. Central finance and procurement agencies play a critical role in this effort.

This report provides an overview of international experience in the implementation of GPP. It focuses on the institutional framework that is needed to support the mainstreaming of GPP practices across government. The intention is to equip practitioners with a broad understanding of the issues they need to consider in the design and implementation of GPP reforms. The report draws on a wide range of country examples. It provides links to handbooks and tools for practitioners.

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List of Abbrevations

ADB	Asian Development Bank
AfDB	African Development Bank
CA	Contracting Authorities
CDP	Climate Disclosure Project
CELAC	Community of Latin American and Caribbean States
CPB	Central Purchasing Body
CSO	Civil Society Organization
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EPA	Environemental Protection Agency
EPD	Environmental Product Declaration
ESCO	Energy Service Companies
ESG	Environmental, Social, Governance
ESI	European Structural and Investment
EU	European Union
GHG	Greenhouse Gas (Emissions)
GIZ	German Corporation for International Cooperation
GPA	Government Procurement Agreement
GPP	Green Public Procurement
IBRD	International Bank of Reconstruction and Development
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
INGP	Inter-American Network on Government Procurement (RICG in Spanish)
ISO	International Organization for Standardization
LAC	Latin America and the Caribbean
LCA	Life Cycle Assessment
LCC	Life-Cycle Costing
LDC	Least Developed Country
MAPS	Methodology for Assessing Procurement Systems

MDB	Multilateral Development Bank
MDG	Millennium Development Goal
NAP	National Action Plan
NGO	Nongovernmental Organization
OCDS	Open Contracting Data Standards
OECD	Organisation for Economic Co-operation and Development
PAD	Project Appraisal Documents
PBC	Performance-Based Contract
PFM	Public Financial Management
PID	Project Information Documents
PPA	Public Procurement Agency
PPSD	Project Procurement Strategy Development
PPL	Public Procurement Law
PPI	Public Procurement of Innovation
PSS	Product-Service System
R&D	Research and Development
SAI	Supreme Audit Institution
SDG	Sustainable Development Goals
SME	Small and Medium-Sized Enterprises
SPP	Sustainable Public Procurement
TCO	Total Cost of Ownership
TFCD	Task Force on Climate-Related Financial Disclosures
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNOPS	United Nations Office for Project Services
VfM	Value for Money
WTO	World Trade Organization

Executive Summary

Public procurement provides governments with a powerful tool to achieve their development objectives. The estimated global value of public procurement is approximately US$11 trillion, representing 12 percent of global GDP. In many developing countries, the government is the single largest purchaser for many categories of products and services.

Green public procurement (GPP) uses the public sector's purchasing power to achieve environmental objectives. GPP is part of a broader sustainable public procurement (SPP) agenda that addresses economic, social, and environmental concerns. World Bank Group support for GPP reforms is aligned with the Bank's twin goals—to end extreme poverty within a generation and boost shared prosperity—and its commitments to sustainable development and the Climate Change Action Plan 2021–2025.

This overview note seeks to support the design and implementation of effective GPP reforms, customized to country contexts and informed by global experience. The note draws on a substantial body of research, guidance, and tools on sustainable and green procurement prepared by the World Bank and other international organizations. The note is structured around five pillars of GPP reforms: the business case lays out objectives, defines priorities, and mobilizes support; the enabling framework helps transform GPP from a pilot activity to a policy and supports GPP implementation across the public sector; operational tools

integrate environmental considerations into procurement operations; operational approaches manage demand, facilitate the application of GPP practices, and shift the focus from products to performance and innovation; and reform management helps countries define their own reform pathways, building on sound diagnostics. The relative importance of these elements will vary between countries depending on their institutional context, stage of market development, and progress in GPP reform. Box ES1 highlights lessons learned, drawing on this diverse experience.

While champions may initiate GPP reforms, scaling up across government requires buy-in from policy makers, procuring agencies, the markets they buy from, and the public they serve. The business case for GPP will typically need to link reforms to environmental and development objectives, lay out indicators that monitor performance, and prioritize the application of GPP efforts in those areas with the most promise for success and impact. Stakeholder assessments and consultations engage suppliers and civil society in the design and implementation of GPP reforms. Multi-stakeholder forums can bring internal and external stakeholders together, provide the latter with a formal role in the reform process, and facilitate coordinated action. In many countries, environmental policy will involve market development measures, including information, financing, fiscal incentives, and regulation, to promote and facilitate businesses' transition to green business practices.

The enabling framework provides the institutional support needed to drive GPP reforms. The public procurement agency (PPA) will typically take on a leadership role as the entity responsible for procurement policy, regulation, and technical support for procuring entities. The regulatory framework for GPP should provide guidance on when and how to apply GPP practices and empower government to make their application mandatory. Incentives may include price preferences during the early stages as GPP reforms take off; they are then usually scaled back as GPP practices become mainstream. Reporting ensures that decision makers have information on the implementation and impact of GPP reforms. Effective reporting systems use e-procurement systems to consolidate operational data, mandatory reporting against key performance indicators, and surveys to gather information from stakeholders. Capacity building initially tends to focus on awareness raising, shifting toward the development of technical skills and ultimately leading to the integration of GPP into professional procurement qualifications. Procuring entities will need technical support in the form of manuals and guidance materials. In some countries, a core team of specialists with extensive experience in GPP provides operational support across agencies.

GPP requires the integration of green criteria into the procurement process so that procurers can identify the products and services that deliver the best value for money (VfM). Environmental criteria can be applied at each stage of procurement, from supplier selection to technical specifications, award criteria, and contract performance. While this may seem complicated, many countries and international organizations have developed tools that simplify the choice of buying green and reduce the administrative and technical burdens on procurers. These include standardized environmental criteria for priority product and service groups; ecolabeling schemes that simplify the use of environmental criteria; and life-cycle costing (LCC) tools focused on a few high-priority environmental impacts. Many of these tools are available online and can be adapted to specific country contexts.

Operational approaches seek to manage demand, facilitate the application of GPP practices, and shift the focus from products to performance and innovation. Needs assessments encourage procuring entities to identify opportunities to reduce consumption and meet their needs by purchasing services rather than products. Market consultations enable procuring entities to work with suppliers to identify the most effective solutions. Joint procurements, framework contracts, and catalogs allow purchasers to buy at scale and reduce the transaction costs of procuring green. Supplier facilitation seeks to reduce the transaction costs for suppliers, enabling small and medium-sized enterprises to participate in GPP operations. Results-oriented service and performance contracts allow procuring entities to specify the outcome that they are trying to achieve and leave it to the contractor to propose cost-effective solutions. Innovation procurement allows the government to finance research and innovation that leads to the development of new technological solutions to specific problems. Needs assessments, market consultation, supplier facilitation, and joint procurement are relatively straightforward and can be implemented early in GPP reforms. In contrast, service and performance contracts, and innovation and innovation procurement in particular, are technically demanding and tend to be introduced only in more advanced procurement systems.

Governments have taken different reform pathways for GPP, some following a top-down approach while

others proceeding from the bottom up. There is no standard GPP reform route map; Governments around the world have started at different points, taken different paths, and set distinct priorities, and they are at various stages of GPP development. GPP assessments can identify the strengths and weaknesses in GPP practices and set a baseline that can be used to guide reforms. There are standardized methodologies for these assessments, including a recently updated Methodology for Assessing Procurement Systems (MAPS) Supplementary Model on SPP. Strategies and action plans set the direction for reform and progressively expand the scope of GPP, provide an authorizing framework for GPP reforms, and drive the level of ambition.

The ultimate goal is to mainstream GPP as part of modern procurement practice. GPP is best viewed as an integral part of a modern procurement approach that fits alongside other reform efforts focused on delivering VfM, creating central procuring bodies, professionalizing the procurement function, advancing e-procurement and monitoring systems, and promoting strategic procurement approaches. GPP complement reforms related to the promotion of green fiscal policy, green infrastructure development, and climate governance.

BOX ES1. Lessons Learned from GPP Reforms

Just get started! A common misconception is that GPP requires a specific legal framework, complex environmental criteria, and the design of tailor-made tenders for each procurement. In practice, procuring agencies can apply GPP practices as long as the legal framework of public procurement establishes VfM as an award criterion. Most countries start their GPP journey by undertaking pilot procurements using simple criteria such as energy efficiency. As procuring agencies and suppliers gain experience, they can expand the scope and rigor of GPP practices.

Build the enabling environment as GPP operations scale up. All too often, reforms tend to focus on the operational aspects of GPP, prioritizing the development of operational tools and approaches and neglecting development of the enabling environment for GPP operations. As GPP scales up, a supporting organizational structure is needed to coordinate regulatory reforms, facilitate the adoption of new procurement tools and approaches, update systems, and build technical capacity.

Encourage PPAs to take a leadership role. In many countries, environmental agencies have taken the lead on GPP initiatives. This poses a challenge for scaling up because environmental agencies have no direct authority over procurement policy and are not involved in day-to-day procurement operations. Where environmental agencies have taken the lead, PPAs can play a supporting role. However, mainstreaming GPP requires the PPA to take the lead, ensuring that GPP practices are embedded in procurement policies, systems, and routines across the public sector.

Promote change in the public sector's procurement culture. Successful GPP reform requires a change in procurement from a risk-averse, compliance function to a strategic, risk-management function. Asking procuring officials to consider the environmental and developmental impact of procurement choices rather than simply choose the lowest-price option is a radical change in perspective. Communication and change management focused on a new procurement culture will be critical throughout the reform process. GPP should be presented as an opportunity to deliver high-quality public services rather than an added compliance burden. Communication in an accessible language, with high-level endorsements, should answer questions, address concerns, and debunk myths.

Monitor and report on progress and impacts. Many countries do not monitor or report on procurement operations. This is a significant omission. Monitoring and reporting systems should track GPP implementation and impacts, generating the information needed to assess progress in setting up institutional arrangements, operational performance, the market response, and the contribution of GPP reforms to fiscal, economic,

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environmental, and social development objectives. The widespread adoption of e-procurement systems provides an opportunity to embed GPP indicators and thereby facilitate systematic data entry, collation, and reporting on GPP operations. Periodic surveys and evaluations can complement this administrative data, gathering information from procuring agencies, suppliers—including those who chose not to participate in green tenders—and civil society that can help inform GPP reforms and procurement operations.

Build partnerships with the private sector. GPP is only feasible when the private sector can deliver green products and services. In some countries and sectors, it may take time for the private sector to build this capacity. Market consultations provide procurers with an indication of the market's interest and ability to respond to future GPP tenders. They help inform the suppliers about changing public sector requirements, giving them time to adjust supply chains and business practices. Governments can support green market development by providing information, capacity building, and financing, offering fiscal incentives, and using regulations to mandate how businesses operate. This shifts the relationship between procurers and suppliers from one that is adversarial and transaction-oriented, towards a partnership, with both procurers and suppliers collaborating in the development of VfM solutions that serve the government's environmental and development objectives. These initiatives seek to expand the offer and range of green products and services available in the market. Increased competition helps promote innovation and drive down prices, further expanding opportunities for green business practices. Public procurement of green products expands the market for green products and services, pushing market share toward a tipping point at which prices become competitive and consumers prefer green products.

Invest in capacity building and peer-to-peer networks. GPP capacity-building programs should equip public procurers with the motivation and skills needed to procure green. Capacity-building efforts will change as GPP reforms proceed, with an emphasis on motivations—why procure green—at the early stage of GPP adoption and a shift toward skills and "how to" as GPP matures. Ultimately, the goal of these efforts is to embed GPP into the core skills of public procurement professionals. Peer-to-peer practitioner networks play a critical role in GPP capacity building in most of the country cases reviewed. Networks motivate and inform by sharing successful experiences, allowing procurers to move from a theoretical to a practical understanding. They promote a consistent approach to GPP and reduce any duplication of effort by sharing procurement methods and tender documents. Networks also facilitate operational cooperation through joint procurements that save costs by aggregating the purchasing needs of multiple authorities.

Draw on international resources. There is no need for GPP initiatives to start from scratch. An extensive body of GPP materials is available online, including environmental criteria, LCC tools, and guidance on GPP approaches and the design and implementation of GPP reforms. Regional GPP networks provide curated materials and offer training courses and peer-to-peer forums. This note references and provides links to many of these resources.

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Introduction

1.1. Rationale

The past two decades have seen a significant change in public procurement from a compliance to a strategic function. Governments around the world spend an estimated US$11 trillion in public contracts every year, representing approximately 12 percent of global GDP (Bosio and Djankov 2020). Governments are increasingly using this purchasing power as a tool to achieve their economic, social, and environmental goals.

While green public procurement (GPP) may have started out as an "alternative" procurement approach, it is now recognized as an essential element of modern procurement systems. Countries first started integrating environmental considerations into procurement over twenty years ago, mainly in North America, Europe, and East Asia. GPP initiatives have often drawn their inspiration from the green procurement practices in the private sector. Although many of these initiatives were originally led by environmental agencies, there is increasing recognition that GPP is a powerful tool for economic development. Ministries of economy and finance are now taking the lead, with climate change emerging as an important driver of GPP policies. The Coalition of Finance Ministers for Climate Action, launched in 2019 and now with membership from 62 countries, commits participating ministries to "take climate change into account in macroeconomic policy, fiscal planning, budgeting, public investment

management and procurement practices" (Coalition of Finance Ministers, no date).

GPP is recognized by international public procurement standard setting bodies. The Government Procurement Agreement of the World Trade Organization (WTO) provides for GPP in Article X.6, under which "a Party, including its procuring entities, may … prepare, adopt or apply technical specifications to promote the conservation of natural resources or protect the environment." The World Bank revised its Procurement Framework in 2016 to recognize "value for money with integrity in delivering sustainable development" as a core objective. In 2017, the International Standards Organization (ISO) released a Guidance on Sustainable Procurement (ISO 20400), a signal that green and sustainable procurement is becoming standard practice in public and private organizations around the world.

GPP is aligned with the World Bank's twin goals—to end extreme poverty within a generation and boost shared prosperity—and its commitment to sustainable development. GPP takes on particular urgency in the context of Bank efforts to address climate change and to "build back better" in the wake of the COVID-19 pandemic. The World Bank's work on GPP contributes to this broader development agenda by:

- Helping clients to leverage GPP as an essential component of modern procurement reform and efficient public financial management and to build sustainable, resilient, and competitive markets.
- Helping clients put in place the institutions needed to support GPP practices by identifying and adapting procurement approaches to support the design of green procurement systems.
- Providing an authoritative voice in support of GPP reforms for those countries taking their first steps—often quick wins, such as office paper, information and communications technology (ICT), and lighting—to high-impact green procurement of infrastructure.
- Promoting innovation in GPP by bringing together practitioners and disseminating experience on cutting-edge practices.

1.2. Key concepts

The Brundtland Commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). The Sustainable Development Goals (SDGs) for 2030 have put sustainability at the center of the development agenda. Member states have pledged to "ensure sustainable consumption and production patterns" (SDG 12) and "promote public procurement practices that are sustainable in accordance with national policies and priorities" (SDG target 12.7).

Sustainable public procurement (SPP) is "a process whereby public organizations meet their needs for goods, services, works, and utilities in a way that achieves value for money on a whole life-cycle basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment" (UNEP 2011).[1] SPP shifts the focus of procurement from seeking the lowest cost to achieving value for money (VfM). It uses the procurement function strategically to achieve policy objectives linked to the three pillars of sustainable development: economic, environmental, and social. SPP systems are typically designed to achieve such goals as: promotion of green growth; environmental protection; development of small and medium-sized enterprises (SMEs); promotion of minority- and women-owned businesses; innovation; standards for responsible business conduct; and broader industrial policy objectives.

GPP is a component of SPP that uses public sector purchasing to achieve environmental policy objectives. In 2008, the EC defined 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 with goods, services, and works with the same primary function that would otherwise be procured" (EC 2008). Over the past decade, GPP has shifted from this "do less harm" to a more proactive approach whereby public procurement is used to achieve specific environmental objectives. GPP is an important tool to promote the use of greener products and services by public authorities. It can also serve a broader development purpose by

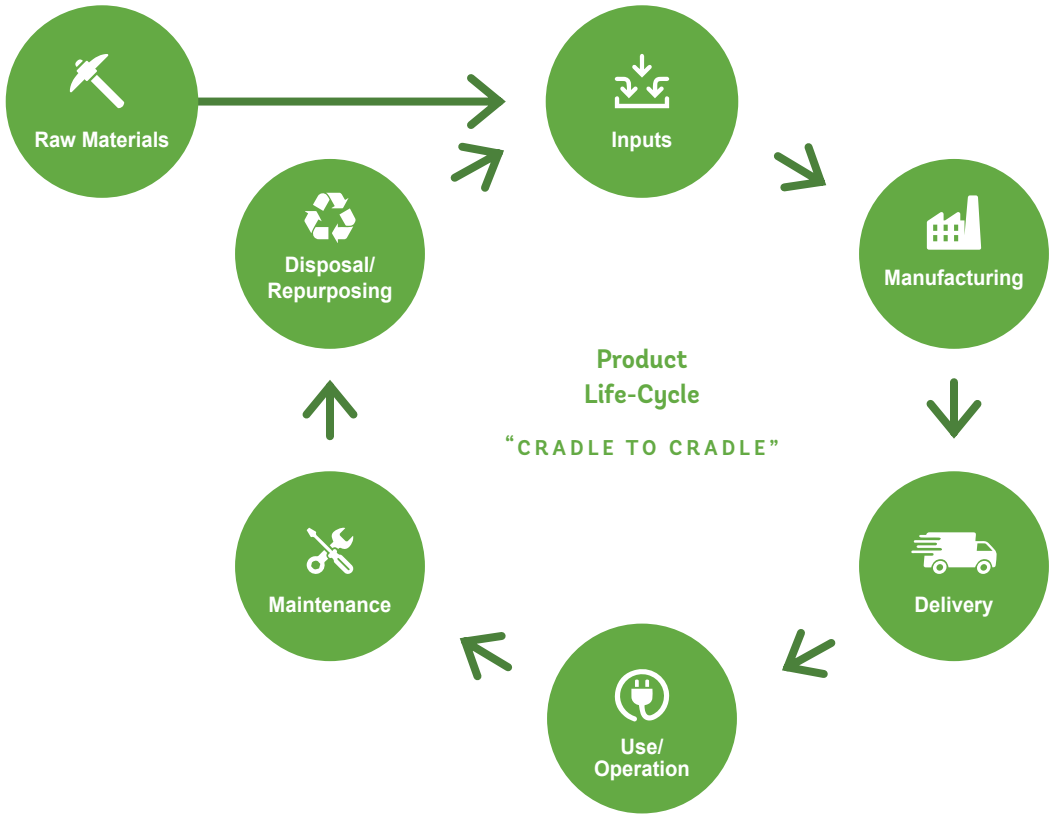
1 This is the definition adopted by the Task Force on Sustainable Public Procurement led by Switzerland. Membership includes Switzerland, United States, United Kingdom, Norway, Philippines, Argentina, Ghana, Mexico, China, Czech Republic, State of Sao Paolo (Brazil), UN Environment Programme (UNEP), International Institute for Sustainable Development (IISD), International Labour Organization (ILO), European Commission (DG-Environment), and International Council for Local Environmental Initiatives (ICLEI). The definition was adopted in the context of the Marrakech Process on Sustainable Production and Consumption led by UNEP and UN Department of Economic and Social Affairs.

helping governments achieve their environmental policy goals such as reducing pollution, improving resource efficiency, promoting more sustainable production and consumption, stemming biodiversity loss, increasing resilience, and reducing the emission of greenhouse gases (GHGs) that contribute to climate change.

Green goods, services, and works can be distinguished by the low impact on the environment across the life cycle of the products used. The product life cycle encompasses six phases from "cradle to grave": starting with raw material extraction; manufacture of the product; transportation to site; use of the product in production of other products to deliver a service or in construction; maintenance; and end-of-life disposal. About 80 percent of the environmental impacts are generated in raw material extraction and manufacturing. It may not be possible or economically feasible to eliminate all environmental impacts across the product life cycle; GPP seeks to align procurement with environmental policy objectives by addressing the most significant environmental impacts and those that can be mitigated cost-effectively.

Circular economy practices shift economic activity from a "take-make-waste" extractive model to a "cradle-to-cradle" or "closed-loop system" by replacing the disposal phase with a repurposing process that allows reuse. This approach values durability, modularity, and repairability in products and finds creative ways to reuse and repurpose waste materials. Circular economy practices follow the "3Rs" of the waste hierarchy to reduce or even eliminate waste: reduce, reuse, and recycle. Procurers are called upon to rethink and avoid product purchases by eliminating wasteful use and instead to repair, refurbish, rebuild, and repurpose products to extend their useful life. When products have to be disposed of, recycling helps reduce and possibly eliminate the need for the extraction of raw materials. Procurers can avoid the purchase of products by procuring services, such as car-sharing, printing, or IT hosting services. Service models shift responsibility for product maintenance, repair, and disposal to suppliers, creating incentives for suppliers to find innovative ways to reduce impacts at these life-cycle phases (see Section 5.5).

Figure 1. Product Life Cycle Stages



Sustainable sourcing minimizes the use of raw materials, avoids the use of materials from pristine ecosystems, and encourages the use of renewable materials. Sustainable extraction minimizes the impact of the extraction process on the environment and regenerates natural systems. Sustainable extraction practices can be found in the agricultural, fishery, and forestry sectors, but significant challenges remain in the oil, gas, and mining sectors. Recycled content or bio-based products can substitute for oil-based plastics, metals, and minerals in construction and manufacturing. The goal is to avoid the use of virgin materials wherever possible by substituting recycled inputs or those with recycled content.

Improvements in energy efficiency and use of renewable energy reduces GHG emissions and air pollution. Opportunities to reduce the use of fossil fuels and energy can be found across the product life cycle. Energy efficiency is an early priority in the development of GPP systems because it offers cost savings from reduced energy consumption. Energy efficiency labeling standards facilitate the selection of energy-efficient products. Renewable energy is generated from natural processes, such as sunlight, wind, water, and geothermal heat. The expansion of renewable energy requires the substitution of fossil fuels with electricity and the production of electricity from renewable sources. Procurers can promote electrification by factoring in the social cost of GHG emissions into the cost of equipment, such as vehicles and electricity generators, reflecting their true cost relative to green alternatives. The shift to renewable sources of electricity in the grid will be driven by energy policy. In some countries, consumers can elect to purchase electricity from the grid produced from renewable sources.

Manufacturing and work practices have a significant influence on the environmental impacts of goods, services, and works. Important considerations in determining whether products are green include the choice of inputs and equipment used, efficiency in the use of materials and energy, generation and management of waste products, the length of supply and delivery chains, the durability and operating efficiency of the product, and the ease of reuse and recycling. Box 1 illustrates the range of considerations in circular economy production. Environmental criteria consider the most important environmental impacts of goods, services, and works across the product life cycle (see Section 4.1). Identification of the environmental impacts and formulation of appropriate environmental criteria can be challenging, but third-party assessments can provide a shorthand by identifying green products and suppliers that meet specific criteria. Ecolabeling schemes identify products that meet a specific environmental standard, such as energy efficiency, sustainable sourcing, or share of recycled content. Environmental management system certifications provide some assurance that suppliers are taking measures to address environmental impacts throughout their operations (see Section 4.2).

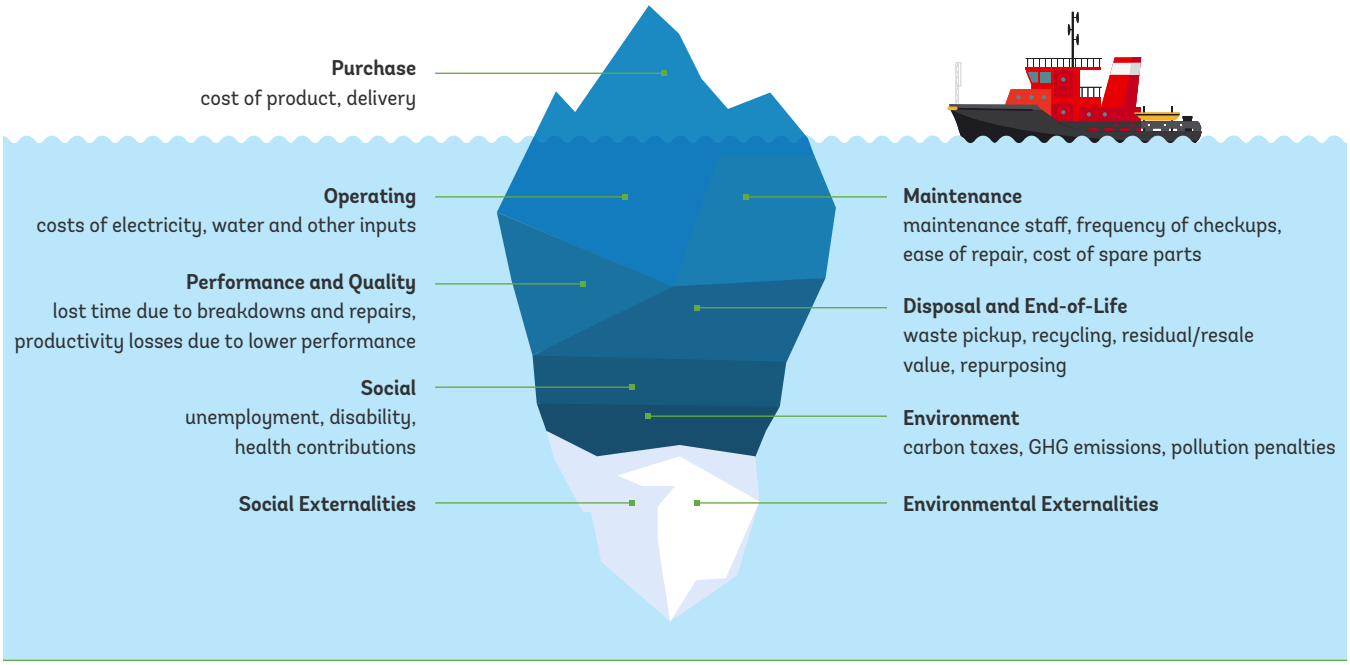
BOX 1. Circular Economy Design Principles for Products and Services

The EU's 2020 Circular Economy Action Plan proposes an overarching sustainable product policy framework as a way to phase out products that are short-lived, toxic, unrepairable, unrecyclable, or simply untraceable. The Action Plan sets out circular design principles that can guide the design of product criteria:

- Improving product durability, reusability, upgradability, and repairability
- Reducing the use of hazardous chemicals
- Increasing energy and resource efficiency
- Increasing recycled content in products while ensuring their performance and safety
- Enabling remanufacturing and high-quality recycling
- Reducing carbon and environmental footprints
- Restricting single use and countering premature obsolescence
- Introducing a ban on the destruction of unsold durable goods
- Incentivizing product-as-a-service or other models in which producers maintain ownership of or responsibility for the product while it is being used
- Mobilizing the potential of digitalization of product information, including such solutions as digital passports, tagging, and watermarks
- Rewarding products based on their different sustainability performance, including by linking high-performance levels to incentives

Life-cycle costing (LCC) seeks to integrate circular economy considerations into the evaluation of the cost of goods, services, and works for the procuring entity and the economy as a whole. GPP shifts the focus of procurement from the lowest cost of acquisition to VfM, taking into account the costs incurred throughout the products' lifetime and their environmental impact. The purchase price of a good, service, or building represents only the tip of the iceberg of the total cost incurred by a purchaser over its life cycle (Figure 1). Total cost of ownership (TCO) takes into account all the costs incurred by the owner of a product, not just the cost of purchase, but also costs associated with operation, maintenance, disposal and end-of-life, and social and environmental costs paid owners and operators through taxes and other charges. TCO recognizes that purchases with a low initial price, but with high energy or water use, maintenance requirements, and disposal costs, can result in lower VfM. The TCO concept was first used in public procurement in the 1960s by the U.S. Department of Defense, which calculated that 75 percent of the TCO of weapons system goes to operation and support costs (Gupta 1983 cited in Asiedu and Gu, 1998). LCC can expand the concept of TCO by considering not only the costs paid by the owner and operator but also some of the costs borne by society as a result of social and environmental externalities. Environmental externalities may include GHG emissions, depletion of environmental assets, and pollution. LCC can take these externalities into account when evaluating the relative costs of competing products by assigning them a monetary value.

Figure 2. Elements of Life-Cycle Costing[2]



The acquisition cost of green products, services, and works may be higher than those that do not meet green standards, even though the lifetime cost to the user and the economic cost to society are significantly lower. This green premium—to use a term coined by Bill Gates (2021)—can deter businesses and households from purchasing green. As the green market matures and consumer preferences shift toward buying green, demand increases, supply responds to meet demand and the price of green products gradually falls as their market share expands and economies of scale reduce production costs. Eventually, green products and services are competitively priced and the green premium disappears. GPP reforms use the buying power of the public sector to accelerate the growth of the green market share and encourage businesses and households to buy green products, services, and works.

2 Adapted from Fabrycky and Blanchard 1998.

1.3. Purpose and structure

This overview note seeks to help World Bank staff work with clients to design and implement effective GPP reforms, customized to country contexts and informed by global experience. The note outlines the key concepts and elements of GPP systems and common and emerging GPP practices. It focuses on the institutional dimensions of GPP reforms, drawing on the experience of the European, Asian, and Latin American countries that were early adopters of GPP practices. It describes the progression of reforms from the earliest stages through to advanced GPP practice. While the note is primarily intended as a resource for World Bank procurement and public sector specialists, it is also relevant to the leadership of central finance agencies, public procurement agencies (PPAs), central purchasing bodies (CPBs), and policy makers in promoting the adoption of GPP across government.

The note draws on a substantial body of research, guidance, and tools on sustainable and green procurement prepared by the World Bank and other international organizations. Bank resources focus on the integration of sustainable procurement in its own operations. The Project Procurement Strategy for Development (World Bank 2017b) offers procurement tools and tips on integrating sustainability into the procurement cycle, supplemented by the Guidance on Sustainable Procurement (World Bank 2019). Similar operational guidance has been prepared by other multilateral development banks.[3] International organizations have also developed guidance and "how to" manuals on GPP operations and GPP reform intended for use by governments. Box 2 identifies some of these "how to" products. This note is based on a desk review of these materials and consultations[4] with procurement experts active in promoting GPP in practice. The note differs from operational guidance in its focus on the institutional arrangements for GPP practices in national procurement systems. The note adds value to the existing literature by consolidating information on the institutional and operational dimensions of GPP reform and demonstrating the range of international experience.

The remainder of the note is structured in five sections laying out pillars and key elements of GPP reforms. The relative importance and status of each of the elements will vary between countries depending on their institutional context, stage of market development, and progress in GPP reform. Each section starts with an overview of the "typical" development path for each of the elements from initial to emerging and advanced GPP systems. This should not be seen as a uniform linear reform route map, as governments around the world have started at different points in this progression, taken different paths, set distinct priorities, and are at various stages in GPP development. The text provides an overview of the key concepts and issues, tables illustrate and develop key concepts, and boxes present examples from various countries to illustrate the diverse experience globally. Extensive footnotes provide links to sources and the tools described in the text.

3 All MDBs have updated their procurement frameworks to require contracts to be awarded based on VfM, and some (i.e., Inter-American Development Bank [IDB], Islamic Development Bank) have created specific guidance for the integration of environmental and social criteria into their financed projects. The IDB in particular is active in creating guidance and assisting clients across Latin America and the Caribbean (LAC) on sustainable public procurement.

4 The World Bank Governance Global Practice undertook a global desk review and peer consultations from March to December 2020 with the participation of procurement experts from the World Bank, OECD, EC, UNEP, IDB, African Development Bank, European Bank of Reconstruction and Development, Asian Development Bank, U.S. Environmental Protection Agency, and numerous Bank staff managing programs around the world.

Table 1. Structure

Pillar	Why is this important?	Key Elements
Business case	The business case lays out objectives, defines priorities, and mobilizes support for GPP reform.	Objectives Indicators and targets Prioritization Stakeholders Market development
Enabling framework	The enabling framework helps transform GPP from a pilot activity to a policy and supports GPP implementation across the public sector.	Organization Regulation Incentives Monitoring and reporting Capacity building Technical support
Operational tools	Operational tools integrate environmental considerations in procurement operations.	Environmental criteria Ecolabels and environmental management systems Life-cycle costing
Operational approaches	Operational approaches manage demand, facilitate the application of GPP practices, shift the focus from products to performance, and promote innovative solutions.	Needs assessment Market assessment Joint procurement, framework agreements, and catalogs Supplier facilitation Product service systems and performance-based contracts Innovation procurement
Managing reform	Countries will need to define their own reform pathway, building on sound diagnostics with a GPP reform strategy.	Reform pathways GPP assessments GPP strategies and action plans

BOX 2. GPP "How To" Manuals

***Implementation Guidelines on Sustainable Public Procurement* of the United Nations Environment Programme (UNEP) (UNEP 2012).** The goal of the guidelines is "to create a policy framework that legitimizes the SPP actions and, in turn, informs the market of the objectives and priority areas so that it can gradually adapt." The guidelines lay out four steps in the development of a national SPP reform program: 1 covers the launch of SPP as a project, establishment of the governance framework, and initial training; 2 outlines a status assessment encompassing a legal review, prioritization exercise, and market readiness analysis; 3 addresses strategic planning with the formulation of an SPP policy and action plan; and 4 describes SPP implementation throughout the procurement cycle, including the use of sustainability criteria, needs assessments, specification and inviting bids, use of ecolabels, selection of suppliers, bid evaluations, audits, and contract management. Training figures prominently in each of the steps. The UNEP website includes terms of reference and questionnaires to support the process. The UNEP SPP approach has been applied in many countries, including Chile, Colombia, Costa Rica, Georgia, Lebanon, Mauritius, Moldova, Senegal, Tunisia, Ukraine, and Uruguay.

***Implementing Sustainable Public Procurement in Latin America and the Caribbean: Handbook for the Inter-American Network on Government Procurement* (Casier et al. 2015).** The handbook was developed by the Inter-American Network for Government Procurement (INGP), a network of directors of public procurement authorities from 34 countries in the Americas. The handbook guides governments in the design of procurement policies that integrate environmental and social criteria across the public procurement cycle. It is structured in six sections: 1 presents the business case for SPP; 2 explains how to integrate sustainability into the procurement cycle, covering needs assessment, market consultation, supplier pre-qualification, design of technical specifications, tender evaluation, and contract conditions; 3 outlines the business case and enabling framework for SPP, including goal setting, market consultations, prioritization, and incentives; 4 presents mandatory and optional product criteria for eight major areas of government; 5 provides an overview of the economic, social, and environmental benefits of SPP; and 6 presents an overview of SPP considerations in the procurement of infrastructure. The handbook draws many examples from Latin America and the Caribbean (LAC) but is of broader relevance.

***EU Buying Green! – A Handbook on Green Public Procurement (2016),* from the European Commission (EC) (EC 2016).** The handbook is the EC's main guidance document to help public authorities successfully plan and implement GPP, a reference for policy makers and for companies responding to green tenders. The handbook roughly follows the structure of a procurement procedure across eight chapters: 1 lays out the business case and enabling framework for GPP, including policy, prioritization, training, sources of GPP criteria, and monitoring; 2 explains the procurement process, including choice of procurement procedure, market consultation, and use of framework agreements; 3 lays out contract requirements, including technical specifications, use of variants, GPP criteria, and labels and verification; 4 addresses the selection of tenders; 5 covers contract award, the application of environmental award criteria, and LCC; 6 addresses contract performance and compliance; and 7 outlines GPP considerations in five sectors. Although the handbook is intended for use in the EU—it references EU policy and legislation and presents EU examples—its principles and practices are of broader relevance.

***The Procura+ Manual: A Guide to Implementing Sustainable Procurement* (Clement, Watt, and Semple 2015).** Procura+ is a network of European public officials from national, subnational, and municipal entities who exchange experience and collaborate on sustainable and innovation procurement. The manual presents an overview of sustainable procurement, how it is implemented, and its costs and benefits. It is structured in five chapters: 1 presents the rationale for sustainable procurement; 2 outlines the management of sustainable procurement in an organization, including the business case, mobilization of support, goal setting, the action plan, and monitoring; 3 explains how to integrate sustainability and innovation in the procurement process, including needs assessment, market engagement, technical specifications, award criteria, and contract performance; 4 addresses cost assessments in procurement, including the use of LCC; and 5 reviews SPP in key sectors (construction, ICT, cleaning, food and catering services, vehicles, and electricity). As with the EC's handbook, the Procura+ manual focuses on sustainable procurement in the EU but the principles and practices are of broader relevance.

02

Business Case

This section outlines the elements of a business case for iGPP that builds buy-in from policy makers, procuring entities, the markets they buy from, and the public they serve. Objectives set the direction for GPP reforms, while indicators monitor performance. Prioritization determines the scope of application and targeting of GPP practices. Stakeholder assessments and consultations engage suppliers and civil society in the design and implementation of GPP reforms, while market development measures provide incentives and support for suppliers to adopt green business practices. Table 2 presents an overview of the elements of the business case at three stages in the development of GPP reforms.

Table 2. Development of the GPP Business Case

Dimension	Initial	Emerging	Advanced
Objectives	Defined by procuring entities, often focused on a specific procurement operation or procurement categories.	PPA defines strategic objectives for GPP across government, with focus on scaling up and environmental policy priorities.	Government defines GPP objectives, aligned with national development, environmental, and climate change strategies.
Indicators	Defined by procuring entity in consultation with PPA, focusing on one or a few environmental impacts.	PPA identifies indicators to track GPP implementation. May set targets for GPP coverage. Selected environmental indicators may be used but application voluntary.	Indicators and targets track GPP implementation and environmental impacts. Mandatory application of key performance indicators.
Prioritization	Procuring entities determine priorities, focusing on ease of implementation, market readiness and policy relevance.	PPA identifies priority procurement categories and criteria for whole-of-government, focusing on low-risk, high- reward categories. Application of GPP practices mostly or entirely voluntary.	PPA identifies priority categories and criteria, with significant expansion in range of procurement categories covered. Mandatory application of GPP practices in many product categories.
Stakeholders	Consultations with procuring entity's suppliers related to specific procurement operations and market opportunities.	PPA, CPB, and procuring entities consult with market and civil society to promote GPP and identify opportunities.	Systematic consultation with stakeholders. Permanent multi-stakeholder forums established.
Market development	Information and training focused on suppliers of priority product categories.	PPA coordinates with other agencies to provide information and skills development for potential suppliers and increase awareness of GPP opportunities.	GPP coordinated with market development activities. Systematic use of information and skills development, financing, fiscal incentives, and regulation to promote green business practices.

2.1. Objectives

The objectives for GPP reforms typically focus on the performance of the procurement system but may also encompass broader development impacts, using government purchases to green the economy and improve environmental outcomes. The objectives will depend on the policy and institutional context. Where central procurement agencies take the lead, procurement system performance is usually the primary goal, and performance objectives are typically framed in terms of improvements in VfM, changes in procurement practices, and the direct environmental impacts. Where GPP is part of a broader green development strategy, planning, environmental, and center-of-government agencies will play a role in setting development objectives, which are framed in terms of fiscal, economic, social, and or environmental impacts. GPP reforms usually have multiple objectives. Table 3 presents an indicative set of development objectives for GPP reform.

The selection of development objectives will depend on the motivations and policy context of reform. Governments may be motivated by fiscal and public sector efficiency considerations, national or industry competitiveness, sustainable development and environmental concerns, opportunities for specific groups such as farmers or small businesses, or commitments to international agreements such as the United Nations Framework Convention on Climate Change. GPP development objectives may be aligned with constitutional mandates, national and sector development plans and strategies, environmental policy instruments, and public sector reforms (see Box 3).

Objectives should guide the implementation of GPP reforms and the application of GPP practices. Objectives should be SMART: specific, measurable, achievable, realistic, and time-bound. Each objective should be supported by one or more indicators that can be used to monitor progress. Formulation of a hierarchy of objectives can clarify the relative priority of potentially competing goals. Definition of targets sets a level of ambition for each of the objectives, which helps to determine their relative weight. Selection of a limited number of objectives, each with a target and a few well-defined indicators, facilitates implementation.

Table 3. Development Objectives for GPP Reforms

Procurement System	Fiscal	Economic	Environmental	Social
• Improved VfM in purchasing • Alignment of public procurement with policy objectives • Change procurement culture from compliance to strategic use of procurement	• Improved VfM in public spending • Alignment of public spending with development policy objectives • Increased access to green financing	• Employment generation • Promotion of innovation and entrepreneurship • Increased energy and resource use efficiency • Improved energy and resource security • Export promotion and mobilization of foreign direct investment • Decarbonization and transition risk management • Resilience to climate change and natural disasters	• Reduced environmental impact of purchases • Improved water, air, and ecosystem quality • Protection of biodiversity and natural capital • Sustainable use of natural resources • Reduction of GHG emissions	• Improved health outcomes from improvements in water, air, and ecosystem quality • Support for target groups, such as small-scale farmers and micro-enterprises • Resilience of target groups to climate physical risks and natural disasters • Increase trust of procurers, businesses, and citizens

2.2. Indicators

GPP indicators typically measure two dimensions of GPP reform: implementation and impacts. Implementation indicators measure progress in setting up the institutional arrangements for GPP systems, their operational performance, and the market response. Impact indicators measure the contribution of GPP reforms to fiscal, economic, environmental, and social development objectives. Table 4 presents an indicative list of indicators across both dimensions.

The selection of indicators should be informed by practical considerations. Effective monitoring frameworks: limit the number of indicators, focusing on those that inform management decisions; generate reliable, timely, and accurate data using consistent concepts and definitions; have baseline values; prioritize indicators generated through existing monitoring systems to minimize reporting burdens; and favor standardized indicators that can be used across multiple product categories so that results can be compared and consolidated across agencies and over time. Consultations with stakeholders—those that are expected to use the information and that will be responsible for data collection—help in the selection of indicators and ensure that data collection is feasible. Agencies will have stronger incentives to gather data for indicators when they are linked to targets. However, following Goodhart's law, the very use of indicators as indicators may undermine the quality of reporting.

Implementation indicators guide, track, and identify challenges in GPP reforms. Implementation indicators provide management with information that can be used to diagnose implementation challenges. GPP reforms typically start with a core set of implementation indicators that measure the extent to which GPP practices have been applied across agencies and product categories. Most of the information used in implementation indicators can be gathered from tender documentation and agency reports. A standardized reporting framework for procuring agencies helps ensure consistency and coverage. E-procurement systems facilitate information collection by embedding the relevant indicators in tenders and allowing automatic compilation and reporting.

Impact indicators provide the information needed to assess whether GPP reforms are achieving development objectives. Data on the consumption of green product categories, recycled and repurposed materials can be generated from procurement information systems. However, most of the information used for impact indicators requires additional data collection. Fiscal indicators can be generated from agency expenditure data, albeit with some additional analysis. Data on corporate behavior can be gathered through surveys of all operators—not just those participating in public procurement. Methodologies have been developed to estimate the environmental impact of specific product and service categories building on LCC tools (see Section 4.3). Procuring agencies can generate some of this information as part of the tender process. Generally, information on environmental impacts of products is provided by the supplier and is difficult to verify. Ecolabels and certifications address this concern by providing third-party verification of environmental standards. Systematic reporting on environmental impacts across the public sector poses more of a challenge. Impact indicators that call for the measurement of consumption, waste, GHG emissions, and pollution across the public sector require parallel data collection systems and collaboration with other agencies. Environmental impact indicators will typically be managed as part of the monitoring framework for broader green development policies led by center-of-government planning and or environmental agencies.

GPP reforms typically start by monitoring a core set of implementation indicators and then gradually expand their scope to encompass impacts. During the early stages of GPP reform, indicators generally track the number and share of procurements that meet green criteria in specific product categories. Performance can be compared across agencies and product categories, identifying leaders and laggards, and allowing central procurement agencies to focus their support where it is most needed. As GPP systems mature, additional information can be gathered from tenders and administrative systems to provide performance information, direct environmental impacts, and the market response. Surveys of procuring agencies, tender participants, and the broader market can gather information on user experience, perceptions, and motivations. This can help explain resistance to GPP reforms within agencies and companies, identify problems in tender design, and assess the quality of support.

Targets can be used to promote and track progress in the implementation of GPP reform. Setting targets focuses attention and helps prioritize. Targets may be set by the agency leading GPP reforms or by

procuring agencies. Targets can be set as milestones, with intermediate levels or in tiers of performance to motivate by setting achievable results and celebrating "wins" along each step of implementation. Targets tend to be most effective they are set in consultation with the implementing agency, the agency responsible for meeting the target can influence performance directly, and they are set at realistic levels, taking into account implementation and market constraints. Most GPP targets are based on a small set of core implantation indicators.

Table 4. Dimensions and Categories of Indicators for GPP Systems

Dimension	Categories	Indicative Indicators and Source ❶ Institutional assessments ❷ Procurement information systems ❸ Parallel administrative and monitoring systems ❹ Surveys	
Implementation	Institutional	❶	GPP policy, regulation, action plan, organizational structure (in place, applied)
		❶ ❹	Procurement procedures and tools (developed, use, satisfaction)
		❷	Procuring agencies that have awarded green contracts (number, share)
		❷	Categories of goods, services, and works with environmental criteria (number, share by value)
		❶ ❷	Scope of mandatory GPP (number, share of agencies or product categories)
		❶	Training (number trained, participant satisfaction)
	Operational (Demand)	❷	Procurements with environmental criteria (number, value, share)
		❷	Contracts with environmental criteria awarded (number, value, share)
		❷	Green goods, services, and works purchased (number, value, share)
		❷	E-catalog green products (number, value, share)
		❷	Joint procurement and framework agreements (number, value, share)
		❷	Ecolabeled and environmentally certified products (number, value, share)
		❹	Ease of application, benefits, quality of support
	Market (Supply)	❷	Tender participation (number, share of responsive bids relative to traditional procurement)
		❷	Participation of SMEs and other targeted groups (number, share of successful tenders)
		❹	Survey response (ease of bidding, reasons for not participating in tender)
Impacts	Fiscal	❷ ❸	Green premium (unit acquisition costs of green products relative to non-green alternatives)
		❷ ❸	TCO savings to procuring entities (value relative to traditional procurement)
	Economic	❸ ❹	Companies offering green products and services (number, share)
		❸ ❹	Green premium (market prices relative to non-green alternatives)
		❸ ❹	Market for green products and services by product categories (value, share)
		❸ ❹	Employment in companies offering green products and services (number, share)
		❹	Companies reporting adoption of green business practices, investments
	Environ-mental	❷ ❸	Consumption of water, energy, single-use plastics, toxic materials (amount)
		❸	Waste products, including GHG emissions, pollutants, solid waste and water discharges (amount, change)
		❷ ❸	Use of renewable energy, recycling and repurposed materials (amount, share)
		❷	Environmental benefits (value based on life-cycle cost savings)
		❸ ❹	Environmental outcomes attributed to GPP
	Social	❷ ❸ ❹	SME and target group participation
		❸ ❹	Employment in companies offering green products and services, SMEs and other targeted groups (number, share)
		❹	Ease of participation, quality of support, benefits attributed to GPP

BOX 3. Indicators

Defining green procurement. A standardized definition of what constitutes green procurement is critical to ensuring consistent reporting across government. In many countries, procurement is considered "green" when it uses one or more environmental criteria for the tender assessment. In Latvia, for example, a procurement is considered green when at least one green criterion is applied that represents at least five percent of the overall weighting. The United States federal government considers procurement green where ecolabels and environmental certification schemes are used (UNEP 2016). Thailand follows a similar approach, recognizing products awarded the Thai Ecolabel (Type I), the Green Leaf label (for hotels), and procurements that apply environmental criteria developed by the country's Pollution Control Department (Green Cart criteria).

Core indicators. Peru focuses on two indicators: one measures demand, that is, the number of entities that incorporate environmental evaluation criteria into tenders; the other measures supply, the number of suppliers that certify compliance with the environmental evaluation criteria (OAS and IDB 2020, 55). The Philippines 2017 GPP Roadmap also focuses on two indicators for GPP implementation: the share of total number of contracts and the share value of goods. The Roadmap recognizes the potential of GPP to influence the wider sustainable development agenda, setting out five "complex" issues that it does not monitor at present: impacts on market demand for green products, corporate and household consumption, entrepreneurship, reductions in green premiums, and environmental impacts (Republic of Philippines 2017).

Environmental impact indicators. GPP systems that monitor and report on the environmental impacts of procurement focus on a limited number of product categories. Malaysia monitors four impact indicators (energy savings in kWh, energy cost savings, economic savings, and CO2 emission reduction in tons CO2 equivalent) for three product groups (computers, printers, and lighting). The government of Japan uses standardized metrics for the environmental impact of 19 out of 270 product categories. For each category, an "average" green product is defined, based on the minimum green specifications set out in GPP policy. Environmental benefits are estimated in terms of reduction in GHG emissions calculated as CO2 equivalents. For products that consume energy or have an impact on energy consumption, emissions are estimated based on energy consumption during the use phase for a certain number of years, depending on the product and the emissions factors of the energy source used. For products that do not consume energy (such as stationery or textiles), the environmental specification is translated into estimated CO2-equivalent emissions. Benefits are then calculated based on the GPP level of the year compared to the market share of green products in 2000, the year prior to the enforcement of the Act (obtained from data by the industry).

Environmental impact calculators. These are online tools available to facilitate the calculation of impacts for specific procurement categories and for individual procurement activities. The Electronic Product Environmental Assessment Tool (EPEAT) Benefit Calculator calculates the environmental benefits associated with electronic products covered by the EPEAT ecolabel: mobile phones, servers, computers, and displays. The Responsible Purchasing Network offers a series of Green Calculators that quantify the environmental benefits of responsible purchasing of: bottled water, cleaning services, computers, food services, hybrid vehicles, LED calculators, office electronics, paper, energy-efficiency initiatives, toner cartridges, and lighting. DuboCalc is a sustainable construction calculator developed for use in the Netherlands that applies a life-cycle assessment following the ISO 14040 standard for civil works. The U.S. state of Maryland offers various tools to assess green purchases that contribute to impacts on GHG emissions, hazardous material reduction, air quality, wood consumption, waste generation, and energy use. Tools tend to be market and product specific, but they can nevertheless provide a starting point for an estimation of environmental impacts.

Targets. Ecuador's 2015 assessment of SPP practices proposes five indicators focused on implementation and sets targets for increases over a three-year period (UNEP, no date).

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Indicator	Definition	Base-line	Targets		
			2016	2017	2018
% of spend on SPP	Public spend of green tenders / Total spend (%)	0	2	4	6
No. of sustainable products in the e-catalog	Count of total sustainable products in e-catalog	0	5	8	12
No. of procurers trained in SPP	Count of trained authorities that attend virtual or in-person training	0	1,000	1,000	1,000
% of authorities that have executed SPP	Count of authorities that have procured a product with sustainability criteria / total number of trained authorities %	0	10	30	50
% of spend on micro, small, and medium-sized enterprises (MSMEs)	Amount of spend on MSMEs / Total spend (%)	61	62	63	64

2.3. Prioritization

GPP reforms should prioritize implementation of GPP practices following a risk-based approach to focus efforts on procurement areas with the most promise for success and impact. Prioritization takes place at two levels. Strategic prioritization seeks to identify and rank opportunities for GPP across the public sector and is typically led by a central procurement agency. Operational prioritization aims to identify and rank the product categories suitable to GPP practices as part of a procurement plan and is led by the procuring agency.

During the early stages of GPP reform, prioritization is often opportunistic: focusing on issues that policy makers, procurers, businesses, and citizens care about. Entry points will depend on country circumstances. These may include:

- High-profile environmental issues or environmental disasters for which civil society and the public demand a response, such as air pollution, power shortages, deforestation, plastics pollution, or climate change.
- Market sectors or product groups, where green goods and services are readily available or in active development and business advocates for GPP, such as farmers of organic produce, the recycling industries, and businesses offering energy-efficient products.
- Public sector programs where procurers and citizens can see a rationale for the use of green products, such as school lunch programs, sustainable forest-certified paper, green buildings, and green mass transit in polluted cities.
- High-profile projects or events where GPP can be piloted to raise awareness and interest, such as sporting events, conferences, and retrofits of prominent government buildings.
- External partners that support GPP initiatives, which may include international development agencies willing to pilot GPP in the projects they finance, private sector investors, and business associations.

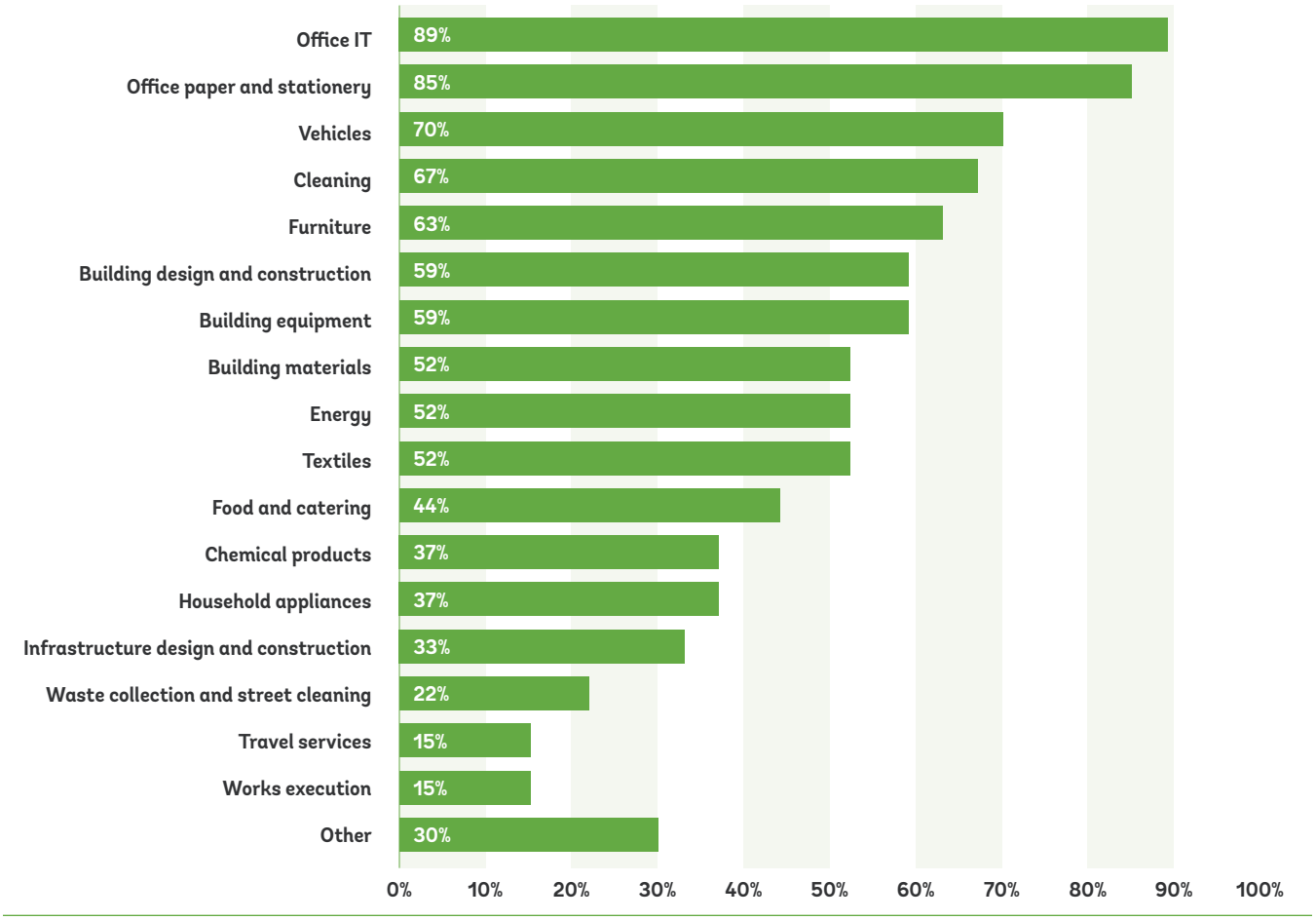
As GPP takes root, prioritization will need to be systematic, following a risk-based approach that takes into account demand and supply side considerations. Rewards can be assessed in terms of fiscal, economic, and environmental impacts. Risks will typically relate to ease of implementation and reputation, including the risk of not procuring green when green products are available. Environmental policy priorities and impacts, budgetary impacts and institutional capacity are important considerations in determining demand from the public sector. The availability of green products and technologies, cost considerations, and demand from private sector consumers are important supply considerations. UNEP uses market readiness assessments to systematize information on both supply and demand for green products (see Box 5). Supply

preferencing (World Bank 2016b, 111–14) offers a useful tool for testing market influence and the willingness (or reluctance) of suppliers to adapt and meet green requirements. Supply preferencing assesses the procuring agency from the supplier's perspective, mapping it across two dimensions: the attractiveness of the account and the account's relative value.

The scope and depth of the prioritization exercise should be proportionate to the requirements following a "fit-for-purpose" procurement approach. Sectors and product categories that have significant environmental and budgetary impacts and where the public sector has significant market influence merit greater investment in market analysis than low-value and low-impact procurements. A simple prioritization exercise for procurement planning can map just two criteria—impact and opportunity, for instance. A strategic prioritization can encompass multiple criteria that can be weighted according to their relative importance. Some countries have developed software tools to help practitioners apply prioritization criteria, present the relationship between criteria in graphics, and generate a summary ranking of the relative priorities across institutions or product categories.

The results of the prioritization exercise are usually presented as broad priority groups in terms of implementation readiness. At an early stage of GGP implementation, prioritization exercises tend to focus on the identification of "quick wins" where GPP practices can be applied relatively easily with a high risk-reward ratio. As GPP reforms mature, attention turns to those product and service categories where GPP can have the greatest policy, budget, and environmental impact. A UNEP survey of 41 countries published in 2017 found that priority categories are those that are often purchased centrally or for basic day-to-day operations, such as office information technology, office paper and stationery, vehicles, cleaning products and services, or furniture (UNEP 2017c). The second group of priorities are high cost categories related to building construction, including building equipment and materials and energy.

Figure 3. Percentage of Governments Using GPP Practices in Product and Service Categories (n. 41)



Prioritization is an ongoing exercise, supporting periodic adjustments in priorities and progressive expansion of the scope of GPP practices. Periodic review of GPP priorities is essential because changing agency needs, policy priorities, and market conditions will have an impact on the opportunities, risks, and rewards for GPP implementation. In some countries, priorities are reviewed every year; in others, across a regular planning cycle. Periodic review provides an opportunity to expand the scope of GPP practices, building on the experience of early initiatives and growing market capability.

Table 5. Prioritization Criteria

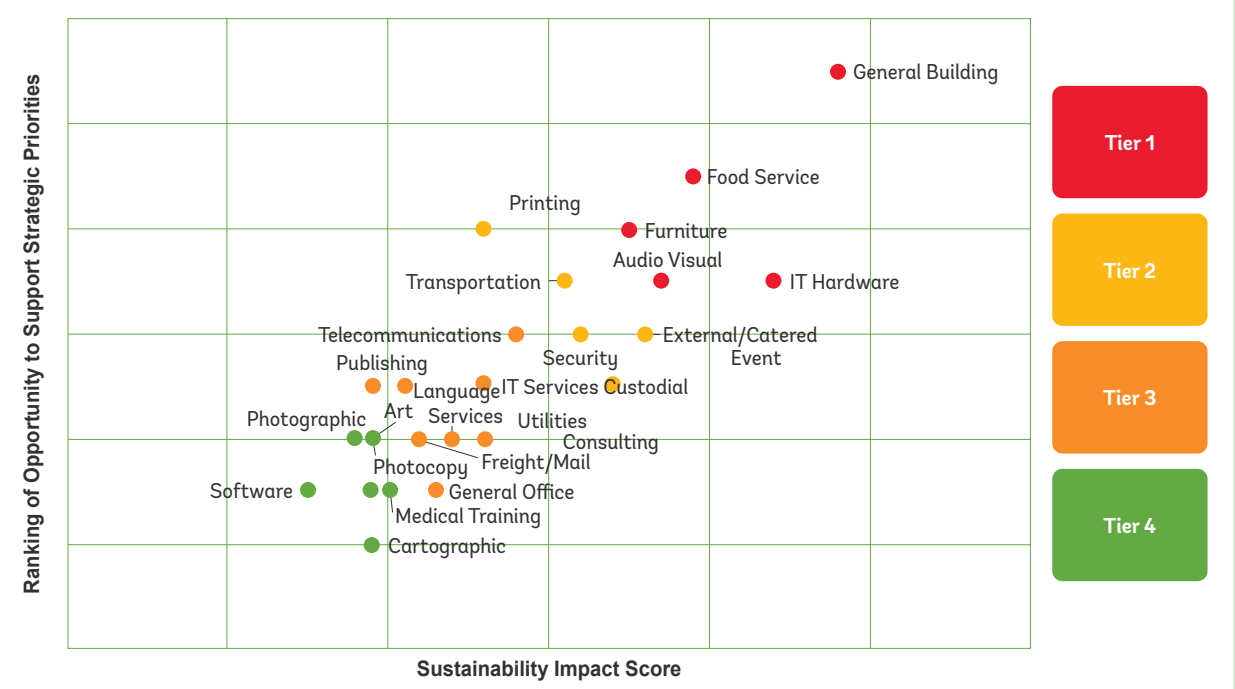
Criteria	Scope and Key Considerations
Policy alignment	Identifies and ranks the contribution of agencies and product, service, and work categories to the achievement of GPP policy objectives. Key considerations include: products and services that are of strategic relevance to the economy (such as agricultural products); benefits through inclusion of disadvantaged groups (SMEs, women entrepreneurs); contribution to decarbonization strategy and goals; and promotion of green innovation.
Institutional capacity	Identifies and ranks procuring agencies—or departments within agencies—in terms of the motivation and skills to successfully apply GPP practices. Key considerations include: the technical complexity of applying GPP practices; agency interest in engaging in GPP activities; and technical capacity to prepare and evaluate GPP tenders.
Budgetary impact	Identifies and ranks the expenditure on procurement categories. Maps expenditure by procurement category across institutions. Key considerations include: share of products and services in expenditure; potential impact of green premiums (higher up-front acquisition costs); and capacity of the central procurement agency and procuring agency to absorb costs of GPP implementation.
Environmental impact	Identifies and ranks the most important environmental impacts. Maps environmental impacts across procurement categories and agencies' procurement activities. Key considerations include: relevance of environmental risks to each product and service category; direct environmental impacts from current procurement practices; and public perception of environmental impacts.
Market readiness	Assess availability of green products and services in the market and readiness of suppliers to engage in GPP. Key considerations include: availability of ecolabels and green catalogs; availability of green products and services; and ease of adoption of green business practices.
Market influence	Assess the extent to which public procurement can influence suppliers to offer and price green products and services and adopt green practices as well as the impact on the price. Key considerations include: the public sector or agency share in the overall market for the good or service; complementary green market development activities to support competitive pricing of green products and services; and extent and ease of market entry by foreign competitors.

BOX 4. Prioritization

Entry points. Opportunities for GPP initiatives will depend on country circumstances. Vietnam is Asia's second-largest wood product exporter, and sustainable forestry is critical to international competitiveness. The prime minister of Vietnam directed government agencies to develop a public procurement policy that provided preferences for legal timber products made from the country's own plantation timber (Glover and Uehara 2020). Grenada, where tourism is a key sector, was motivated to adopt an SPP policy in 2019 as a tool to tackle plastic pollution on its beaches (Moss 2020). In Paraguay, sustainable procurement first focused on the promotion of family farming. Building on this experience, Paraguay expanded into other areas, such as housing construction and interior lighting (Casier et al. 2015, 8). The United Kingdom committed to hosting a sustainable Olympics and used the opportunity to pilot procurements for sustainable construction and to share lessons learned as a legacy (DEFRA 2013).

Market readiness assessment. Chile conducted a Market Readiness Analysis following the methodology set out in UNEP's SPP Implementation Guidance. The analysis addressed three questions: Which products to focus on in the market analysis? Which social and environmental criteria are relevant for each product and service group? What is the availability of sustainable products and services for each group? Chile decided to focus on the products and services included in the ChileCompra Express catalog. The initial response to a survey of businesses registered in the ChileCompra e-procurement catalog was limited, prompting the assessment team to turn to website research and ultimately to visit the companies in person. The analysis determined baselines for the sustainability of each product and service group. Products were evaluated at three levels (main, base, and complementary) according to their ease of inclusion and verification. An implementation plan was developed that divided the product and service groups studied into three levels of readiness (high, medium, and low) (Melero and Leiva 2017). Other recent market readiness studies aligned with UNEP's methodology include Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Lebanon, Mauritius, Moldova, Mongolia, Morocco, Paraguay, Tunisia, Ukraine, and Uruguay, all available on the UNEP Project Country website.

Simple prioritization. The World Bank Group undertook a prioritization exercise to design a staged approach to introducing green criteria into its corporate procurement practices. The exercise focused on two criteria: a sustainability impact score that assessed environmental risks and opportunities; and a ranking of opportunity to support strategic priorities. The results were plotted and product groups divided into four tiers of priority.



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Prioritization tools. The United Kingdom's Sustainable Procurement Prioritisation tool uses a spreadsheet to generate a ranked prioritization of GPP activities at an agency level. The user defines the product groups (such as construction, information technologies, energy) and environmental issues (such as GHG emissions, water, biodiversity) to consider. The user then enters for each product category: the amount spent by the agency; relevance of each of the environmental issues; implementation and reputational risks; scope to improve the sustainability of procurement; and the agency's influence on the market. The spreadsheet generates summary risk, scope, and influence scores. The results can be displayed graphically comparing the three summary dimensions.

Periodic review of priorities. In Japan, GPP policy is reviewed every year to incorporate the latest research on technical trends, legislation, and standards. Through this process, the number of prioritized product and service categories with evaluation criteria has increased from 101 items in 14 categories in 2001 to 270 items in 21 categories in 2016 (Government of Japan 2016, 5).

2.4. Stakeholders

A stakeholder mapping exercise can help identify the stakeholders likely to support GPP reforms, those likely to resist and their motivations. While many GPP initiatives can be credited to personally motivated procurers who have voluntarily piloted green tenders, the mainstreaming of GPP practices requires the collaboration of many stakeholders. Stakeholders include all those that may be affected by the implementation of GPP reforms, typically: government policy makers; management and staff of procuring entities; procurement professionals; private sector suppliers and contractors; households; and civil society organizations (CSOs). Stakeholder mapping identifies those that are able to influence the outcome of reforms and their motivations. Stakeholders' response to GPP reforms will be influenced by their own interests, perceptions, and values. Some will have misconceptions regarding the cost, difficulty, and impacts of GPP. They may set differing values to environmental outcomes. There will be winners and losers.

An understanding of the stakeholder landscape will help those leading GPP reforms identify opportunities, anticipate resistance, and prepare a response. Information on stakeholder interests, perceptions and values can be gathered from online surveys, interviews, and consultative groups. Focus groups with specific stakeholders provide an opportunity to explore their perceptions and concerns in detail. Table 6 outlines GPP reform rewards and risks from the perspective of three broad categories of stakeholders: procuring agencies; businesses; and CSOs. The table suggests possible approaches to overcome resistance to reform. Similar tables can be prepared for the most influential stakeholders, informing the design of the GPP reform strategy and prioritization of GPP interventions.

Stakeholder mapping can identify potential GGP champions: those with the motivation, capability, and authority to drive a change in procurement culture.[5] Vocal and visible support from a senior political figure can send the right signals to the domestic economy that a green market shift is a political priority, that the government intends to lead by example, and that scaled-up demand for environmentally friendly goods and services is on an upward trajectory. Within government, economy, finance, and environment ministries are typically charged with leading reforms, but champions may be found in line ministries (such as health or agriculture), public entities (such as hospitals or universities), or city or municipal governments. Champions need not necessarily come from positions of power or implement GPP themselves. Influential stakeholders may include green business companies and entrepreneurs, environmental and green development experts, business associations, CSOs and academics, and international organizations and regional networks.

Stakeholder engagement can also inform communications campaigns to promote GPP and motivate private sector participants. The goal of the

5 A 2015 study showed that in many public procurement projects or departments, change agents played a crucial role in developing capacity, motivation, and opportunities for SPP. This finding was reinforced in a 2020 survey of EU procuring authorities. See Grandia 2015, 125 and Andhov et al. 2020, 17.

communication is to inform, to change the mindsets of procurers and society, to promote green purchasing, and more broadly, to mainstream green consumer preferences. Communications campaigns should build on the results of the stakeholder mapping exercise. Messages are most compelling when delivered through locally relevant and influential voices that can lend credibility. These voices may come from the public, industry, the media, and civil society. The campaign should target messages to address the concerns of stakeholders. Elements of an initial awareness raising campaign include messages that:[6] showcase the benefits of GPP, such as meeting policy goals, fostering financial efficiency, and reducing risks of non-compliance; clarify what is already compulsory by law, such as pollution control, vehicle emission standards, and GHG reduction targets; outline how GPP can deliver on related policies at the organizational and national levels; demonstrate GPP in action and show real-life examples from other administrations; and assess what is already done, drawing on green procurement examples within the country or institution.

Multi-stakeholder forums, bodies, working groups, and task forces can bring GPP internal and external stakeholders together, offering them a formal role in the reform process. Multi-stakeholder forums can help address concerns in the design of the GPP reform process, refine messaging in communications with stakeholder groups, identify potential challenges in implementation, and propose solutions. Multi-stakeholder forums typically bring together private sector and business associations and CSOs concerned about environmental issues, governance and transparency, and the rights and needs of disadvantaged groups. Guiding issues to consider when selecting representation in a GPP working group include: voice and authority to advocate on behalf of GPP reforms; availability to commit time and energy; understanding of the procurement system from a user's perspective; the ability to identify opportunities for GPP; and expertise on energy efficiency, climate change, and the environment.

During the early stages of GPP reforms, multi-stakeholder forums typically motivate and educate, taking on a more operational role as GPP systems mature. Multi-stakeholder forums can serve as the liaison between proponents of reform and those resisting change. In countries with GPP experience, these forums have played diverse roles (Grandia 2015, 125): issuing high-level commitments and vision statements; providing input to identify entry points and action plans; hosting awareness raising campaigns and workshops; publishing news and information through internal channels; acting as a resource to answer questions and provide updates; assisting in the design of green tenders and selection of green criteria; and keeping motivation up by sharing examples of successful GPP implementation.

6 EC, "Module 2: Strategic Aspects of GPP." GPP Training Toolkit, https://ec.europa.eu/environment/gpp/toolkit_en.htm.

Table 6. GPP Stakeholder Rewards, Risks, and Response

	Rewards	Risks	Response
Procuring agencies	• Aligns procurement with agency mission and development objectives. • Offers cost savings over longer term. • Introduces modern procurement practices. • Fosters innovation in market and wider range of products and services.	• Perceived as expensive and an inefficient use of public funds. • Preference for familiar lowest-price criteria and compliance focus. • Perceived as more complex and having higher transaction costs and risks than existing practices. • Limited technical skills and understanding.	• Explain the GPP business case through high-profile champions and communications campaigns. • Facilitate GPP and reduce costs through joint procurements, framework contracts, and green catalogs. • Provide guidance material, tools, advisors, and help desks. • Embed GPP in core procurement training and accreditation. • Highlight good practices and reward successful agencies. • Make GPP mandatory in priority product and service categories.
Businesses	• Rewards innovation and adoption of green business practices. • Increases valued-added of products and services with potential for higher margins. • Improves business reputation with partners, staff, and consumers. • Helps establish environmental standards for products and services. • Increases competitiveness in green markets and opens opportunities for exports.	• Existential threat to businesses that cannot adopt green business practices. • Competitive threat to businesses that have not developed green products and services. • Increases production costs and reduces margins. • Increases transaction costs in public procurement. • Lack of technical and managerial skills required for GPP. • Resistance to adoption of green practices across suppliers in product and service categories.	• Consult early on GPP plans and priorities to give voice to concerns and allow time for companies to adopt green practices. • Consult with relevant businesses on design of environmental criteria for tenders. • Provide training for suppliers on GPP practices. • Highlight and reward businesses that successfully adopt green practices. • Provide targeted support for green market development.
Civil Society	• Positive impacts on environment and quality of life. • Increases green consumer choice by expanding the availability and reducing price of green products and services. • Promotes green entrepreneurship and creates local green jobs. • Increases awareness across society and communities on environmental issues.	• Adverse impacts on businesses and their employees in sectors that cannot adopt green practices or face competitive pressures. • Impact of green premium on prices for consumers. • Differences in views on appropriate priorities for GPP reforms and priority product categories. • Differences in views on appropriate pace of rollout of GPP practices.	• Consult early on GPP plans and priorities to give voice to concerns. • Establish multi-stakeholder forums so that public sector, civil society, and businesses hear different perspectives. • Provide opportunities for civil society to support GPP through green market development activities. • Ensure transparency in rollout and impact of GPP reforms.

BOX 5. Stakeholder Engagement

Media guides. The Basque Country in Spain released a "Rapid Guide for Journalists on Green Public Procurement and Contracting" in 2018. The Guide offers a media briefing on key GPP facts, 10 GPP benefits, the local context and legislative framework, successful local green tenders, the challenges involved, and a presentation of the latest GPP plan. It also offers media-ready snippets, including quotes from various authorities and links to media articles as well as a summary of, and 11 key facts about, GPP in the Basque Country (Gobierno Vasco 2018).

Outreach channels. The Philippines GPP Roadmap recognizes that "the first-time introduction of GPP is usually confronted with skepticism and various concerns (Government of Philippines 2017). A well-designed approach that is sensitive to these sentiments and is carefully aware that issues have to be solved, is necessary." The Roadmap outlines arguments that respond to stakeholders' concerns: GPP is a measure of prudence; VfM is the guiding principle; suppliers' readiness is a largely fulfilled condition; more capacity and better awareness has to be created; and verification of green supplies is no different than verification of conventional supplies. The Roadmap sets out a list of outreach channels that can be leveraged to raise the wider public's awareness and buy-in of GPP, including:

- Print media through press articles and media kits that convey stories and testimonials on the advantages and benefits of green purchasing for the wider public
- Broadcast media through occasional broadcast plugs or press releases and by integrating GPP into regular programming, such as talk shows, commentary, and documentaries
- Meetings with particular audiences or media briefings on specific themes
- Internet promotion on relevant websites as an interactive medium to disseminate information and gather data and feedback
- Informational materials (e.g., posters, newsletters, brochures), audio-visuals, and e-mails to reach out to other sectors, including churches, schools, and community-based organizations as channels and venues for advocating the general public's role as an active partner in GPP implementation

Business-led task force. In the United Kingdom, the private sector played a key role in championing GPP and informing early steps to implementation. After several initiatives by different departments to advance green purchasing, the UK government convened a Procurement Task Force in May 2005 to move beyond patchy implementation efforts and deliver a coherent GPP National Action Plan (NAP). The Task Force was business-led, reflecting both the private sector's interest and the government's recognition of the role of suppliers and contractors in delivering sustainable procurement across the public sector. The Task Force drew on best practice and engaged stakeholders from both the public and private sectors (DEFRA 2011).

Civil society forums. The European NGO Network on GPP was launched in 2016 with the support of the EC. The Network provides nongovernmental organizations (NGOs) with the knowledge needed to act as local "change agents," providing information to local, regional, and national governments to make them better equipped to engage in GPP. NGOs can promote good practice, act as a watchdog, play an intermediary role between the public sector and citizens and businesses, and even provide technical assistance on specific goods, services, or supply chains. The Network hosts a website with resources to guide NGOs looking to promote GPP in their countries, including "Green Public Procurement: A Guide for NGOs."

Multi-stakeholder forums. Japan's Green Purchasing Network brings together stakeholders from across the private sector, central and local governments, and civil society. Established in 1996 at the early stage of GPP reforms, the Network contributed to the passage of Japan's 2001 Act on Promoting Green Purchasing. The Network advocates for green purchasing by central and local governments, businesses, and consumers and provides guidelines and information on green purchasing practices. Over time, the Network has taken on a more operational role, including by helping local governments develop their procurement policies, manuals, and training materials; maintaining an online ecoproducts database of environmentally friendly products and services; issuing Green Purchasing Guidelines for 19 products and service categories; and organizing "Green Purchasing Awards" that honor best practices by manufacturers and consumers (Japan 2016).

2.5. Green market development

In many countries, GPP initiatives complement programs to encourage and facilitate the transition of the business community to green business practices. The objective of these initiatives is to expand the offer and range of green products and services available on the market and discourage—and in some cases prohibit—business practices with adverse environmental impacts. Increased competition helps promote innovation and drive down prices, further expanding opportunities for green business practices. Public procurement of green products will expand the market, pushing market share toward a tipping point at which prices become competitive and there is a strong consumer preference for buying green.

Governments can support green market development by providing information, capacity building, financing, and fiscal incentives and using regulations to mandate how businesses operate. Table 7 provides an overview of green market development instruments, distinguishing support provided through information and skills development, financing, fiscal incentives, and regulation. The appropriate mix of instruments will vary depending on country and industry context (see OECD 2014a).

GPP should be integrated into green market capacity-building initiatives for CSOs, industry associations, and external partners. Notable organizations and business groups advancing sustainability include United Nations Global Compact, the World Business Council for Sustainable Development, the International Chamber of Commerce Business Charter for Sustainable Development, and the ITC Sustainability Network. These organizations offer a wealth of information and training materials for businesses and procurers, advise on green market trends, and identify partner businesses. Some multinational corporations also provide support to developing country businesses through their green supply chain initiatives.[7] This is a rapidly evolving field. Governments can partner with business associations to facilitate access to information on the support programs that are available from diverse sources. Procurement agencies can benefit from collaboration in these capacity-building initiatives.

7 See for example the list of responsible supply chain tools in Deloitte 2019, 31–32.

Table 7. Green Market Development Initiatives

Information and Skills	Financing	Fiscal Incentives	Regulation
Information. Access to information on green certification, green technologies, GPP practices, GPP opportunities across the public sector. **Networking.** Events and online forums where suppliers can meet procurers and GPP specialists. Facilitated introductions of green suppliers to potential clients in the public sector. **Training.** Face-to-face and online courses on GPP, green technologies, green business models. **Technical Assistance.** Experts financed through government programs to provide tailored advice to enterprises on the development of green business models and adoption of green technology.	**Supply Chain Support.** Procurers provide financing through contract terms that assist suppliers in adopting green business practices. **Grants.** Financing and co-financing through grants to support the acquisition of green machinery and equipment, technical assistance, and training. **Guarantees.** Guarantees to facilitate borrowing from commercial banks to finance investments in green technology, equipment, and green business processes. **Awards.** Recognition, prizes, and financial awards for achievements in green business development and green procurement.	**Environmental taxes.** Taxes on products and services related to their adverse environmental impacts (carbon taxes, taxes on single-use plastics). **Reduced tax rates.** Reductions in tax rates for sales tax, value added tax (VAT), customs duty for green equipment and products (such as LED lightbulbs, biofuels). **Tax credits.** Reduction in tax liability related to corporate investments in green research and development, investments in green technologies, and business models. **Tax holidays.** Periods during which corporations pay reduced corporate taxes related to investments in green economic activities, technologies, and business models.	**Product bans.** Prohibitions on the use of resources and products with adverse environmental impacts (sale and use of endangered species; production and use of hazardous chemicals). **Fines.** Penalties for non-compliance with environmental regulations. **Environmental standards.** Mandatory requirements for resource and energy use, production, waste management, and pollution control. **Recycling Schemes.** Deposit-refund schemes. **Mandatory product liability.** Extend and expand the scope of producers' and suppliers' liability for products.

BOX 6. Green Market Development

Supporting innovation. Public procurers played a leading role in creating a market of electric vehicles (EVs) in Japan. The Nissan Leaf, the world's first mass-produced EV, was introduced in 2010. During the early years of production, most units were sold to local governments (UNESCAP 2012). In the year following the vehicle's launch, nearly half of the 619 recharging stations were installed on the premises of local governments (with the remaining stations located on the grounds of companies that promoted EVs). With this early government support, Nissan improved its technology by developing a quick charging unit that was smaller, cheaper, and easier to install and then installed these new charging units in locations throughout Japan. Sales to regular consumers soared. Local governments continue to support the installation of high-speed charging stations, with a goal of locations every 15 kilometers around the country.

Information, networking, and training. The Supplier Development Programme (SDP), a dedicated agency formed as a partnership between local authorities, was created to support Scottish SMEs and third sector businesses to improve their ability to win public sector contracts. Scotland's SDP hosts a nationwide "Meet the Buyer" event annually where suppliers are introduced to the procurement process, offered tips, and participate in small group exercises to prepare a mini-quotation or tender as a practical exercise, followed by Q&A between purchasers and suppliers to discuss challenges and any remaining questions. Similar events are organized as needed with specific local authorities or for specific contracts, including renewable energy projects. SDP offers a free core training program to companies on "Becoming 'Tender Ready' in 10 Easy Steps," as well as sector-specific and advanced training.

Grants and guarantees. Denmark has committed to actively promoting circular business development in SMEs under its GPP Action Plan. Companies are offered 50 percent co-financing for private experts to advise on circular business models and also for machinery and equipment. The Danish Green Investment Fund provides guarantees to circular SMEs so that they can gain access to public and private investment (Government of Denmark 2018).

Awards. In Bosnia and Herzegovina, SDG Business Pioneers Awards are given to companies with business models that contribute to the SDGs. The government created a web portal with an SDG reporting blueprint and templates based on the Global Reporting Initiative, a leading sustainability standard. Businesses prepared SDG business reports. The awards were supported by the government of Sweden and the United Nations Development Programme (UNDP).

Fiscal incentives. Bhutan created a range of fiscal incentives to support domestic production of green goods and services in its *Fiscal Incentives 2010* framework. These included: sales tax and customs duty exemptions on electric/hybrid cars, including spare parts, cars that run on renewable energy and import of plant machinery for waste management and recycling activities; tax deductions on research and development (R&D) expenditures; income tax rebates of 15 percent on expenses incurred by companies to upgrade to environmentally friendly technologies; and an income tax holiday of 10 years for new SMEs and cooperatives in rural areas and in commercial farming and food processing, and of 15 years for waste management and waste recycling activities and commercial organic farming (UNESCAP 2012 and GPP Bhutan 2015).

03

Enabling Framework

The enabling framework provides the institutional support needed to drive GPP reforms and scale up green procurement. While champions may initiate GPP reforms, scaling up requires high-level political commitment and leadership from PPAs. A comprehensive GPP regulatory framework provides guidance on when and how to apply GPP practices and empowers government to make the application of GPP practices mandatory. Incentives may include price preferences during the early stages of GPP reform, encompass a broader range process and financial incentives as GPP reforms take off, and are usually scaled back as GPP practices become mainstream. Reporting ensures that decision makers have information on the implementation and impact of GPP reforms. Effective reporting systems use e-procurement systems to consolidate operational data, mandatory reporting against key performance indicators, and surveys to gather information from stakeholders. Capacity building is critical throughout the reform process; initially, capacity building focuses on awareness raising across a wide range of stakeholders, shifting to the development of technical skills, and ultimately leading to the integration of GPP into professional procurement qualifications. Procuring entities will need technical support in the form of manuals and guidance materials. In some countries, a core team of specialists with extensive experience in GPP provide operational support across agencies. Table 8 presents an overview of the elements of the enabling framework at three stages of GPP reforms.

Table 8. Development of the GPP Enabling Framework

Dimension	Nascent	Emerging	Advanced
Organization	CPB and/or procuring entities pilot GPP initiatives. PPA/CPB provides technical support.	PPA takes on leadership role, setting strategic direction for GPP reforms and providing support and coordination functions. Audit body undertakes pilot audits.	Policy body coordinates GPP strategy. PPA leads regulatory development, operational coordination, and support. Audit body provides systematic oversight.
Regulation	Regulatory framework makes limited provision for GPP, may hinder GPP initiatives.	Regulatory framework provides enabling framework for voluntary application of GPP practices.	Regulatory framework provides for a broad range of GPP approaches and authorizes mandatory application of GPP practices.
Incentives	Price preferences and set-asides may be applied where permitted.	Price preferences and set-asides may be applied more broadly, together with process and financial incentives, to encourage adoption of GPP.	Price preferences and set-asides no longer needed, continued use of process incentives to highlight GPP achievements.
Reporting	Reporting to procuring entity management on results of specific GPP operations.	PPA establishes reporting framework for procuring entities.	Systematic, mandatory reporting on GPP implementation and environmental impacts. GPP reporting integrated into e-procurement system.
Capacity building	Broad-based training to raise awareness and build support for GPP. Technical training to build core specialists.	Broad GPP technical training as part of core training for procurement practitioners.	Integration of GPP into the competency framework for procurement professionals. Accreditation and ongoing training.
Technical support	Buyers guides for priority GPP categories.	GPP manuals and online toolkit covering basic GPP for procurement practitioners. Practitioner network or competency center supports peer learning.	GPP portal provides access to manuals, guides, and extensive tools. Practitioner network or competency center supports peer learning, provides advisory services, and undertakes procurement operations.

3.1. Organization

The organizational structure for GPP reform must fulfill six functions: leadership, regulation, coordination, implementation, support, and oversight. These functions are typically dispersed across many agencies and in some countries, across several levels of government. Where countries have established a central procurement entity, organizational arrangements may be somewhat simplified because that entity will usually assume part of the leadership, regulation, coordination, and support functions. In all country contexts, clarity of competencies, roles, and responsibilities, and effective coordination arrangements across the various internal stakeholders are critical to the successful implementation of reforms.

Ideally, leadership of the reform agenda should be vested in an entity with the statutory and political authority to drive GPP reforms and define GPP policy. This leadership role typically lies with the PPA, the entity responsible for procurement policy, regulation, and technical support for procuring entities, or the CPB, the contracting authority that undertakes purchasing on behalf of procuring entities. In some countries, PPA and CPB functions are combined in a single agency. Where there is no specialized PPA, authority usually rests with the central finance or planning agency. In many countries, GPP initiatives have been launched by environmental agencies. This can pose a challenge because environmental agencies have no direct authority over procurement policy and are not involved in day-to-day procurement operations. Where environment agencies have taken the lead, they have generally done so in partnership with the CPB or central finance or planning agencies.

Although the entity responsible for regulation of public procurement should take the lead on GPP regulation, there are a range of other regulatory issues that will need to be addressed. Agencies that may have a functional role in the regulation of GPP include those responsible for the environment; consumer protection; health and safety; weights, measures, and standards; trade; energy; and forestry and agricultural products. Responsibility for coordination across regulatory departments is often assigned to the center of government or government legal department, such as the solicitor general.

Implementation responsibility typically rests with the procuring agencies. Where there is a CPB, major procurements or procurement processing may be centralized, though even when the CPB administers the tender process, spending agencies will still take the lead on the definition of their procurement needs. Implementation of GPP requires that decision makers throughout the procurement process support the application of the VfM principle and environmental considerations in procurement. During the early stages of GPP rollout, this requires extensive awareness raising. The operational aspects can be addressed by a smaller number of procurement officials. Some agencies establish a GPP focal point, while others establish steering groups to guide GPP implementation across the organization, which helps to target technical training and allows the creation of networks for experience and information sharing.

Support functions are usually centralized at the central procurement agency. Support functions allow procurement agencies to concentrate expertise so that it can be deployed across government. GPP is usually integrated into the support provided across the procurement process. The support function will typically include: the development and deployment of guidance materials and technical tools; training; advisory services and help desks; and management of peer learning networks. Support functions may also manage shared services, such as framework contracts, green catalogs, and marketplaces. Well-staffed support functions will have specialists in particular product, service, and work categories.

GPP reforms must be designed and implemented in partnership with oversight agencies. The supreme audit institution (SAI) plays a particularly important role in the design of the regulatory framework from the compliance perspective and the monitoring framework from the performance perspective. The SAI will need to endorse and support the shift to a broader concept of VfM, integrating environmental impacts using LCC concepts and moving away from the narrower concept of cost of acquisition. This will require some adjustment in the SAI's working practices. Other oversight entities that will impact on the design and implementation of GPP reforms may include those responsible for access to information and grievance redress in the procurement process, as well as the judiciary, given its role in the adjudication of disputes related to public procurement.

Coordination of these diverse actors in GPP reform requires the establishment of internal, government-wide coordinating bodies. During the GPP design stage, the focus will be on regulatory matters and the establishment of implementation arrangements in participating agencies. As GPP reforms move from design to implementation, the internal coordination requirements become more complex, with an ongoing requirement for a policy and regulation function and additional needs in procurement operations, support, and oversight. These needs may best be addressed by establishing multiple coordinating bodies at different levels with distinct coordination functions, such as regulation, operations, information exchange, and learning.

Table 9. Key GPP Reform Functions

Emerging	Advanced
LEADERSHIP Guide policy, take initiative, promote, and motivate. **Ministries of Finance, Economy, and Environment, Center of Government, PPA**	**COORDINATION** Facilitate collective action by key stakeholders. **Government working groups, Multi-stakeholder forums**
REGULATION Establish GPP procedures, practices, and standards. **Ministries of Finance, Economy, Trade, and Environment, PPA, Standard-Setting Bodies**	**IMPLEMENTATION** Apply GPP practices in public procurement. Procuring entities, PPA
SUPPORT Provide procurers with GPP-specialized advice, tools, and training. **PPA, Environment Agency**	**OVERSIGHT** Ensure external audit and enforcement of standards. **Internal Auditors, Supreme Audit Institution, Standard-Setting Bodies**

BOX 7. Managing GPP Reforms

Coordination. The Basque Country in Spain created three bodies to support a participative and transversal approach to GPP implementation across its regional government. The "Driver Group" is a leadership group whose members set annual action plans and act as examples to the rest of the Basque administration. The "Technical Secretariat" hosted by the Environmental Department provides day-to-day administrative support to all GPP bodies. The "Participating Administrations" group consists of all public bodies that sign a commitment document, designate a GPP lead, and commit to establishing a GPP annual work plan, feasibility analysis, training, and monitoring. Authorities can also join thematic working groups that meet periodically with experts and are designed to foster synergies between GPP activities of different administrations (Gobierno Vasco 2016).

Support. Germany's Federal Procurement Office of the Ministry of the Interior established a Competence Center for Sustainable Procurement (KNB). KNB supports approximately 30,000 contracting agencies of the federal government, states, and municipalities by providing guidance, information, materials, and training. Services include: a telephone and hotline to respond to questions and provide advice to procurement staff; training through one-day, on-site seminars on various themes; and procurement guidelines, information brochures, and newsletters. Services have been developed with representatives of contracting authorities from across government and industry, NGOs, and associations (OECD 2019a). A network of competence centers for innovation procurement has been set up in Europe under the Procure2Innovate initiative.

Roles and responsibilities. The Philippines GPP Roadmap set out a Stakeholder Matrix that lists the key bodies and their roles and responsibilities (Government of Philippines 2017).

Institution	Role and Responsibility
Government Procurement Policy Board (GPPB)	Leading the development of and updates to the GPP Roadmap, rules, and regulations
GPPB Technical Support Office	Providing day-to-day administrative support and management needed to implement the GPP Roadmap
Department of Budget and Management - Procurement Service	Central procuring authority responsible for day-to-day implementation of green procurement and development of practical GPP procedures and tools
Department of Trade and Industry	Serving as interface between government and business and delivering programs to support greening of industry and SMEs
Department of Trade and Industry - Bureau of Philippine Standards	National standard body responsible for green specifications and quality seals, issues certificates of conformity with green specifications for imported goods
Department of Environment and Natural Resources	Setting environmental standards on and monitoring vehicle emissions and industrial wastewater discharges of suppliers
National Economic and Development Authority	Ensuring inclusion of GPP into national development plans and infrastructure project proposals, monitoring socioeconomic and environmental impacts
Procuring entities of departments, provinces, cities, municipalities, and government-linked bodies	Target group for training and awareness raising, nationwide application of and knowledge sharing on GPP (especially education and health care facilities that can promote green purchasing to the wider public)
Department of Energy	Implementing policies and programs on energy efficiency with an initial focus on lights, refrigerators, and air conditioning units
Testing centers	Verifying conformity of products to green specifications (Philippines Standards Quality and Safety Marks or to acceptable foreign standards)
Other stakeholders and multipliers	Responsible for promoting green purchasing: NGOs, industry associations, media, leaders, and prominent citizens

3.2. Regulation

GPP must be anchored in procurement regulations. The regulatory framework for public procurement will usually provide ample scope for the adoption of GPP practices through VfM provisions. A review of the regulatory framework will identify the appropriate regulatory basis for GPP. With a permissive GPP regulatory framework in place, the application, scope, approach, and methods of GPP can be determined by policy rather than through regulation.

Regulatory review may occasionally reveal compliance-focused procurement rules that hinder GPP implementation and thus require reform before proceeding. Some procurement laws contain provisions that require procurers to select the lowest-price bid. Procurement processes may also use binary compliant/non-compliant forms that do not allow for criteria other than price to be considered in tender documents. These regulations prevent consideration of environmental criteria in tender evaluation. In order to proceed, regulatory reforms will need to make provision for VfM considerations. In such cases, the authorities may wish to integrate GPP into a broader reform of the regulatory regime for public procurement.

Where regulations permit GPP, procurement bodies may wish to experiment with GPP initiatives before preparing comprehensive GPP regulations. Market consultations and pilot tenders using a variety of approaches will help identify the opportunities for and constraints to GPP in the particular country or sector context. This experience will help guide the design of regulations to meet country needs.

Comprehensive GPP regulations should explain why, when, and how to buy green. The Model Law for Public Procurement (2011) of the United Nations Commission on International Trade Law makes limited provision for GPP, referring only to the use of environmental benchmarks in the tender evaluation criteria (Art 11.2.(b)). Table 10 lays out a more extensive set of GPP provisions for procurement regulations that empower the central procurement agency and procuring agencies to use GPP practices. They set out procurement goals and principles; allow procurers to integrate environmental requirements into the procurement process; define the scope of application; outline bid selection criteria; require verification; outline the key elements of tenders; and provide for market consultation, innovation, and use of GPP tools.

Regulations may mandate or empower the government to require the application of GPP practices to specific procurement categories. Mandatory GPP removes the procuring authority's discretion in determining whether or not to apply GPP practices. Such requirements typically follow one or more of three approaches: regulations set minimum environmental criteria (such as an energy-efficiency standard or a share of recycled content) for all or specific procurement categories; regulations require that specific product categories be purchased from a pre-approved product and supplier list that meets the required environmental criteria; or alternatively, regulations may require that environmental criteria are considered during the procurement process for specific procurement categories. Mandatory application of GPP ensures a consistent approach to the procurement of specific categories of goods, services, and works across the public sector. Consistency helps suppliers plan and adjust to procurers' needs. Mandatory GPP is initially limited to a few procurement categories where there is a strong risk-reward rationale, building on experience gained in pilot GPP initiatives and voluntary application of GPP practices by procuring agencies. The scope of mandatory GPP is then gradually extended. None of the countries reviewed had passed directly to mandatory GPP for all procurement categories. Some countries with mandatory GPP allow exceptions on a "comply or explain" principle.

The appropriate regulatory instrument for GPP will depend on the country context. As a general rule, mandatory and enabling provisions that impact on stakeholders beyond the public sector should be reflected in legislation, though provisions related to internal processes can usually be delegated to subordinate administrative regulations. Procurement legislation can authorize the executive to progressively expand the scope of GPP or level of ambition and to adopt new GPP practices.

GPP should reinforce national environmental regulations. Procurement agencies can promote and facilitate compliance by providing information on the relevant environmental regulations on their website. Tender documents can reference applicable environmental regulations, require tenders to confirm and explain how they will comply with these regulations, assess compliance during bid evaluation, provide means of verification, and identify remedies in case of non-compliance. Specification of applicable environmental regulations helps ensure a level playing field among competitors from both the domestic and foreign markets.

Table 10. GPP Provisions in a Regulatory Framework for Public Procurement

Category	Provisions ▲ Authority that regulations can delegate to the administration
Procurement goals and principles	• Explain alignment of public procurement objectives with environmental and economic policy goals • Require procurers and suppliers to comply with national environmental regulations and standards ▲ Reference applicable environmental regulations
Application	• Empower the administration to require mandatory application of GPP practices ▲ Specify the scope of mandatory application of GPP practices • Encourage procurers to apply GPP criteria where GPP is not mandatory
Incentives	• Define any preferences or set-asides for green procurement or specific groups, how these should be applied, and arrangements for periodic review • Specify any price preferences for green products, services, and works, how these should be applied, and arrangements for periodic review
Reporting	▲ Empower the administration to define mandatory reporting requirements for procuring entities
Environmental criteria	▲ Empower the administration to define environmental criteria and minimum standards for GPP ▲ Specify methodologies and weights used to value environmental considerations in award criteria • Require bidders to comply with environmental regulations to be eligible for contract awards • Require procurers to reject abnormally low bids due to non-compliance with environmental regulations or standards • Require procurers to award contracts on the basis of LCC
Procurement approaches	• Allow for early market engagement and consultations throughout the procurement process, outlining any limitations and guidance • Allow for joint procurement, framework agreements, catalogs, and marketplaces • Allow procurers to use performance-based or functional criteria • Allow procurers to accept multiple bids from suppliers to allow for green alternative bids • Allow procurers to divide tenders into lots to support SME participation
Verification	▲ Set out processes to verify compliance with environmental criteria, including ecolabels, tests, reports, and certifications. If ecolabels are used as selection criteria, allow suppliers to submit "equivalent" proof of compliance
Implementation tools	▲ Recognize available environmental criteria, ecolabels, guides, and standards as tools recommended for procurers to use to inform green procurement practices • Promote the use of framework agreements to aggregate public spending on green goods, works, and services

BOX 8. GPP Regulatory Framework

Complementary legislation. In Uruguay, multiple regulations provide the basis for GPP alongside the Decree on the Policy of Sustainable Public Procurement, including: the Law on Energy Efficiency; the Decree on Energy Efficiency Labeling; the Decree on Environmental Criteria to be Met by Vehicles Purchased by the State; and the Law and Decree on Packaging Management (Casier et al 2015).

Regulatory strategy. In the Dominican Republic, the central procuring authority's Strategic Plan identifies "the promotion of inclusive access to the SPP market from an economic, social and environmental perspective" as a priority. The Plan outlines the legal basis for SPP in the national constitution, legislation, and regulations on issues of national development, public procurement, environment and natural resources, and the promotion of SMEs and family farmers. However, it acknowledges that this dispersed regulatory framework is an obstacle to coherent implementation. A draft procurement law prepared in 2020 incorporates explicit, binding environmental sustainability criteria, drawing from lessons learned and leapfrogging to a mandatory GPP approach (OAS and IDB 2020, 57).

Comprehensive framework. Peru enacted Public Procurement Law (PPL) No. 30225 in 2016 to transition from a compliance-based procurement system with excessive formal requirements and complex tendering processes to one that prioritizes results over procedure. The PPL identifies maximization of VfM as the primary objective of procurement. Article 2 specifies that "environmental and social sustainability" is one of the 10 guiding procurement principles. Article 51 allows procurers to apply environmental and social sustainability as evaluation criteria on a voluntary basis. The implementing regulation establishes that public authorities can include functional requirements or characteristics related to social and environmental sustainability when preparing tenders (OAS and IDB 2020, 54). The Office of the Comptroller General of Peru subsequently released "Guidelines for SPP," listing 25 legal instruments (laws, decrees, resolutions) that inform SPP implementation in the country. The Guidelines set out mandatory minimum criteria for recycled content of paper and plastics, bans on single-use plastic, energy efficiency, certified paper, water saving equipment, and sustainable construction.

Mandatory application. In the Republic of Korea, the 2005 Act on Promotion of Purchase of Green Products requires state agencies to purchase products and services with Korea Ecolabels where they have been issued. In China, green procurement was initially voluntary, but since 2007 public entities have been required to purchase products from the Energy Conservation Product list in nine product categories (computers, monitors, printers, lamps, air conditioners, electric heaters, televisions, urinals, and water faucets) (UNEP 2017a). In Slovakia, GPP has been mandatory at the central government level for three categories of goods (copying and graphic paper, computers and monitors, road transport) since July 1, 2020. The government will add a products category to the mandatory use list each year (cleaning products and services to be added in 2021) (EC 2020e).

3.3. Incentives

Governments can promote the adoption of GPP practices by providing appropriate incentives for procurers. Incentives are particularly important during the initial stages of GPP implementation, when application is usually voluntary and often perceived to be risky by early adopters. As GPP systems and markets mature, incentives may still be needed to promote new, innovative applications of GPP practices, often alongside mandatory application of GPP for goods, services, and works where procurers have extensive GPP experience.

Policy makers may provide for price preferences and set-asides as procurement incentives to overcome the perceived competitive disadvantage of green products, services, and works. Price preferences allow procuring entities to award contracts to qualified bidders within a margin—typically in the range of 5 to 15 percent—of the lowest price bid. Set-asides reserve certain contracts for qualified bidders. Price preferences

and set-asides have been used extensively in the United States to promote the participation of SMEs in public procurement by ensuring that they have a price advantage or by excluding larger firms from participation in tenders for lower-value contracts. However, there is little documentation on the use of these instruments to promote GPP. Procurement regulations should define the scope, method of application, and review arrangements for any price preferences and set-asides for green procurement. Procurement incentives do have costs in terms of increased prices, reduced competition, and scope for discretion in application and are thus contrary to the guiding principle of best VfM for public procurement. The rationale for procurement incentives should therefore be tested regularly. Application of TCO and LCC approaches to bid evaluations should address any green premium price differential. As the market for green products matures, market prices for green and traditional products tend to converge and procurement incentives become unnecessary. Periodic reviews should assess the costs and benefits of any procurement preferences. Sunset clauses reduce the risk that procurement incentives become entrenched.

Targets, league tables, and benchmarks can provide powerful incentives for agency performance. The design of effective incentives depends on the organizational culture in which GPP operates. Top-down policy mandates with cascading targets may be sufficient to motivate government agencies to adopt and expand the use of GPP practices. This approach works best where target setting is routine practice, targets are binding, progress is monitored, and agency management is held to account for results. In the absence of a supporting organizational culture, top-down GPP targets are unlikely to be effective. Governments can promote GPP practices by allowing agencies to set their own targets and using public reporting, league tables, and benchmarking across agencies to create competition among peers and pressure from stakeholders. Awards and qualification schemes can reinforce the competition and stakeholder pressures that encourage agencies to strive for greater ambition.

Financing can facilitate and provide additional incentives for GPP implementation. GPP will have direct program implementation costs related to capacity building, systems development, and market consultation, particularly during the early stages. These costs can be covered by the central procurement agency as part of a GPP program. In developing countries, externally financed projects and programs may provide an opportunity to explore GPP practices and cover additional costs. Governments can provide supplementary resources through a centralized GPP program (this will be easiest where the procurement agency undertakes joint procurements—see Section 5.3), they can increase agency budget allocations based on programmed incremental costs, or provide an additional allocation based on actual costs. Over the longer term, any incremental costs related to the green premium will need to be absorbed by the procuring entities.

Table 11. Incentives for the Voluntary Adoption of GPP Practices

Nascent	Emerging	Advanced
Price preferences for qualified bidders. Set-asides or reservations for qualified bidders.	Agency public policy commitments to support and expand the application of GPP practices. Targets for the application of GPP practices, monitoring, and reporting on progress. Publication, benchmarking, and league tables for agency GPP performance. Awards and prizes to recognize achievements in green procurement. Membership in high-profile GPP initiatives with entry qualifications.	External partners–donors–cover implementation costs and undertake pilot procurements. Increased budget allocations to agencies to cover programmed cost or budget amendments to cover actual cost of priority categories of green procurement. Centralized GPP support program contributes to the incremental cost of GPP through joint procurements.

BOX 9. Incentives for GPP

Preferences. In the Netherlands, contractors can apply for a "CO2 performance ladder" certificate that qualifies them for a deduction in the submission price and increases their chance of winning the contract. The first of the "rungs" on the ladder is to measure the company's CO2 emissions; subsequent rungs are measuring emissions in the supply chain; setting goals for emissions reductions; and applying measures to reduce CO2 emissions in the supply process. Each rung on the ladder leads to a 1 percent reduction in the submission price with a maximum deduction of 5 percent (OECD 2014a).

Set-asides. In the United States, the 1988 Robert T. Stafford Disaster Relief and Emergency Assistance Act established set-asides for local businesses for debris clearance, distribution of supplies, reconstruction, and other major disaster or emergency assistance activities funded by the federal government. Eligible firms include those with their head office in the disaster-affected area. In addition, that office must have generated half of the firm's gross revenues and employed half of its permanent employees.

Voluntary targets. In the Netherlands, after the failure of top-down targets to promote sustainable procurement, the procurement agency launched a "Socially Responsible Procurement Manifesto" in 2016. Public agencies were invited to sign up. Within six months of signature, agencies had to develop a GPP action plan that included setting the level of ambition; identifying where they can have the greatest impact; establishing measurable goals; and explaining how they will achieve their targets and mainstream GPP practices. The Dutch Public Procurement Expertise Centre (PianoO) provides support on how to develop GPP action plans at the institutional level and shares best practice examples and lessons learned.

Awards. The U.S. Department of Energy runs a GreenBuy Award Program to incentivize procurers to show leadership in green procurement. The program identifies priority products in seven categories (cafeteria, construction, custodial, electronics, grounds/landscaping, office, operations) and sets minimum sustainability goals for each. Procurers can nominate themselves for awards when they purchase at least four products in at least two product categories that meet or exceed the minimum goals. Procurers can receive three levels of recognition: gold, silver, or bronze. Procurers that win the gold award multiple times can be further recognized through "prime," "superior," and "elite" level awards. The sustainability criteria in each product category are updated each year to keep current with marketplace and procurement trends and to encourage procurers to keep advancing their ambition in buying more sustainable products.

Qualification. In Malaysia, contracting authorities are invited to join the national GPP program managed by the Ministry of Natural Resources and Environment. To qualify as participating entities, agencies must meet the following criteria: signature on the declaration of implementation form or an equivalent official letter sent by mail; registration on the GPP website, which gives access to the reporting system; proof of participation in a GPP training workshop; and submission of GPP reporting data annually to the central government.

Financial incentives. The government of China used subsidies to overcome price differentials between standard and green products. In 2009, the price subsidies for organizations that purchased green vehicles amounted to 10 percent for vehicles with an overall environmental label, 5 percent for those with over 50 percent ecolabeled parts, and 1 percent for those with less than 50 percent (Zhu et al 2013). In the Republic of Korea, annual performance bonuses are awarded to public institutions and local governments based on the extent to which they practice GPP (UNEP and KEITI 2019).

3.4. Monitoring and reporting

Monitoring and reporting systems are often an area of weakness in GPP systems. In many countries, monitoring is carried out on an ad hoc basis, if at all. In the Latin America and Caribbean (LAC) region, only 35 percent of countries report a monitoring measure in their GPP strategies (OAS and IDB 2020, 70). Across OECD countries, reporting is increasing, with 69 percent now measuring the results of their GPP policies and strategies.[8] Several countries in East Asia have put in place more systematic arrangements with sophisticated online monitoring platforms linked to their e-procurement systems (Switch Asia 2020).

Reporting frameworks generate the information needed to track and guide the implementation and performance of GPP systems. There are distinct audiences with distinct information needs. Operational managers will require granular information on procurement plans and the performance of individual tenders. Central procurement agencies and the senior management of procuring agencies require operational reports that flag exceptions and identify where progress is off track, together with consolidated reports on progress against targets, operations, and impacts. Center-of-government agencies and oversight institutions require consolidated reports focusing on progress against targets at the agency level and the impacts of reforms. Presentation of comparative performance information by benchmarking and ranking of agencies in league tables helps highlight relative performance and create incentives.

Central finance or central procurement agencies typically establish reporting standards for procuring agencies. Standards will define the indicators to be reported, the source, frequency, and reporting formats. Many countries start by setting minimum monitoring requirements for a limited group of public authorities at the central level, piloting monitoring systems at a scale that can ensure reliable, representative, and comparable results. Governments then gradually increase the range of indicators, product categories, and agencies and encourage procurers to get engaged early without pressure and to build the capacity to meet more ambitious targets. Targets and reporting can be made mandatory for central administrations or specific product lines and voluntary for others, allowing examples to be set at the central level while nudging other public authorities to follow.

E-procurement systems can facilitate routine data collection and reporting on GPP practices. E-procurement systems can collect information on tender specifications, the tendering process, and contract performance. The integration of green criteria in routine reporting can facilitate the estimation of environmental impacts. E-procurement systems also reduce the reporting burden on procurers and improve data consistency and quality. Data tracking, analysis, and visualization can be done in real time, allowing managers to make informed decisions on adjustments in implementation plans and identify opportunities to improve performance.

Routine monitoring and reporting can be complemented by periodic surveys and evaluations. Surveys of procuring agencies, suppliers, bidders, companies that do not participate in green tenders, and CSOs can generate information that is not available from administrative sources. This includes information on GPP practices, impacts, perceptions, and motivations. Operational evaluations are conducted by the procuring agency at the end of a tender process to identify factors that impacted tender performance. Operational evaluations can inform the design of subsequent tenders and GPP technical guidance. In-depth evaluations allow governments to drill down on specific agencies or product categories to assess GPP impacts and test the cost-effectiveness of GPP practices. Evaluations are typically undertaken by third parties with experience in evaluation design commissioned by the procuring, central finance, or planning agency.

All information on public procurement should be available to the public with limited exceptions, as required by legislation. These exceptions usually include the rights to privacy and the protection of commercially sensitive information. Governments should align monitoring and reporting systems with the Open Contracting Data Standards to ensure transparency and facilitate the use of data. E-performance portals can provide public access to operational data, with the appropriate safeguards. Reports on GPP implementation and impacts intended for internal management purposes should be available to the public. Open Procurement portals can provide access to reports alongside information on tenders and used to assist in tender preparation.

Reports to the legislature and communication with the public will need to complement technical information with user-friendly presentations using simple language and visuals for a non-technical audience. Visual evaluation indicators, such as traffic lights or medals, can help communicate performance. Case studies of achievements and lessons learned build the argument for GPP reforms, support peer learning, and motivate procurers.

8 See OECD, "Green Public Procurement," https://www.oecd.org/gov/public-procurement/green/.

BOX 10. Monitoring and Reporting

Statutory reporting requirements. Japan's Green Procurement Law makes reporting mandatory for central ministries and their agencies. Each unit must define and publish an annual GPP plan with procurement targets for the priority product and services defined by the central government in its national GPP policy. At the end of the year, each agency must report on its performance to the Ministry of the Environment and publish its results. Local authorities are invited to voluntarily report on their GPP implementation by answering an annual questionnaire (Hasanbeigi et al. 2019).

Dedicated monitoring system. The government of the Republic of Korea monitors GPP implementation across 30,000 procuring entities using its GPIS-I online monitoring system. The system monitors two key GPP indicators: the number of agencies submitting GPP implementation plans and performance reports; and purchases of green products (units and expenditure on ecolabeled products, percentage of green purchases compared to total expenditure in priority product groups). GPIS-I gathers data from three different data sources: central government procurement through the Republic of Korea's e-procurement system (KONEPS), compiled monthly in an Excel file and integrated into GPIS-I; low-volume purchases through the country's e-shopping mall "Green Market," automatically tracked and transferred to GPIS-I; and direct procurement by entities using their own systems, tracked by each entity and manually input into GPIS-I. The central government, local governments, and public education authorities now produce annual procurement records through their online accounting systems that can be integrated directly into GPIS-I (UNEP and KEITI 2019).

Surveys and studies. In Canada, a nationwide survey of SPP practices in both the public and private sectors was carried out in 2020. The Sustainable Procurement Barometer enables Canadian organizations to self-assess and compare themselves to their peers over time. In keeping with the political commitment to contribute to sustainable development, the 2020 Barometer also evaluates the contribution of sustainable procurement to the SDGs (ECPAR 2020). In Sweden, an implementation progress review of approximately 600 tender documents for 30 selected product groups found that 90 percent had some form of environmental criterion (EC 2020e).

3.5. Capacity building

GPP capacity-building programs should equip public procurers with the motivation and skills needed to procure green. Capacity building is critical to the successful implementation of GPP reforms. Capacity-building efforts will change as GPP reforms proceed. At the early stages of GPP implementation, capacity building tends to focus on motivations—why procure green— shifting to skills and "how to" as GPP matures. Ultimately, the goal of capacity-building programs is to embed GPP in the core skills of public procurement professionals.

Capacity-building initiatives should start from an understanding of staff motivation, skills, and organizational culture. This will allow the capacity-building efforts to target potential sources of resistance to GPP and identify the specific skills that need development. Surveys of key stakeholders can help understand procurers' perspectives on GPP and identify misconceptions and concerns. Surveys can be complemented by self-assessments that help procurers identify their own training needs and encourage them to assume responsibility for skills development.

At the early stages of GPP reform, capacity building will focus on motivating procurers to adopt GPP practices. Positive messaging is important: GPP should be presented as a strategic opportunity to deliver high-quality public services and build trust with the public rather than an added compliance risk. Messaging should also encourage a shift from a bureaucratic, risk-averse focus on compliance to a performance approach to procurement. Communications in an accessible language, with practical experiences and endorsements from senior officials, should answer questions and address concerns and misconceptions, which can include: GPP means spending more and sacrificing

quality; GPP is more complex and raises compliance risks; and GPP is an optional niche approach unrelated to core procurement goals. Procurement agencies can organize forums, site visits, or meetings with suppliers to allow procurers to view product quality and manufacturing processes first-hand and ask questions of supplier companies. Basic training programs and guides can help increase familiarity with the principles and practices of GPP, and in-depth training can focus on the core team leading GPP reforms. Some countries have invested in scholarships for selected staff in certification programs conducted by external training institutes.

As the GPP reforms proceed, the focus of capacity building shifts to GPP skills. Capacity-building efforts will have to be broad in scope, encompassing: senior and line management; procurement specialists in central procurement, spending, and decentralized agencies and local government; and staff oversight agencies, including auditors. This requires a range of capacity programs, from introductory to specialized, and a mix of delivery methods that include: in-person workshops or webinars; e-learning courses for self-guided and facilitated learning; specialist practical classes for practitioners; and training of trainer programs. Practitioners appreciate practical, hands-on learning on the design of green procurement strategies and specific tenders. Some countries have combined training with the implementation of pilot tenders. Successful capacity-building programs:

- Define a clear target group and respond to its technical needs, concerns, and constraints.
- Address both skills and the development of green mindsets.
- Draw on local examples and show practical applications.
- Integrate opportunities for experiential learning, including through pilot tenders.
- Offer specialized training on TCO and LCC tools and product and service categories.
- Provide for peer learning.

Competency frameworks can be used to guide capacity building and professionalize the procurement functions. Competency frameworks identify core procurement skills and set out a career path for procurement professionals; they also help frame terms of reference and recruitment and to design training programs. The Chartered Institute of Procurement and Supply (CIPS) uses the Global Standard for Procurement and Supply as the basis for a competency framework with five levels—tactical, operational, managerial, professional, and advanced professional—identifying capabilities at each level (CIPS 2018). Box 12 outlines how a competency framework can be applied to help mainstream GPP as a core skill for procurement professionals. The competency framework can identify the basic GPP skills required of all procurement professionals and those in specialized positions within procurement units with advanced GPP skills who can advise colleagues. Competency frameworks can be linked to professional certification schemes organized by professional bodies[9] or academic qualifications offered by accredited institutions.[10]

9 Certification programs include courses offered by CIPS and the Certificate in Sustainable Public Procurement and Effective Public Procurement: Value for Money from the OAS School of Government.

10 Examples include the Master in Public Procurement Management for Sustainable Development from the International Labour Organization (ILO) International Training Centre – Turin Procurement.

BOX 11. Capacity Building

Training needs assessment. The Korea Environmental Industry and Technology Institute conducted a survey to assess the training needs of contracting authorities (KEITI 2018). The survey covered GPP awareness, motivations for purchasing green products, and what would facilitate GPP. The survey revealed that the main motivation was that the government required mandatory green purchases and monitored implementation. Procurers also appreciated the convenience of being able to choose approved green products from the e-procurement system and called for more local green product shops and catalogs. The top training requests were: explanations of the environmental and economic benefits of green products; sharing of best practices; and training on the use of the online platform and e-procurement tools.

GPP training materials. The EC offers a GPP Training Toolkit designed for use in training courses and workshops. It consists of six core and ten sectoral modules focused on specific product and service categories. Each module comes with a PowerPoint presentation, facilitator's notes, and accompanying background guidance. Training materials have also been developed in several EU-funded projects on GPP. The PRIMES GPP training package offers slides, interactive exercises, and evaluation sheets on topics such as LCC, innovation procurement, ecolabels, and joint procurement. The European competency framework for public procurement professionals, ProcurCompEU (EC 2020c, 91–92), offers a general training curriculum as a guide for harmonized training approaches across Europe. Training Module 5 on Sustainable Procurement outlines a description of the competencies, training topics, and learning outcomes.

Competency framework. The government of Scotland has created an online self-assessment tool for staff to assess their capacities within a procurement competency framework. Staff can gauge their own competencies in nine areas or "sections," including one on "Sustainability and Innovation" that outlines five levels of SPP competency:

- **Level 1 Foundation:** Is aware of the strategic priorities and context for SPP at the organizational, national, and international levels and acts in a way intended to comply with them.
- **Level 2 Working Knowledge:** Has knowledge of SPP criteria and standards and integrates them into the procurement cycle from stakeholder engagement to tender preparation and monitoring.
- **Level 3 Practitioner**: Understands and keeps updated on SPP trends, influences others to adopt sustainable procurement, and identifies new opportunities to encourage innovation.
- **Level 4 Expert:** Collaborates with colleagues nationally to build a culture of commitment toward sustainable procurement and encourages own staff and all procurers to promote sustainability.
- **Level 5 Master:** Champions SPP across public and private sectors, contributes to building national and international SPP best practice, and works to maximize sustainability outcomes.

Professionalization. Lithuania undertook an assessment of the challenges and needs of its public procurement workforce as well as an extensive review of the training courses and materials and capacity-building tools. The analysis informed a professionalization strategy and certification framework. Certification courses include e-procurement, GPP, socially responsible procurement, innovation procurement, and SME facilitation. Learning methodologies include face-to-face workshops, e-learning modules, an educational degree program, manuals and guidelines, standardized templates, ad hoc support through a help desk and consultations, and practical training in the form of job-swapping, a community of practice, and internships. All this content is available on a one-stop-shop procurement portal. The professionalization strategy also recognized the need for incentives to motivate GPP, including direct financial benefits and non-financial incentives, such as awards to recognize achievements and flexible working hours (OECD 2019).

3.6. Technical support

GPP guidance materials, buyer guides, manuals, and toolkits are essential supports for GPP implementation. No country needs to start from scratch. Most of the regional and global GPP and SPP networks maintain online lists of case studies, tools, and resources, including generic GPP manuals in many languages. The challenge for PPAs is to develop guidance material that addresses their own country circumstances and provides country-specific examples and practical tools. At the early stages of GPP, countries may use buyer guides as substitutes for or complements to general GPP manuals. Buyer guides provide operational guidance on the preparation of tenders for specific product and service categories. Manuals cover both the strategic and operational aspects of GPP. Typically, GPP manuals: introduce key GPP concepts, benefits, and challenges; summarize the legislative and policy framework for GPP and country-specific environmental impacts; identify priorities for GPP implementation; explain how to integrate green criteria into the procurement cycle and tender design; provide technical environmental criteria for priority product and service groups; and provide links to tools and resources to help procurers adopt GPP practices. Online toolkits offer access to a range of operational support, including: green criteria, ecolabels, and certifications; LCC calculators; model tender documents; e-catalogs and marketplaces; and green supplier databases.

Practitioner networks play an important role in motivating, sharing knowledge, and providing technical support. Networks motivate and inform by sharing successful experiences and offering access to advice, thus allowing procurers to move from a theoretical to a practical understanding. They promote a consistent approach to GPP and reduce duplication of effort by allowing procurement methods and tender documents to be shared. They can also facilitate operational cooperation through joint procurements that save costs by aggregating the purchasing needs of multiple authorities. Online networks and forums can be relatively low cost, though they do require curation of shared materials. Networks can host periodic events and in-person forums and establish pools of experts, providing a virtual help desk to help solve problems. Networks can be national or regional in scope. Regional networks have proved particularly valuable in the early stages of implementation when there are few procurers with GPP experience within a country.[11]

Some governments have established competency centers to support the implementation of GPP and other modern procurement practices. Competency centers bring together specialist skills in one unit, often as part of the PPA, to provide technical support to the whole of government. This can be particularly helpful at the early stages of GPP reforms when there are a limited number of procurement specialists with technical skills in GPP operations, though competency centers are usually put in place when GPP is already well established. Competency centers manage the practitioner networks, curating websites and materials and providing a help desk and technical advice to procuring agencies. In some cases, competency centers have taken on an operational role, coordinating joint procurement and managing e-catalogs and marketplaces.

11 Regional networks include: INGP in LAC and the Asia-Pacific Green Public Procurement Network. Some regional networks are intended for cities and subregional governments, including: Global Lead City Network on Sustainable Procurement and the Procura+ Networks in Europe, Asia, and Africa. There is global web community of practice on ISO 20400, with participants in both the public and private sectors.

BOX 12. Networks and Technical Support

GPP portals. In Malta, a central GPP web site offers quick access to: a brief definition of GPP and its importance in Malta; mandatory and voluntary sets of environmental criteria; the latest GPP policy and action plan that guides implementation activities; a database with a GPP timeline and procurement guidance; and an application to attend the "Introduction to GPP" course. Colombia's Ministry of Environment has created a dedicated SPP web site that provides access to the key documents and tools available, including: a user-friendly and visual guide to key SPP concepts and processes; a detailed description of the GPP implementation priorities and steps in Colombia; and an Excel spreadsheet with GPP technical specifications and LCC worksheets. The Basque Country maintains a searchable online database of Good Practices in GPP by institutions across the region. Detailed information is provided for each experience, including background information, the tender specifications, results, and success factors. The name, phone number, and telephone of a contact person is made available to allow interested procurers to get in touch directly with their colleagues to learn more.

Practitioner networks. France supports ten regional networks of public buyers across the country. The Ministry of the Ecological Transition offers tips on how to form these regional networks, including ways to: host one or more kick-off meeting; set objectives for the network; decide on an informal or formal coordination approach; define the regional and functional scope; set up working sessions and thematic groups; and link up with other regional networks to exchange views. An online platform allows procurers to search for contacts and documents related to different types of purchases and environmental or social considerations. There are also specialized subgroups focused on specific sectors, such as a network on integrating responsible procurement into hospital purchases.

Regional networks. The Inter-American Network on Government Procurement (INGP) was created in 2016 under an Organization of American States (OAS) General Assembly Resolution to serve as a mechanism for high-level technical cooperation exchange on public procurement issues. The Network has been instrumental in creating region-wide tools and support for GPP, including a handbook (Casier et al. 2015), certification program, and environmental criteria set out as checklists of green considerations to allow adaptation to local markets. Regional networks include: for Africa, Procura+ Africa Network and African Public Procurement Network; Asia, International Green Purchasing Network and Procura+ East Asia Network; Europe, Procura+ EU Network and Big Buyers initiative for Climate & Environment; and Latin America, Inter-American Network on Government Procurement.

Competency centers. The Dutch Public Procurement Expertise Centre (PIANOo), established by the Netherlands Enterprise Agency in 2005, brings procurement experts together, pools knowledge and experience, and provides advice. PIANOo supports a network of roughly 3,500 public procurement and tendering professionals and fosters dialogue between government contracting authorities and private sector companies. It organizes meetings, produces publications, and works with expert groups. A network of competence centers for innovation procurement has been set up in Europe under the Procure2Innovate initiative.

04

Operational Tools

GPP requires the integration of green criteria into the procurement process so that procurers can identify the products and services that deliver the best VfM. This approach requires more technical and strategic decision making than procurement focused only on identifying the lowest price bid. While this may seem complex, tools have been developed to simplify the choice of buying green and reduce the administrative and technical burden on procurers. Many governments have focused on developing environmental criteria for priority product and service groups. Ecolabelling schemes simplify the use of environmental criteria. Life-cycle costing (LCC) can be quite complex, encompassing private costs and a wide range of social costs; consequently, most governments use simplified LCC frameworks, focusing on a few high-priority environmental impacts, and LCC tools are now available online for many product categories.

Table 12. Development of GPP Operational Tools

Dimension	Nascent	Emerging	Advanced
Environmental criteria	Limited number of environmental criteria used as award criteria. Criteria specific to procurement operation.	PPA defines limited number of standardized environmental criteria, focused on priority environmental impacts and applied to specified product categories. Environmental criteria are used systematically in technical specifications and award criteria.	Transparent process established for updating and expanding environmental criteria. Expanded list of standardized criteria covering wider range of environmental impacts. Use of environmental criteria applied in supplier qualification, technical specification, award, and contract performance criteria. Use of third-party verification for major contracts.
Ecolabels and Environ-mental Management Systems (EMS)	Ecolabels used as award criteria with "or equivalent" provision to avoid restricting market participation.	PPA standardizes selection of ecolabels, taking into account market consultations. Systematic use of ecolabels in technical specifications and award criteria.	PPA establishes criteria for selection or preferred list of ecolabels. Stakeholders may take initiative to develop national ecolabels. Systematic use of ecolabels in technical specifications and award criteria. Use of EMS in qualification and contract performance criteria.
Life-cycle costing	Used exceptionally in specific procurement operations.	PPA standardizes LCC methodology for specific procurement categories with limited number of social costs.	PPA expands the range of procurement categories with mandatory application of LCC. Tools developed to facilitate LCC calculation for priority procurement categories.

4.1. Environmental criteria

Environmental criteria guide procurers in assessing what constitutes green goods, services, or works. Criteria typically outline the key environmental impacts of each product and service, describe how procurement can mitigate these impacts, and provide the basis for verification that environmental goals have been achieved. Table 13 presents an illustrative list of environmental criteria for goods and inputs, equipment, services and works. Comprehensive environmental criteria, which seek to address environmental impacts throughout the supply chain and life cycle of all inputs, can be extremely complex in both design and application. In practice, environmental criteria should strike a balance among environmental performance, cost considerations, market availability, and ease of verification. In order to facilitate procurement, governments typically develop standardized environmental criteria for commonly procured procurement categories. They may also simplify environmental criteria by focusing on the most important environmental impacts and using third-party ecolabels and environmental management standards (see Section 4.2).

Use of standardized environmental criteria facilitates the task of procurement and provides suppliers with certainty regarding environmental requirements. Responsibility for the development of standardized environmental criteria typically rests with the PPA, usually working in collaboration with environmental agencies, the respective sector agencies, and external stakeholders. The process by which environmental criteria are developed should be transparent and inclusive. The criteria should be: objective and verifiable; without risk of collusion, or bias towards suppliers or alternative technical solutions with similar environmental performance; transparently and effectively communicated to potential suppliers; allow for fair competition; and ensure that attention is paid to the particular needs of SMEs. The design of environmental criteria can draw on legislative requirements and technical regulations; national and organizational environmental policy priorities; specifications recommended by regional bodies; environmental standards, certifications, and labels;[12] market research and industry reports; and criteria developed by other countries.

Standardized environmental criteria initially focus on the most commonly procured goods, services, and works and those with the greatest environmental impact. The range of categories can expand over time as procurers gain experience and market opportunities arise. Box 14 illustrates the range of procurement categories covered by standardized environmental criteria. Environmental criteria should be updated regularly to integrate new technological developments, changes in the market, public awareness, and amendments to legislation and regulations. For example, environmental criteria on office equipment in 2008 mainly focused on encouraging suppliers to improve energy efficiency during use; since then, energy-efficiency technologies have greatly improved and focus has shifted to the problem of e-waste and end-of-life disposal. The EC develops and updates its GPP criteria on an ongoing basis through a multi-stakeholder process.[13] Japan and the Republic of Korea review theirs on an annual basis in coordination with multi-stakeholder bodies and national research institutes.

Environmental criteria can be applied throughout the tender process, structured according to the level of ambition. Environmental criteria may be applied as qualification criteria, technical specifications, and award criteria with varying weights. Environmental criteria can be applied during contract implementation through contract performance requirements. In some countries, the relative weights assigned to price and performance criteria are set in regulations. In others, the PPA may provide guidance on how the environmental criteria should be applied in the procurement process, stipulating which criteria should be mandatory as technical qualifications and identifying optional award criteria and the respective weights to be assigned. In selecting criteria for a tender, procurers should keep in mind the need to select requirements that "push" the market towards green solutions while being achievable to ensure a competitive response from bidders.

Qualification or selection criteria ensure that participating bidders have the capability to deliver on the desired environmental outcomes. Qualification criteria can be used to determine which suppliers are invited to submit proposals through a pre-qualification process, or alternatively, qualifications may

12 Sources include ecolabels, International Trade Centre (ITC) Standards Map, TCO Certified, and Environmental Product Declarations.
13 Described at EC, "Procedure for the Development and Revision of EU GPP Criteria," https://ec.europa.eu/environment/gpp/gpp_criteria_procedure.htm.

be assessed as technical or award criteria. Qualification criteria normally relate to the legal, ethical, and financial standing of bidders; in the context of GPP, qualification criteria can cover environmental competencies. Environmental qualification criteria are most relevant to procurement of services or works where bidders may rely on partners or subcontractors to provide environmental expertise. Qualification criteria can be drawn from environmental criteria sets, for example: confirmation of compliance with environmental laws and regulatory standards; availability of equipment, resources, and technologies; availability of employees with appropriate environmental qualifications; demonstrated experience in performing similar contracts; and implementation of an environmental management system (see Section 4.2).

Technical specifications lay out the environmental criteria that bidders must meet to satisfy the tender requirements. Suppliers that cannot meet these criteria are not eligible to be considered at the evaluation stage. Technical specifications may be mandatory (applied by all procuring entities as required by regulation) or selected at the discretion of the procuring entity. Mandatory criteria typically focus on environmental performance standards that are easy to apply and monitor, such as single-use plastic bans, requirements for recycled content in paper, and EPEAT-certified IT equipment. They will also focus on the highest priority environmental impacts. Use of mandatory criteria removes uncertainty for suppliers, reduces risks for procurers, simplifies the design of green tenders, and sets a common practice for all contracting authorities. Surveys in countries with mature green markets and more experienced procurers have shown that environmental criteria are most often set as technical specifications. Technical specifications allow procurers to progressively advance the standard of environmental performance expected from suppliers. The level of minimum environmental performance is continuously raised based on the previous market response and technological developments. In the early stages of GPP implementation, procurers may prefer not to set any criteria as technical specifications except for those that are most urgent or achievable. Exceptions may also be allowed following a "comply or explain" principle that permits lowest price to be accepted where it is particularly advantageous.

Award criteria set out optional criteria that encourage bidders to propose solutions with improved environmental performance. Suppliers receive additional points for meeting these criteria in the tender evaluation process. Environmental requirements are often used in award criteria at the early stages of GPP reform. This allows procurers to test the market response without the risk of failed tenders that attract no response and to identify and reward proactive suppliers without crowding out those who need more time to adopt green practices. The methodology used to evaluate bids should indicate the weighting assigned to each award criterion. In some countries, the PPL stipulates the methodology used to evaluate tenders, normally based on best VfM, price-quality ratio, or most economically advantageous tender. This may limit the weight that can be assigned to environmental criteria. Where there is flexibility, procurers can increase the weighting of environmental criteria to motivate the market to respond. As green market maturity grows, the weighting assigned to environmental criteria can increase.

Contract performance criteria can be used to ensure that winning suppliers deliver the contract in an environmentally friendly manner and fulfill end-of-contract requirements. Contract performance criteria are commonly applied in service and works contracts. They can be useful in contexts where supplier capacity to deliver green alternatives is low but suppliers are willing to adapt. Procurers can use performance criteria to motivate suppliers to progressively reduce environmental impacts. Examples include provisions that encourage and reward contractors for consolidating deliveries, using recyclable packaging, and sourcing from green suppliers.

Environmental criteria will need to be verified without becoming overly burdensome to either the supplier or contract manager. The means of verification should be clearly set out in tender documentation alongside the relevant environmental criteria. Methods of verification can include certificates of good standing, ecolabels, test reports or certificates from a conformity assessment body, technical dossier or other form of proof, and in some cases, a self-declaration. Evidence that is verified by an independent third party is the most reliable, but procurers may accept material from suppliers directly and assess their suitability to serve as proof of compliance. Suppliers can be asked to track and report on environmental impacts, including by using an LCC tool, with a full report submitted at the end of the contract. Contracts may provide for scheduled reviews and inspections to check compliance with environmental requirements. Verification can be contracted out to a third party.

Table 13. Illustrative List of Environmental Criteria

Goods and inputs	Equipment	Services	Works
Origin of materials: sustainably sourced; recycled content; avoids rare minerals and toxic waste **Production:** material, energy, and water efficiency; limited chemical use; reduced toxic waste; applies chemicals management system **Delivery:** local sourcing; bulk deliveries; reduced plastic, recycled and recyclable packaging; low-emission delivery vehicles **Use:** longevity; low fumes, GHG emissions, and pollution; information on newly identified substances of concern **Disposal:** no hazardous waste; recyclability; takeback programs; repurposing	**As goods and inputs and:** **Efficiency in use:** efficiency installation and optimization; training of users; energy and water efficiency; low power mode; metering; adjustable eco-performance **Maintenance:** durability; extended warranty; extended service and repair agreement; modularity; repairability **Reporting:** metering, environmental and efficiency performance reporting	**As equipment and:** **Service delivery method:** use of low-emission vehicles; bulk deliveries; reduced packaging; efficient use of inputs and equipment **Management systems:** staff training; monitoring of environmental risks and performance; environmental management systems	**As services and:** **Design team and contractor:** experience with green design and construction; environmental and energy management system **Project design:** site selection, environmental impact and preservation of green space; resilience to extreme events; durability, environmental performance, and recycled content of built elements (such as road surfaces, walls, roofs) **Site management:** noise, dust, pollution, and stormwater control; waste management, disposal, and reuse; energy and water efficiency during construction; site restoration **Use:** energy performance and management systems; renewable energy source; water, lighting, thermal, ventilation efficiency and quality control; user travel infrastructure and support for electric vehicles and other modes

BOX 13. Environmental Criteria

Standardized criteria: The EC has developed standardized EU GPP Criteria for 21 product groups. The criteria, whose application is voluntary, include selection criteria, technical specifications, award criteria, and contract performance criteria. The guidance distinguishes core criteria that focus on key environmental impacts with minimum administrative costs from comprehensive criteria, which encompass a wider range of environmental impacts and higher standards. The product categories have gradually increased over time, encompassing, as of May 2021 (most recent year of publication): copying and graphic paper (2008); electricity (2012); sanitary tapware (2013); toilets (2013); wastewater infrastructure (2013); water-based heaters (2014); electrical and electronic equipment used in the health care sector (2014); office building design, construction, and management (2016); furniture (2017); textiles (2017); paints, varnishes and road markings (2018); cleaning products and services (2018); road lighting and traffic signals (2018); public space maintenance (2018); road transport (2019); food catering services and vending machines (2019); data centers, server rooms, and cloud services (2020); imaging equipment, consumables, and print services (2020); and computers, monitors, tablets, and smartphones (2021).

Levels of ambition. The Netherlands has created an online portal for procurers to quickly access an extensive database of environmental criteria for products and services. Procurers can search the database by keyword or common public procurement vocabulary code. They set out three levels of ambition—basic, significant, and ambitious—together with the respective means of verification. The criteria are organized by stage of procurement and written in text that can be directly inserted into tender documents. The decision on level of ambition is left up to the procuring organization, with the understanding that different levels can be combined. The portal also offers guidance on how to choose the criteria to use, recommending a "prescribe, encourage, and invite" progression as procurers gain professional experience and skills: first, prescribe a few minimum requirements to get started and gain experience; second, advance to specifying award criteria that can encourage the market and identify leading suppliers; and third, move from technical to functional or performance specifications that invite suppliers to offer innovative solutions. The criteria are reviewed annually and updated to integrate new technological developments, changes in the market, or amendments to legislation and regulations.

4.2. Ecolabels and environmental management standards

Ecolabels communicate information about the environmental characteristics of a product or service. Ecolabels require a product or service to be certified. The supplier of the product or service engages in the certification process voluntarily and bears the cost of certification, product, and service testing and any adjustment to the production process to bring the product or service in line with the certification standard. Ecolabels may focus on one particular dimension of environmental sustainability, such as energy efficiency or sustainable sourcing, or may cover multiple dimensions. The ISO distinguishes three categories of environmental labeling, based on the method—and rigor—of certification (see Table 14).

Many countries have established their own national ecolabels and certification programs. Ecolabels may be established by public sector entities, such as a sector ministry or standards authority, an industry association, or a third-party entity. The Republic of Korea has two national ecolabels: the Korea Ecolabel managed by the Ministry of Environment and the Good Recycled Mark managed by the Ministry of Trade, Industry and Energy. Brazil has three: the ABNT (*Associação Brasileira de Normas Técnicas*, or Brazilian Technical Standards Association), an ecolabel that endorses environmentally friendly products, the SustentaX label (based on ISO14024) that certifies sustainable products provided by responsible suppliers, and the Procel energy-efficiency label. Where governments endorse or promote ecolabels run by third parties, the procuring entity will need to assess the certification standard and provide suitable guidance (see Box 15). The Republic of Korea's online Green Product Information System lists over 100 environmental certifications and ecolabels in the Republic of Korea and globally, providing an assessment of each ecolabel including its country of origin, applicable goods and services, environmental benefits, factors considered in the life-cycle evaluation, and transparency of information disclosure.

Ecolabels allow procurers to identify green products or services without having to apply environmental criteria or undertake assessments of the environmental impacts of those products and services. Ecolabels can be referenced as a criterion in tenders. Specific eco-labels can be listed as mandatory or preferred criterion. Eco-labels may be mandatory where certification is undertaken by national public sector entities. The EC expressly prohibits the mandatory use of ecolabels in Europe unless the term "or equivalent" is added to tender documents due to concerns about unfair barriers to entry. In many middle-income and least developed countries, the use of ecolabels is limited due to concerns of high certification costs for suppliers, the risk that they may exclude SMEs and the lack of reliable local eco-labeling systems for many products (UNFSS 2020, 34). Where ecolabels have been introduced gradually, markets have adjusted and the range of ecolabeled products has gradually expanded.

Environmental management systems (EMS) shift the focus from the product to the supplier. EMS do not specify environmental performance criteria but, instead, provide assurance that the supplier is undertaking measures to reduce environmental impacts. ISO14001 is one of the most commonly used EMS. ISO14001 requires organizations to follow a five-step process: first, management commits to environmental improvement and establishes its environmental policy; second, the organization identifies the environmental aspects of its operations, sets objectives and targets, and assigns responsibilities; third, the organization follows through by assigning resources and adjusting operating procedures; fourth, the organization monitors its operations to assess if targets are being met; and fifth, management reviews and adjusts environmental policy in a loop of continuous improvement.[14] Compliance with ISO14001 is determined by an audit leading to certification. Over time, the organization's environmental performance is expected to improve and the environmental objectives and targets will change accordingly.[15] The EMS—with or without certification—can be used as a qualification criterion to ensure that bidders have the capacity to carry out the environmental requirements of a contract. Implementation of EMS can also be used as contract performance condition. This can be particularly useful where it is difficult to define specific environmental criteria.

Table 14. Categories of Environmental Labels

Standard	Method	Rigor
ISO 14024 Type I	Third-party certification and award of a label. Award follows product assessment and demonstration of conformance to an externally agreed-upon level of environmental performance that is based on life cycle considerations. Many of the Type I labeling entities are members of the Global Ecolabelling Network. Examples include: Energy Star, Program for Endorsement of Forest Certification, Rainforest Alliance.	Type 1 labels are considered the most reliable because they are set and verified by an independent third party, cover life-cycle considerations, and are directly comparable. Many of the Type I labeling entities are members of the Global Ecolabelling Network. Examples include: Energy Star, Program for Endorsement of Forest Certification, Rainforest Alliance.
ISO 14021 Type II	Supplier first-party environmental claims of conformity, including statements, symbols, and graphics, regarding products (such as recycled content, biodegradable).	Type II labels are the least robust given that they are unverified claims made by the supplier without independent verification.
ISO 14025 Type III	Third-party validation of an environmental product declaration, which is quantified life cycle environmental information of a product to enable comparisons to other products intended to fulfill the same function.	Type III labels are less reliable than Type I because the environmental criteria, although verified by a third party, are chosen by the company and raise risks of a bias by focusing on positive aspects while ignoring potentially significant negative ones.

14 ISO Guidance on the "Environmental Management Systems: Requirements with Guidance or Use" can be found at https://www.iso.org/standard/60857.html.
15 The U.S. Environmental Protection Agency provides guidance on the development of an Environmental Management System at https://www.epa.gov/ems/guide-developing-environmental-management-system-plan.

BOX 14. Ecolabels and Environmental Management Systems

Selecting ecolabels. The U.S. Environmental Protection Agency maintains a list of Recommendations of Specifications, Standards, and Ecolabels to help federal purchasers identify and procure environmentally sustainable products and services. The recommendations cover 25 key federal purchase categories and include over 40 private sector standards and ecolabels. The recommendations give preference to multi-dimensional (life-cycle-based) standards and ecolabels that address key environmental risks associated with product categories. Guidelines help procurers assess the quality of, and choose the best environmental standards and ecolabels for, their procurements based on four considerations:

- Process for Developing the Standard: the process of developing, maintaining, and updating environmental standards should be transparent, provide opportunities for stakeholder consultations, and include an appeal process to address disputes.
- Environmental Effectiveness of the Standard: environmental criteria in the standard should be measurable, address those stages in the product lifecycle that can potentially have negative environmental and human health impacts, and effectively differentiate between products.
- Conformity Assessment: assessment procedures should be transparent and provide for independent review of products.
- Management of Ecolabeling Programs: organizational and management practices and fees should be transparent and include opportunities for dispute resolution.

Mandatory use of ecolabels. China requires public authorities at all levels to preferentially purchase products that are certified with either the China Environmental Label or with the China Energy and Water Conservation Label. The government provides procurement lists for each ecolabel, with over 93,000 certified products in 44 product categories. Since 2007, the Energy Conservation Product (ECP) list has been mandatory for nine product groups (computers, monitors, printers, lamps, air conditioners, electric heaters, televisions, urinals, and water faucets) (UNEP 2017a).

Management systems. Across LAC, governments have recognized a new business entity form called the "Benefit and Collective Interest Corporations." Companies are assessed based on "Triple Impact"—social, environmental, and economic—criteria. Using this common approach across the region, procurers can give preferences to these businesses without overly restricting competition. Publications promote the use of benefit businesses (Connolly, de Pasquale, and Noel 2020) and there is a regional directory of benefit corporations. In Colombia, an e-book helps businesses to understand and qualify for certification as a benefit corporation. In Argentina, 104 companies gained benefit certification in 2019, mainly SMEs from the agriculture, manufacturing, retail, and services sectors. Local benefit business communities have been created in five regions and a central Business Council was formed to advocate at the national level.

4.3. Life-cycle costing

LCC is a methodology that allows procurers to evaluate the total costs incurred over the life cycle of a good, service, building, or infrastructure. LCC builds on the concept of TCO, which encompasses the costs borne by the purchaser from acquisition to operation, maintenance, and end-of-life. LCC can extend the TCO concept to include a wide range of externalities—costs borne by society rather than the procuring entity—such as health, resource depletion, ecosystem quality, and climate change impacts at the local and global level (see Section 1.2).

LCC calculations can be complex, requiring extensive analysis of environmental impacts and assumptions about the product's operation and prices over the product life cycle. Information on environmental impacts is gathered through a life-cycle assessment (LCA) (UNEP 2011). ISO 14040 sets out a technically rigorous four step process for the LCA: definition of the goal and scope; creation of an inventory of all resources used and emissions to the environment; assessment of the environmental impacts, weighting, and aggregation of values; and interpretation of results. ISO 14040 requires a third-party review for which the results are made available to the public. Drawing on this analysis, LCC requires a calculation of private and social costs and benefits across the life cycle. Table 15 presents some of the key considerations in the LCC calculation. These calculations make assumptions regarding product use and changes in market prices. The choice of discount rate will impact the relative weight of up-front and longer-term costs and benefits. Environmental impacts will rarely have a market price. Monetary values are usually based on shadow prices for impacts, such a GHG emissions, loss of biodiversity, and pollution. The method used for LCC should be objectively verifiable and non-discriminatory so as not to unduly favor or disadvantage operators and also be accessible to all interested parties, together with supporting data.

Application of LCC can be facilitated by the use of calculating tools that focus on a few environmental impacts and use standardized unit costs. Few procurers have the capacity to undertake comprehensive LCC calculations for individual tenders. Instead, they typically use a simplified LCC that focuses on the most important ownership costs and priority environmental impacts. Calculation tools range from spreadsheets to online models. Calculators typically allow the procurer to enter data on selected LCC parameters provided by interested suppliers. The calculator generates the LCC cost using standardized values and weightings assigned to life-cycle characteristics to determine the winning tender. Standardized values may be established at the national level or draw on datasets managed by international organizations. Box 16 identifies selected LCC calculators. Procurers can use LCC calculators developed for countries with similar market conditions.

LCC concepts can inform the procurement strategy and approach. Procuring entities can estimate "baseline" LCC costs of commonly procured products and services to identify where they can generate savings and improve environmental outcomes by applying LCC practices. Procuring entities will want to prioritize LCC where they can have the greatest impact. LCC assessments can help identify opportunities to reduce the need for procurement by increasing reuse and eliminating single use of certain products and services. LCC can also inform the procurement approach, facilitating a shift toward the acquisition of products as a service, performance contracts, and flexible arrangements (see Section 5.5).

Table 15. Considerations in Life-Cycle Costing

Life-cycle phase	⊖ Private Costs and ⊕ Benefits, Market Prices	⊖ Social Costs and ⊕ Benefits, Shadow Prices	Opportunities for Reducing Environmental Impacts
Production	⊖ Purchase price	⊖ Depletion of non-renewable resources ⊖ Environmental impacts of waste disposal, pollution, GHG emissions, ecosystem damage, and loss of biodiversity ⊖ Health impacts of pollution	• Optimize use of energy, water, and material inputs • Maximize use of renewable energy, recycled, refurbished, sustainably sourced, biodegradable inputs • Minimize pollutants, GHG emissions, use of toxins, single-use plastics, pesticides
Acquisition	⊖ Transport, delivery, and installation ⊖ Taxes	⊖ Environmental impacts of pollution, GHG emissions, and waste	• Local sourcing • Minimize packaging, use reusable and recyclable materials • Efficiency optimization on installation
Operation	⊖ Consumption of energy, water, materials, and labor ⊖ Disposal of waste, pollution abatement, and rehabilitation ⊖ Depreciation ⊖ Environmental management systems and staff training ⊖ Taxes ⊖ Penalties and damages ⊕ Productivity impact of improved working environment	⊖ Environmental impacts of waste disposal, pollution, GHG emissions, ecosystem damage ⊖ Health impacts of pollution ⊕ Health benefits of improved working environment	• Optimize use of energy, water, and material inputs • Maximize use of renewable energy, recycled, refurbished, sustainably sourced, biodegradable inputs • Minimize pollutants, GHG emissions, use of toxins, single-use plastics, pesticides • Use environmental management systems
Mainten-ance	⊖ Maintenance service and replacement parts ⊖ Downtime	⊖ Environmental impacts of waste disposal, pollution, GHG emissions, ecosystem damage	• Maximize use of replaceable components • Minimize frequency of maintenance and service checks • Maximize use of environmentally friendly maintenance products
End-of-life	⊖ Disposal of product ⊖ Site rehabilitation ⊖ / ⊕ Recycling and repurposing of products and materials	⊖ Environmental impacts of product disposal, pollution, GHG emissions, ecosystem damage ⊖ Health impacts of pollution	• Extend planned product lifespan with extended warranties • Resilience of construction to extreme events • Maximize reuse and recycling of end-of-life products • Supplier commitment to return, reuse, and recycling of products • Minimize waste products and pollutants

BOX 15. Life-Cycle Costing Tools

The EC has developed five sector-specific LCC calculation tools aimed at facilitating consistent LCC calculations across member states on vending machines, imaging equipment, computers and monitors, and indoor and outdoor lighting. The EU Smart SPP Project developed a tool (spreadsheet) and user guide to calculate life-cycle costs and CO2 emissions of energy-efficient technologies. The GPP 2020 Project developed five spreadsheets designed to calculate the energy and CO2 reductions over the whole life cycle of goods, services, and works. The calculators cover: energy contracting; office ICT; vehicles; clean fleets (aligned with the EU Directive); and street lighting. Depending on the product, service, or works in question, the impact is calculated either by drawing on existing calculation tools or, if no such tool exists, by referring to the environmental product declarations. In those cases where neither is available, a rough calculation of the impact of part of the life cycle is applied.

The Ministry of Environment in Colombia offers a tool to calculate life-cycle costs in a step-by-step process. The tool includes environmental criteria for priority products and services, allowing procurers to make informed decisions on the relevant environmental characteristics and costs to include in the LCC calculation.

05

Operational Approaches

Operational approaches manage demand, facilitate the application of GPP practices, shift the focus from products to performance, and promote innovative solutions. Needs assessments encourage procuring entities to identify opportunities to reduce consumption and meet their needs by purchasing services rather than products. Market consultations enable procuring entities to work with suppliers to identify the most effective solutions. Joint procurements, framework contracts, and catalogs allow procuring entities to purchase at scale and reduce the transaction costs of procuring green. Supplier facilitation seeks to reduce the transaction costs for suppliers, enabling SMEs to participate in public procurement. Results-oriented service and performance contracts allow procuring entities to specify the outcome that they are trying to achieve and leave it to the contractor to propose the cost-effective solutions. Innovation procurement allows the government to finance research and innovation that leads to the development of new technological solutions to specific problems. Needs assessments, market consultation, supplier facilitation, and joint procurement are relatively straightforward and can be implemented early in GPP reforms. The main impediment is usually organizational culture. In contrast, service and performance contracts, and innovation procurement in particular, are technically demanding and tend to be introduced in more advanced procurement systems.

Table 16. Progression of Operational Approaches for GPP

Dimension	Nascent	Emerging	Advanced
Needs assessment	Needs assessments inform specific procurement operations.	Needs assessments informs agency procurement plans. Demand management undertaken, such as stopping automatic refill orders.	Systematic needs assessment, demand, and stock management, sharing and repurposing supplies across units, shift to service and performance contracts.
Market consultation	Early notice market consultations in procurement process.	Regulatory framework enables market consultation throughout tender process to strengthen design. Market consultations after tender launch in complex procurements, notably in competitive dialogue.	Market consultation undertaken throughout tender process as needed. Systematic debriefing after tender closing and documentation of all consultations.
Joint procurement framework contracts and catalogs	Use of joint procurement and framework contracts for the most commonly procured categories.	Use of joint procurements, framework agreements, and online green catalogs for commonly procured categories.	Extensive use of joint procurement, framework agreements, and online green catalogs. Catalogs may provide buy local options.
Supplier facilitation	Standardized tender documents and processes; simplified procedures for low-value tenders; division in lots; allowing variant offers.	Systematic use of e-procurement system; efficient payment terms; allowing joint bidding and consortia.	Systematic use of facilitation approaches, regular feedback from SMEs, and green suppliers to identify means of facilitating participation.
Service and performance contracts	Common use of product-oriented service systems (maintenance contracts).	Common use of use-oriented service systems (leases). Exceptional use of results-oriented service systems and performance contracts in areas where performance is easy to specify and verify.	Wider use of results-oriented service systems and performance contracts, including mandatory use for some categories and use in complex procurements requiring third-party verification. Budgeting and accounting systems facilitate use of these approaches.
Innovation procurement			Targeted use of competitive dialogue for complex procurements. Innovation partnerships and pre-commercial procurement in high-capacity context.

5.1. Needs assessments

Needs assessments seek to determine the real needs and priorities of users and identify the most environmentally friendly way to meet them. Needs assessments are an essential first step in any procurement process. Green procurement requires a change in mindset when conducting needs assessments, shifting the definition of needs from products and inventory to the outcomes that the procuring entity is trying to achieve. Table 17 presents key considerations in a GPP needs assessment. Sometimes the greenest solution is to not buy at all. Procuring entities can explore environmentally efficient options when purchasing cannot be avoided.

Procurement officials can play a useful role in refining procuring agency needs assessments and helping the procuring agency consider alternative solutions. Surveys and interviews with procuring authorities and users can clarify the rationale for procurement choices by identifying the function that the procuring entity is trying to fulfill, for example: number of person kilometer journeys (rather than vehicle specifications) or number of video conferenced meetings (rather than equipment specifications) in a period. A functional needs statement allows the procuring entity to test the assumptions behind its procurement practices and explore alternatives, including measures to reduce demand, share inventory, or procure services rather than goods. Definition of procurement needs in terms of functions and performance, rather than technical specifications of a particular solution, allows procurers to propose greener, more cost-effective alternatives.

Table 17. Key Considerations in GPP Needs Assessments

Elements	Key Considerations
Understand present and future needs	Consult users to investigate whether the level of demand or user preference has changed since last procurement. Consult on user needs, how often they arise, how they are likely to change over time, and satisfaction with existing products or services procured.
Manage demand	Question repeated procurements to identify and reduce those that result in overstock or unnecessary purchasing. Manage and reduce demand by: stopping automatic refill orders; buying at lower volumes; improving stock management; and encouraging changes in user behaviors (such as paperless policies).
Reformulate needs	Reformulate user needs as outcomes or results rather than discrete products. This moves the focus away from a specific solution and opens to door to new ideas and options.
Consider alternatives	Explore the possibility of more environmentally friendly purchasing options, including: sharing inventory or equipment with other authorities; repairing or reusing existing inventory; renting, leasing, or buying a product as a service.
Options for tender design	A more environmentally friendly purchasing option may not be apparent at this stage of the procurement process. Contracting authorities can design tenders to invite the market to propose new solutions by: using performance-based or functional criteria to allow suppliers to propose different solutions to meet the need; or launching a competitive dialogue or other innovation-friendly procurement approach to co-design new solutions with suppliers
Options for contract design	Once the contract is awarded to the winning bidder, contracts can be designed to be sufficiently flexible to allow adjustments to volume and frequency based on changes in user needs. They may also include a “best available technology” or “continuous improvement” clause to keep driving environmental innovation. Framework agreements are well suited to allowing flexibility in purchasing.

BOX 16. Needs Assessments and Alternatives to Procurement

Survey user needs. A needs assessment conducted by the University of Turin in Italy identified an excessive number of vending machines purchased from various suppliers with different contract terms. A survey of the university community led to the joint procurement of fewer machines with improved energy efficiency and healthier food options (SPP Regions 2018).

Manage demand. The World Bank reduced paper and energy consumption by eliminating personal printers, reducing the number of printers in each department. Staff are required to scan their badges on the printer and walk a short distance to print documents. This led to a significant reduction in paper consumption.

Share inventory. The city of Aalborg in Denmark set up a register of surplus furniture that can be reused by other facilities. Municipalities in the Basque Country set up an online platform to exchange high-value goods (such as road signs, art, gardening) for free (Procura + Awards 2018).

5.2. Market consultation

Early market notice informs suppliers about new green procurement priorities in advance, far before the first tender is launched. Early notice can provide procurers with an indication of their ability and interest in responding to future GPP tenders. It can also increase the number of qualified suppliers by giving them time to adjust to the new requirements, leading to greater competition and potential cost savings. Procurers can gain familiarity with the new requirements and the market response, reducing the time and costs to prepare specific tenders. Early notice will trigger dialogue with the market to understand capacity gaps and identify strategies to overcome them. Consultations can help procurers identify new market trends and product developments, inform the design of tenders that can attract a competitive market response, and choose the right procurement approach to achieve the best market outcomes. Procurers can encourage private sector actors to push the envelope on green technologies. Sources and opportunities for early market engagement include: online websites, supplier guides and training, and help desks; trade fairs, industry days, and technology updates; facilitated dialogues; meetings with industry associations and chambers of commerce; and visits to suppliers and production facilities.

Public procurers can consult with suppliers on the design of tender documents to facilitate a competitive market response and to help procurers deliver VfM. A "dialogue-based" approach to public procurement reduces the risk that tenders will use criteria that the market cannot achieve, which wastes time and resources. Consultations allow procurers to communicate their needs and requirements more accurately, understand what is feasible, and design criteria that will stimulate the market. Consultations may allow procurers to identify more stringent requirements than originally anticipated or shift to performance-based or functional criteria that allow suppliers to propose their own solutions. Consultations should be open and invite broad and, where feasible, international participation to get practical tips and inspiration, and they can take place throughout the tender process (see Table 18). Key considerations include:

- Availability of a sufficient number of suppliers in the marketplace that would be likely to respond to the tender's environmental requirements.
- Suppliers' capacity to carry out the procurement on the scale needed.
- Resilience of the supply chain and risk of interruption.
- Likely success of the tender in terms of delivering competitive pricing and performance in response to the environmental requirement and risk of failure owing to non-responsive bids or cost.
- Oversight requirements that may be required to ensure contractors comply with environmental requirements during contract implementation.

Tender design consultations must be carried out in a manner that avoids conflicts of interest in the procurement process and specification design. Some public procurement professionals may be hesitant to engage with the market due to the risks of endangering transparency and introducing bias into the procurement process. Regulations may limit or guide the extent of consultations related to a specific tender. However, most modern procurement systems allow for or even encourage market consultations that are transparent (open to all) and nondiscriminatory (granting no unfair advantage to suppliers that participated). Contracting authorities can take steps to ensure integrity during market engagement activities, including: keeping records of discussions; ensuring all participants have access to the same information; offering open and equal opportunities to dialogue with procurers; protecting suppliers' intellectual property rights or commercially sensitive information; and avoiding requirements that favor one potential supplier or solution.[16]

Table 18. Consultations through the Tendering Process

Early Notice	Tender Design	After Tender Launch	After Contract Award
Why? Early notice of changing procurement priorities allows time for the market to adjust and procurers to gain knowledge on the landscape of possible solutions and suppliers.	**Why?** Consultations during tender design can help procurers adjust criteria and procedures to overcome constraints and attract a competitive market response.	**Why?** Clarifications during tendering ensure that potential bidders have a clear understanding of the requirements. This increases the likelihood of receiving good-quality offers.	**Why?** Post-tender consultations allow procurers to learn what worked, identify difficulties encountered, and seek advice on improving future tenders.
How? • Publish procurement plans with information on green requirements. • Meet with industry bodies to keep updated on trends. • Attend industry events to present procurement needs and learn about new market solutions. • Create open dialogue opportunities between companies and contracting authorities, such as surveys, public buyers' groups.	**How?** • Issue a Prior Information Notice or Request for Information. • Organize a supplier and market sounding questionnaire. • Organize one-to-one talks with suppliers to ensure maximum openness. • Host an open Supplier Information Day Q&A session.	**How?** • Hold briefings with interested and short-listed suppliers to clarify requirements. • Allow bidders to ask questions in writing and publish answers to all participants (i.e., clarifications). • Host product demonstrations, facility and site visits in person or virtually.	**How?** • Debrief unsuccessful suppliers and invite feedback on the bidding process. • Debrief successful supplier to identify what worked. • Host an "ask us anything" meeting with supplier to foster a trusted relationship. • Remind supplier that going beyond required environmental criteria is encouraged. • Keep dialogue open with market for updates on technologies and innovations.

16 Tips for managing risks adapted from EC, "Module 6: Market Engagement," GPP Training Toolkit (2019), https://ec.europa.eu/environment/gpp/toolkit_en.htm.

BOX 17. Market Consultation Approaches

Open dialogues and forums. In Denmark, the Circular Economy Forum was created as an open communication and cooperation platform aimed at raising business awareness of the circular economy. The website invites businesses to join the Forum and offers training, manuals, and good practices. In Japan and the Republic of Korea, ecoproduct exhibitions are held featuring environmentally friendly products and technologies (OECD 2008). These exhibitions help raise awareness about sustainable consumption. In Thailand, an annual Green Cart exhibition is held to raise awareness about GPP among businesses and the public (UNEP 2017a, 13).

Supplier consultations. Gabrova municipality in Bulgaria consulted suppliers on the design of a tender to retrofit school facilities for improved energy efficiency and air quality. The municipality had been trying to renovate the school for over five years but had made little progress owing to concerns about the lack of experience in Bulgaria for the required energy-efficiency upgrades. Two companies were invited to join a project meeting to explain the benefits of building automation. Individual meetings were then held with four companies experienced in building automation systems to inform the design of tender specifications. This market dialogue in turn informed two approaches adopted in the tender. First, the municipality decided to require a Class B energy-efficiency standard that was higher than the minimum required Class C standard because the market indicated that it was ready to meet the higher standard. Second, the municipality used a performance output-based specification rather than detailed technical criteria in the tender specifically to meet the Class B energy-efficiency standard. Four bids were received. The winning bid exceeded the tender requirements (SPP Regions 2018a).

5.3. Joint procurement, framework agreements, and catalogs

Joint procurements consolidate the procurement of goods, services, and works across multiple entities. Joint procurement, bringing together the purchases of multiple authorities, offers economies of scale and thereby reduces costs for suppliers and prices for purchasers. The increased value of contracts provides stronger incentives for suppliers to offer green and innovative solutions. Needs assessments, market engagement, and selection of environmental criteria and tendering can be consolidated into one effort, reducing the administrative load for participating organizations. Skills and expertise can be pooled from the various authorities participating in the joint procurement, and external expertise can be contracted more cost-effectively to provide advice as needed. The organization and scale of joint procurement raises awareness and interest from procurers, the market, and citizens. They offer high-profile ways to show the government's commitment to green procurement and generate momentum for increased buy-in. Joint procurement also recognizes the limited expertise available for green procurement and aims to pool resources and facilitate information exchange to make procuring green simpler and more worthwhile for smaller entities.

Procuring agencies can work together to undertake joint procurements.[17] Joint procurements do not differ greatly from the procedure followed in traditional open bidding procurements. Institutions will need to identify a common procurement need and other authorities interested in participating in the joint procurement. A partnership agreement may be required to designate a leading agency and set out the responsibilities of the participating institutions, the procurement procedure to be followed, and arrangements for contracting and payment. Partnership agreements can provide a framework for multiple procurements. Participating institutions will typically coordinate in tender design to ensure that their specific needs are addressed. The lead agency launches the tender process. Participating institutions can coordinate bid evaluation and contracting with the chosen supplier or pool of suppliers or do so individually.

Many countries have put in place permanent arrangements to support joint procurements. CPBs typically take the lead in these activities, organizing joint procurements as a service to central government agencies and local authorities, with institutions participating on a voluntary basis. However, in some countries, associations of subnational government institutions

17 For further indicative guidance, see EC, "Module 1: Managing GPP Implementation," Green Public Procurement Training Toolkit, Joint procurement Fact Sheet, 2008.

have established permanent bodies to conduct joint procurements on behalf of participating entities, financing administrative costs by contributions or charging a commission on procurements. Joint procurements can even be organized across borders, such as the EU's Big Buyers initiative, which brings together procuring organizations across Europe to seek innovative solutions to common purchasing needs and to meet ambitious environmental goals.

Framework agreements, green product catalogs, and green marketplaces further simplify the process of green procurement. Framework agreements allow for orders from multiple procuring entities over an extended period of time. Green product catalogs enable procurers to avoid tendering; they simply choose from pre-approved lists of products and suppliers and purchase at a set price. Green marketplaces allow procurers to identify suppliers and products but leave the purchase price to be negotiated. The CPB organizes framework agreements, product catalogs, and marketplaces as a service, undertaking the procurement process and ensuring that products and services meet the requisite environmental criteria. This can help overcome initial resistance to the adoption of green procurement.

Table 19. Green Framework Agreements, Catalogs, and Marketplaces

Tool	How They Are Used	Key Design Considerations
Framework agreement	Framework agreements set out contractual terms that apply to periodic orders by various contracting authorities for specific goods, services, or work over a specified period of time. One or more suppliers can be identified to fill the procurement need covered in the framework agreement.	• Framework agreements are commonly used by central procuring bodies, sometimes prepared by collaborating procurers with similar needs (such as municipalities, hospitals, schools). • Framework contracts reduce the administrative burden on procurers and suppliers by using standardized documentation and allowing the consolidation of bid evaluation processes. • Contracts can be divided into lots to allow procurers to identify and award contracts to preferred suppliers. • Contracts can be divided into "green" and "non-green" lots to allow green suppliers to compete even if they cannot meet the full demand. • Tender documents can be structured to allow suppliers to propose alternative solutions and green options.
Catalogs	Catalogs offer a list of goods and services that have been pre-approved as meeting suitable environmental criteria	• Catalogs are usually administered by central procurement agencies or by specialized agencies in their areas of competence. • Catalog entries are vetted to ensure that they meet environmental criteria and regularly updated to reflect changes in market conditions and supplier offers. • Supplier contract consolidates purchases from across the public sector, allowing lower prices to be negotiated. • Purchases from the catalog are limited to eligible agencies. • Prices and terms of delivery and service are pre-negotiated and offered to all eligible agencies, in some cases, with variations by volume and point of delivery. • Procurers can purchase and order, and in some cases, accept and pay online through the catalog. • Catalog may offer "local" chapters that feature locally available green options.
Market-places	Marketplaces provide a forum where suppliers can offer green products and services.	• Marketplaces are usually administered by central procurement agencies or by specialized agencies in their areas of competence. • Suppliers offer products and services, market participation is open to all interested suppliers. • Compliance with environmental criteria is self-declared or attested by third-party ecolabels and certifications. • Procurers negotiate price, terms, and conditions with the supplier. • Some marketplaces offer online auction facilities.

BOX 18. Joint Procurement, Framework Agreements, and Green Markets

Centralized Green Procurement Services. The Eco-Procurement Service of Vorarlberg, Austria (Ökobeschaffungs-service - ÖBS4) was set up in 2001 to provide a centralized procurement service for 80 local authorities in the region of Vorarlberg to undertake joint procurements for environmentally sound products. ÖBS4 has delivered financial savings of up to 30 percent and reduced the administrative workload by up to 60 percent, with an average savings of approximately 40 percent across all product groups covered. The service is financed through a small commission charged on all procurements.

Framework agreement. The Agency of Facility Management in Flanders, Belgium acts as the central procurement body responsible for purchasing commonly needed items for multiple public authorities. The Agency launched a tender for a framework agreement for office supplies and set as technical criteria that at least 50 percent of products must be made from recycled or renewable materials and be sustainably sourced and produced. The tender also required environmentally friendly practices along the product's life cycle, including optimized delivery schedules with low CO2 emission vehicles and recycling of printer cartridges. The framework agreement is now available for multiple agencies to easily buy green office supplies, with purchases completed on an online ordering website. The process also succeeded in engaging many suppliers, as the winning bid was from a consortium of multiple companies, including SMEs, ensuring sustainability throughout the supply chain (Government of Flanders 2018).

Green market. In the Republic of Korea, an e-shopping mall, the "Green Market," has been operational since 2009. It offers a simple tool for public procurers across the Republic of Korea to make low-volume green purchases that do not necessarily go through the tendering process. These purchases are automatically monitored, thus easing the GPP reporting burden for procurers (UNEP and KEITI 2019).

5.4. Supplier facilitation

Open tender procedures will facilitate the widest possible participation, offer the most extensive selection of solutions, and usually provide the best VfM. In the context of green procurement, open tenders are particularly helpful where procurers are not aware of the market solutions available, where there is rapid innovation in green technologies and business practices, and where the procuring entity is interested in innovative solutions. Restricted tenders are typically justified on grounds of administrative efficiency: they serve to avoid wasting the time of procurers and suppliers on potentially unresponsive bids or time spent reviewing excessive numbers of nearly identical bids. Restricted tenders in green procurement typically limit participation to suppliers that offer products and services with specific ecolabels or that meet green standards. This approach may be successful where the procurer has a good understanding of the green solutions available on the market or a preferred green option and where there are multiple suppliers.

Specific measures may be needed to facilitate supplier participation where green procurement is new, the market has yet to mature, and businesses are only beginning to adopt green technologies and practices. Firms introducing new green products and services may lack the experience and administrative capacity to participate in public procurement. They may not be able to meet tender volume requirements or may lack the track record needed to qualify as the sole or main supplier for a contract. Potential green suppliers may be SMEs; indeed, SMEs may be well placed to pioneer green technologies and green business practices. In some countries, SMEs are on the cutting edge of green technology, representing more than 90 percent of green technology enterprises in the United Kingdom and 70 percent in Finland (OECD 2017a). SMEs face particular challenges in participating in public procurement given their limited human and financial resources, often limited experience with complex public procurement procedures, and difficulties complying with burdensome technical and financial capacity requirements.

Procurers can encourage companies to expand their green offerings and facilitate participation by reducing transaction costs and designing tenders to overcome barriers to participation. Table 20 illustrates some of these supplier facilitation practices. Transaction costs can be reduced by simplifying documentation, using e-procurement systems, allowing suppliers to self-declare certification, removing such financial hurdles as fees and bid securities, or using bid securing declarations. Procurers can facilitate participation by dividing tenders into smaller lots, allowing suppliers to collaborate in joint tenders, or encouraging large suppliers to work with smaller ones in their supply chain. EU Directives allow bidders to submit both a conventional offer and environmentally friendly "variants" to the same tender. Financial terms can stipulate efficient payments schedules, possibly including advanced payments, to overcome the cash flow constraints of SMEs and startups. These approaches help break down the structural barriers to participation and help build the capacity and market share of green suppliers in the long term. There are risks, however. Division of tenders into too many lots can prevent procurers from benefiting from economies of scale, as larger firms may offer higher unit prices for individual lots than they would for a consolidated contract. Procurers are also burdened with having to manage multiple contracts and the risks associated with sequencing the tenders. Joint bidding and consortia to facilitate SME participation may increase the risk of collusion. These risks can be mitigated through careful tender design and contract management.

Procurement contracts can be designed to encourage suppliers to improve their environmental performance during contract implementation. This requires a collaborative relationship with suppliers to monitor progress in contract implementation and advise contractors on how they can improve their performance. These relationships can be built up through the course of consultations during the tendering process and by setting clear contract terms on verification, monitoring, and continuous improvement through the duration of the contract. Long-term framework agreements with gradually increasing environmental criteria allow contractors to progressively phase in enhancements to environmental performance as their experience and capacity improve (Box 20).

Table 20. Facilitating Supplier Participation

Reducing Transaction Costs	Tender and Contract Design
Standardized procurement documents across government	Division of contracts into lots
Providing tender guidance specifically designed for green suppliers	Allowing joint bidding and/or consortia
Use of e-procurement systems to allow online submission of tenders	Allowing presentation of "variant" conventional and green offers
Simplified processes and documentation for lower-value contracts	Use of framework agreements or consortia
Allowing suppliers to self-declare experience and certification requirements, providing information only on award of tender	Encouraging contractors to subcontract to SMEs and market entrants
Reducing direct costs of participation by waiving fees, reducing bid securities, or using bid securing declarations	Ensuring timely and efficient payment terms for enterprises, including payment advances

BOX 19. Facilitating Participation of Green Suppliers

Division of lots. The city of Torres Vedras in Portugal wanted to encourage school canteens to provide meals in line with local food traditions that were as fresh and seasonal as possible. They chose to split their tender into smaller lots and included lots for organic produce to encourage small-scale farmers to participate. This approach reduced packaging waste and GHG emissions due to smaller delivery distances (Procura + Nominee 2020).

Supplier journey. The city of Ghent, Belgium launched a pilot procurement for ethically produced workwear. Early analysis showed that the market was not ready to deliver the level of environmental and social impact required. The city decided to design a procurement that would attract suppliers willing to improve their social and environmental performance over the course of the contract. The tender was designed as a framework agreement divided into five lots. Each lot required a different level of social and environmental performance and means of demonstrating compliance. The city designed a "supplier journey" toward more responsible workwear, and suppliers were asked to commit to making realistic progress to be verified by third parties (Procura + Awards 2019).

5.5. Product-service systems and performance-based contracts

Product-service systems (PSS) seek to align incentives for the procuring entity and supplier with a view to minimizing life-cycle costs. In the traditional business model, entities procure products based on lowest cost of acquisition, leaving suppliers with an incentive to minimize production costs and maximize sales. This often leads to low durability, low operating efficiency products with low acquisition, and high life-cycle costs. Shifting responsibility for the operation, maintenance, and disposal of the products from the procuring entity to the supplier through service systems creates incentives for suppliers to reduce their products' life-cycle costs by improving their operating efficiency and durability. Improvements in efficiency should lead to lower costs for procuring entities, and efficiency gains across the product life cycle will generally translate into improved environmental impacts through reductions in consumption of inputs and energy.

There are a range of PSS, from pure product and pure service contracts to renting, leasing, and service agreements. Table 21 distinguishes three kinds of PSS (building on UNEP (2015b)). In product-oriented service contracts, the procuring entity acquires the product and support services, such as the maintenance contract: most of the value in the contract is derived from the product. In a use-oriented service contract, the procuring entity purchases the right to use a particular product for a specified time, such as through a rental or lease agreement. Some PSS have elements of both of these models, such as lease-to-own arrangements in which the procuring entity uses the product on a service contract for a certain period and ownership is eventually transferred to the procuring entity. The cost savings for procuring entities in use-oriented services will tend to be greatest where products are used seasonally, irregularly, or for short periods and where suppliers can achieve economies of scale in managing product inventories and services. Results-oriented service contracts shift the object of the contract from the acquisition or use of a product to the provision of a service that fulfills a need or performs a function. The supplier can determine which products to use as long as they meet the procuring entity's needs, possibly shifting between different products during the duration of the contract. The supplier then operates, maintains, and disposes of the products.

Results-oriented service systems and performance-based contracts (PBCs) allow the procuring entity to specify the environmental outcomes that they seek to achieve and leave the contractor to determine how best to achieve them. The procuring entity specifies measurable standards that describe the "what, when, where, how many, and how well" of the service to be performed, including the relevant environmental standards, such as energy efficiency or use of materials with recycled content (Turley et al 2014). Standards are often set relative to a baseline value to drive improvements in performance. A quality assurance plan lays out how performance will be

measured: positive incentives reward the contractor for exceeding standards, and negative incentives penalize the contractor if standards are not achieved. This approach allows bidders to propose different solutions for how to best fill the procurement need and deliver the desired service and environmental outcome. Performance-based contracting can help procuring entities access cutting-edge technologies where there is rapid innovation in environmental technologies.

PSS and PBCs will need to include specific provisions to address environmental impacts that are not integrated into the performance. These provisions may include requirements related to production and disposal of products that would not otherwise be covered in the service performance standard, for example, requirements for sustainable sourcing, recycling, and reuse of products. Where the procuring entity seeks to achieve specific environmental objectives, such as GHG emissions performance, these will need to be reflected in contract provisions. Mid-term review and renegotiation rounds can be written in to allow the contracting authority and supplier to discuss whether more ambitious environmental criteria can be integrated as the contract progresses.

While PSS and PBCs are widely used in the private sector, application in the public sector can pose challenges. Procurement of services instead of products outsources functions that may be considered sensitive. It can displace public employees when their services are replaced by contractors. It also shifts costs from investment to recurrent budgets, which may be a significant impediment where recurrent budgets are constrained or where external partners will only finance investment expenditures. PSS contracts can be complex, requiring precise functional and performance specifications and rigorous monitoring and contract management during and after implementation. Lack of familiarity and uncertainty can discourage the use even where there is regulatory provision for PSS and PBC approaches (Ambaw and Telgen 2017). Capacity building and ongoing implementation support is therefore essential. Nonetheless, PSS and PBCs are gaining ground in the public sector. In some areas, PSS has become mainstream, such as moving from hiring janitorial staff and buying cleaning products to contracting a cleaning service company, and PSS is becoming common for such services as information technology, printing, and transport.

Table 21. Product-Service Systems

	Product-Oriented Service	Use-Oriented Service	Result-Oriented Service
Characteristics	User defines characteristics of product needed, together with a support service (such as maintenance or training).	User defines the specifications of the product needed, obtains temporary possession of the product for use when needed.	User defines functions that need to be fulfilled. Supplier provides services using products that are customized to meet the user's needs.
Ownership of product	Procuring entity	Supplier	Supplier
Procuring entity responsibilities	Product specification, selection, acquisition, operation, maintenance, and disposal.	Charge for use of product, which may include operation and maintenance.	Charge for delivery of service or performance of function.
Supplier responsibilities	Delivery of product and support services.	Product selection, acquisition, and disposal. May include operation and maintenance.	Product specification, selection, provision, operation, maintenance, and disposal.

BOX 20. Product-Service Systems and Performance-Based Contracts

Energy savings performance contracting. The U.S. Department of Energy has promoted the use of energy savings performance contracts (ESPCs) to allow facility owners to finance improvements that reduce energy and water use. The facility owner selects an energy service company (ESCO) through a competitive process. The ESCO conducts an energy audit of the facilities and develops an implementation proposal that identifies potential energy conservation measures (ECMs) indicating costs and savings. The owner and ESCO negotiate a package that typically includes measures with both short payback periods (such as changes in lighting) and longer payback periods (such as boiler replacements and renewable energy systems). The ESCO implements the agreed-upon ECMs, then monitors energy savings success through measurement and verification. ESPC projects can be used for any large building or group of buildings, such as city, county, and state buildings; schools; hospitals; and multifamily and office buildings. ESPCs are well suited to government facilities because long-term ownership allows governments to enter into longer-term contracts and amortize investments over 10–20 years. In contrast, commercial facilities are often limited to a three-year payback threshold. Governments may also be able to help ESCOs secure attractive terms for financing up-front investments.

Product-Service Systems. The Scottish government used a PSS to promote a heating service using biomass (wood waste and chips) rather than conventional fuel. Scottish procurement developed a Buyers' Guide on building, maintaining, and operating boilers, with standards for fuel testing and storage and methods for measuring fuel efficiency. The contracting model transfers responsibility for operating the boiler and sourcing the fuel to the supplier, which sells the heat as part of a service. This model simplifies the switch to renewable heating systems. The Scottish government's Renewable Heat Incentive contributes to the cost of switching to the use of renewable energy sources. The benefits are substantial: reducing exposure to volatile energy commodity prices; allocating risks where they can be managed most appropriately, for example, specialist suppliers deal with boiler efficiency and fuel quantity issues; and reducing net CO2 emissions (UNEP 2015b, 20–25).

Performance contracting. The city of Cape Town in South Africa identified opportunities to utilize energy performance contracting to retrofit old municipal buildings and upgrade the electronic equipment. The improved energy efficiency and reduced energy consumption of these buildings were part of the city's climate action plan. Tenders were issued for buildings to upgrade lighting, occupancy sensors, and smart meters. The tender required the service provider to assess the energy consumption patterns of buildings and to implement technical interventions as well as educational measures to change tenants' behavior to reduce energy consumption. Use of a performance guarantee, penalties, and bonuses in the contract provided a performance incentive, and the use of a single contractor for both contract stages reduced the transaction costs for tendering, negotiations, and contract management. The performance contract avoided prescribing technical solutions and allowed bidders to apply their expertise, thus creating space for innovative solutions (Casier et al 2015).

5.6. Innovation procurement

GPP can be used to promote innovation in green technologies and business practices. Innovation procurement is relevant where the procuring entity has identified a problem that does not have a technological solution or where the technological solutions available do not meet the procurer's needs. Innovation procurement typically entails elements of research, design, testing, market development, and commercialization. There are significant risks at each stage of this innovation process. Partners in innovation procurement typically include firms, research institutions, some of which are publicly funded, and other public entities.[18] The 2014 EU Procurement Directive distinguishes three types of procurement approaches for innovation: competitive dialogue, innovation partnership, and pre-commercial procurement. These are recent developments in public procurement that are still only applied exceptionally in OECD countries.

In competitive dialogues, procurers work in close consultation with selected companies to co-create tender specifications. Competitive dialogue follows a two-stage process (Burnett and Oder 2009). Procurers advertise the competitive dialogue with requirements stated as an outcome or intended result. Participating firms may be pre-qualified. Interested bidders submit proposed solutions without price details. A short list of bidders is selected to participate in the competitive dialogue process, whereby the procuring entity and each firm improve the technical proposal and its alignment with the procurer's requirements. Firms are expected to develop alternative technical solutions in parallel; those that do not respond to the procurers' requirements may be dropped. At the end of the dialogue stage, the procuring entity solicits final tenders from the participating firms. Winning tenders are selected on the basis of the most economically advantageous offer. Competitive dialogue is best suited to complex procurements for which alternative solutions may be available.

Innovation partnerships allow procuring entities to select partners on a competitive basis and work with them to develop and deliver an innovative solution tailored to their requirements. Procuring entities request proposals for the development of an innovative product or service that is not available on the market, describing the minimum requirements. Suitable partners are selected on the basis of best price-quality ratio, taking into consideration their research and technical capabilities. Procuring authorities set intermediate targets for various stages of implementation with payment in appropriate installments. At the end of each stage, the procuring entity can cancel the innovation partnership altogether, eliminate individual partners, or renegotiate the proposal for the subsequent stage to improve the technical content. These stages can cover research on, as well as development and delivery of, the final solution on a commercial basis.

Pre-commercial procurement covers research and development (R&D) services that help to identify the most appropriate solution and develop a prototype, but does not cover the procurement of the resulting solution. It is usually undertaken as a two-stage process. The procuring entity specifies the need in terms of a desired outcome. During the feasibility stage, selected companies receive modest funding to develop a proposal that demonstrates the scientific and commercial potential of their idea. The contracting authority selects the projects to be commissioned for R&D through to the delivery of a viable solution or prototype. If the procuring entity decides to procure the product or service, a separate procurement process is carried out, following regular procedures. Some countries have established a centralized program for pre-commercial procurement with a governance structure that brings together interested government agencies, follows specific operating procedures, and benefits from centralized funding, such as the UK's Small Business Research Initiative.

18 For an overview of innovation procurement practices, see OECD 2017b.

BOX 21. Innovation Procurement

Competitive dialogue. The utility company Waterschapsbedrijf Limburg (WBL) is responsible for the transport and treatment of municipal and industrial wastewater in the province of Limburg, Netherlands. WBL sought to replace an outdated, inefficient sludge treatment plant with a new sludge hydrolysis digestion plant, using a proven technology for sludge pretreatment and following a competitive dialogue process that would identify innovative technologies for the subsequent treatment steps. The tender covered plant design, construction, operation, and maintenance for an initial six-year period, with the possibility of an extension for up to 10 years. The tender did not identify a technological solution; instead, it described the desired outcome of the sludge treatment process in terms of key performance indicators for dimensions, such as dry solids, energy yield from biogas production, and energy and water consumption. Bidders were required to provide cost estimates in terms of net present values for their solution, which would serve as the basis for the contract. Four qualified candidates were pre-selected based on a demonstration of the feasibility of their technological solution. Several rounds of dialogue in writing helped define the requirements for a viable contract, and three companies were invited to submit bids. The contract provided for performance incentives by defining economic bonuses and penalties based on key indicators as well as deadlines for the achievement of performance targets after installation (WWF 2018, 101-107).

Pre-commercial procurement. The government of Netherlands' Small Business Innovation Research (SBIR) program seeks to find innovative solutions to social problems. SBIR awards contracts through a three-phase competition: feasibility, research, and commercialization. The procuring entity fully funds the first two phases through a fixed-cost R&D contract. The company holds intellectual property rights to the solution and must finance the commercialization. The Directorate-General of Public Works and Water Management used the SBIR process to develop a real-time dike observation and inspection system to identify weak spots and thereby facilitate preventive action before dike breaches. Twenty-one proposals were received for stage 1, and five were selected for feasibility assessments, each receiving a grant of up to €50,000 and six months to present a proposal. Only two of the proposals proceeded to R&D in stage 2, each receiving a grant up to a maximum of €450,000 per project to develop a non-commercial prototype over a period of not more than two years. Both research projects generated commercially viable proposals: one based on sensors inserted in dikes and the other using remote sensing technology (Edquist and Zabala-Iturriagagoitia 2015).

06

Managing Reform

There is no single, linear path for the development of GPP systems: governments have started at different points, taken different paths, set distinct priorities, and are at various stages of implementation. Whether GPP reforms start bottom-up as pilot initiatives, or top-down as national policies, PPAs will play an essential leadership role in reform implementation. Successful GPP reform requires a change in organizational culture, shifting procurement from a compliance to a strategic function. Communication and change management are critical to the reform process. GPP assessments identify the strengths and weaknesses in GPP practices. They provide a baseline that can be used to guide reforms; GPP strategies and action plans then set the direction for reform and progressively expand the scope of application. The ultimate goal of reforms is to mainstream GPP as part of modern procurement practice.

Table 22. Development of GPP Reform Instruments

Dimension	Nascent	Emerging	Advanced
GPP assessment	Establish baseline for GPP reform, identify strengths, weaknesses, and opportunities; stakeholder consultation.	Monitor progress, identify market opportunities. Use of surveys and focus groups for stakeholder feedback.	Periodic reviews as part of procurement policy review function.
GPP strategy and action plan	Lay out business case for GPP reform, identify reforms in enabling environment, development of tools and approaches.	Progressively increase ambition by expanding scope of GPP. Use multi-stakeholder process to support development of GPP strategy.	Integrate GPP with broader procurement reform strategy.

6.1. Reform pathways

Governments have taken different approaches to the launch of GPP reforms, some starting top-down while others start bottom-up. A review of international experience in 2021 found some GPP institutional arrangements in 79 or 149 countries, with varying degrees of development (seeTable 23). Early adopters were mainly high-income countries in North America, Europe, and East Asia that pioneered green procurement practices in the late 1990s and early 2000s. In Europe, the majority of countries reviewed had GPP strategies and provisions in legislation though less than half systematically apply GPP operational practices. These countries usually followed a top-down approach led by PPAs, starting with legislative and policy reforms that allowed them to apply GPP practices across government and to rapidly scale up. A key motivation was for governments to "lead by example" in driving green consumption choices across society. Governments could build on emerging green business practices in the private sector driven by changing consumer preferences. Civil society and industry participation in multi-stakeholder groups became common, notably in East Asia. Application of GPP practices was initially voluntary, left to the discretion of the procuring agencies, but governments gradually expanded the range of products for which GPP became mandatory. In LAC, GPP initiatives started in the early 2000s, gaining significant momentum in the 2010s. Here, GPP has often followed a bottom-up approach, led by willing procurers. Regional peer learning through the INGP has facilitated reform by connecting expertise across borders. In Africa and South Asia, public procurement has been used for decades to achieve social and economic goals, but interest in leveraging procurement to achieve environmental issues has been limited. Progress has been made where green procurement can be aligned with social objectives, such as through SMEs that deliver local, environmentally friendly solutions to government procurement needs. Box 23 presents three examples of reform pathways in different country contexts.

Subnational governments are often important champions and innovators for GPP, independent of, and at times paving the way for, central authorities. Subnational governments, particularly city and municipal governments, are close to the environmental impacts—air and water pollution, waste management, flooding, loss of green space—and constituents' demands for environmental action. Subnational governments have a significant market presence, constituting up to one-third of total public spending in some countries. They are critical to the achievement of national and global environment policy goals: for example, cities are responsible for about 70 percent of global energy-related GHG emissions. Subnational governments have also developed their own green procurement priorities and practices.[19] Many have developed their own websites with comprehensive guides on GPP and innovative tools for green purchasing, such as supplier registries, media guides, and practical buying checklists. In some countries, subnational governments have established their own networks to support GPP innovation and undertake joint procurement activities to achieve economies of scale.

Bottom-up approaches enable innovation and can have a strong demonstration effect, but they face limitations when scaling up GPP practices. GPP initiatives may respond to agency-level policy commitments or mandates to address environmental

19 Useful resources on city and subregional government GPP initiatives, include: the Global Lead City Network Cities website at and the Procura+ Participant Page.

issues or be driven by champions with a personal commitment to green issues. These initiatives can demonstrate the practical applications of GPP and thereby help to build buy-in. This is especially important where these is limited political interest in GPP. Procuring bodies may choose to champion GPP by developing their own GPP plan or strategy even in the absence of a national GPP policy. There may be scope for replication and scaling-up at the agency level and the adoption of similar practices by other agencies. However, bottom-up approaches can be difficult to scale up. Adoption of GPP practices is voluntary and so limited to willing procurers prepared to take the initiative in the absence of national guidelines. GPP practices may be constrained by the regulatory framework. Procuring entities may adopt different approaches, complicating suppliers' engagement with the public sector. There are also limited opportunities for learning, consolidation, and economies of scale in the development of tools, capacity building, and procurement operations.

Mainstreaming GPP across government requires high-level political commitment and leadership. In many countries, environmental agencies have championed the GPP agenda as a means of achieving environmental goals. However, given that environmental agencies have limited authority over procurement practices, a whole-of-government approach requires that PPAs take on a leadership role. PPAs have the authority to develop the enabling framework and implementing tools needed to drive GPP adoption across the public sector. PPAs can mandate the application of GPP in specific product categories. They can put a structure in place for GPP systems to operate efficiently by reforming procurement laws and regulations, establishing GPP institutions, developing training opportunities, and creating supporting tools for implementation, such as environmental criteria, LCC tools, framework agreements, and marketplaces. PPAs are best placed to develop GPP tools that can be used by authorities across government and to promote procurement approaches that reduce the administrative burden on each contracting authority. They can also coordinate external financing to support implementation activities and pilot tenders with willing authorities, sharing lessons learned and supporting peer networking.

Successful GPP reforms change organizational culture, shifting procurement from a compliance to a strategic function. GPP takes a broader view of VfM, going beyond the cost of acquisition and TCO to consider environmental impacts. Stakeholder mapping can help identify groups likely to resist reform and their motivations. Reformers will have to overcome preconceptions and biases. They have to convince procurement specialists and procuring managers to broaden their perspective and adopt new practices. Recent reviews of procurement reforms[20] highlight the importance of raising awareness early on and tackling biases that can hinder GPP adoption. This requires proactive change management over an extended period. Consistent messaging from political leadership and senior management is critical. So too is stakeholder engagement, providing stakeholders with the opportunity to voice their concerns and priorities, identify the most promising opportunities, avoid pitfalls, and build on private sector experience. Broad-based training should build the case for GPP, address stakeholder concerns, and help stakeholders identify opportunities.

The sequencing of the various elements of GPP reforms will vary depending on country context. Countries with an institutional culture of top-down decision making typically start with a GPP strategy and regulatory reforms that create a permissive environment for GPP operations. Where institutions enjoy greater autonomy, GPP reforms tend to rely on incentives, peer pressure, and accountability, to drive the reform agenda and then plans and regulatory reforms follow. Whether top-down or bottom-up, successful reforms tend to proceed incrementally, building on operational experience. GPP reforms are not one-off exercises. They entail successive improvements in the enabling framework, operational tools, and approaches as the scope and scale of GPP operations expands. The tables at the start of each section in this report lay out stylized steps in the progression of this reform process.

The ultimate goal is to mainstream GPP as an integral part of modern procurement practice. GPP reforms should not create a parallel "niche" system. Instead, GPP reform is best viewed as an integral part of a modern procurement approach that fits alongside other reform efforts to shift to a focus on VfM, create central procuring bodies, professionalize the procurement function, advance e-procurement and monitoring systems, and promote strategic procurement approaches. Such GPP reforms complement broader public sector reforms that support environmental objectives, notably those that promote green fiscal policy, green infrastructure development, and climate governance.

20 See, for example, reviews of EU-funded projects on green and energy-efficient procurement under the SMART program, Intelligent Energy Europe II Programme, and Horizon 2020 Energy Efficiency program in Andhov et al. 2020 and Luyckx and Pál-Hegedus Ortega 2020.

Table 23. Countries with GPP Institutional Arrangements by Region[21]

GPP Institutional Arrangements Countries with	% of countries with GPP institutional arrangements							Total
	ECA	EAP	LAC	MNA	AFRE	AFRW	SAR	
A GPP strategy or action plan, or addressing GPP in its national public procurement strategy	73	40	31	21	19	14	0	34
Provision for green public procurement practices in their procurement law.	70	55	45	26	19	32	63	44
Some mandatory green procurement practices.	27	15	24	0	5	5	0	13
Standardized environmental criteria for some procurement categories	40	20	28	0	10	5	0	18
Specific GPP strategies for any of these sectors: energy; agriculture; water; transport.	43	10	28	5	5	9	0	18
Systematical collection of information on green public procurement activities.	33	5	3	0	0	0	0	8
Reporting on the implementation of green public procurement activities.	23	5	3	0	0	0	0	6
At least one of the above institutional arrangements.	90	55	52	36	29	36	63	53
Number of countries reviewed	**30**	**20**	**29**	**19**	**21**	**22**	**8**	**149**

21 Based on survey of World Bank country procurement specialists in 2021. ECA Europe and Central Asia. EAP East Asia and Pacific. LAC Latin America and the Caribbean. MNA Middle East and North Africa. AFRE East Africa. AFRW West Africa. SAR South Asia.

BOX 22. GPP Reform Pathways

Western Cape, South Africa. GPP reform began in the Western Cape province of South Africa in 2003, before a national GPP policy was in place. The reform pathway can be summarized in three phases: internal awareness raising and behavior change (2003–11), internal systems development (2011–19), and market engagement and specification development support (2019 onwards). The first phase began with a "2Wise2Waste" program launched by the Department of Environmental Affairs to reduce the waste footprint. A GPP policy was developed but not formally adopted, and so was limited to non-binding guidelines. GPP was perceived at the time as a "middle-class concern," a luxury compared to important issues like poverty, unemployment, and inequality. GPP was practiced only in small pilots on an ad hoc basis by willing champions, such as cities, hospitals, and public works agencies. The second phase saw a new interest in the strategic use of procurement to achieve development and socioeconomic goals, aligned with green economy policy discussions at the international level. Nationally, South Africa introduced local content requirements in procurement to stimulate local economic development. In the Western Cape, the Provincial Treasury became involved with GPP discussions, leading an interdepartmental team to develop an Economic Procurement Policy that prioritized social issues while also introducing GPP as one of five SPP pillars. Political support for the green economy grew, along with the understanding of GPP as a key lever for sustainable development. The third phase focuses on developing GPP in promising sectors or product categories and with the most willing departments and local governments, expanding scope as success is demonstrated. A severe drought has raised awareness of the economic impact of environmental risks. Governments and the private sector are working together to build more resilient supply chains (Western Cape Government 2019).[22]

Dominican Republic. The Department of Effective Public Management in the Dominican Republic first explored GPP in 2017, undertaking a diagnostic of existing laws and regulations, with support from the INGP and external donors (OAS 2017). The diagnostic found that although the PPL did not explicitly allow the consideration of environmental sustainability in tenders, there was no unequivocal prohibition. GPP was grounded in the country's constitution, National Development Plan, and Strategic Plan of the General Directorate of Public Procurement. That year, a pilot to purchase energy-efficient office equipment was completed. Over the following years, training and awareness raising activities were prioritized. The Public Procurement Directorate disseminated videos and messages on social networks and media about GPP as an engine for national development aligned with the SDGs. Workshops were held for both contracting authorities and suppliers, and a pilot was organized to support ten suppliers in building social responsibility into their business models. Efforts were made to integrate green thinking into government practices through initiatives to reduce paper use and carbon emissions. In 2019, a decree created procurement set-asides for small-scale and family farmers. The decree also created a simple, one-year pre-qualification system, eliminated requirements for bid guarantees, and offered preferential payment and region-specific procedures to favor these farmers and food producers. In 2020, the Public Procurement Directorate and Ministry of Environment worked together to develop a draft text to reform the PPL, including provisions explicitly supporting the inclusion of environmental and social criteria. Green purchasing guides have been developed for paper and event management, and there is a catalogue of small-scale and local coffee producers. Circular and triple impact procurement are the new priorities, focusing on reducing, reusing, and recycling (OAS 2020).

European Union. The EC encouraged member states to draw up publicly available National Action Plans (NAPs) with ambitious targets to green their public procurement following its 2003 Communication on Integrated Product Policy (EC 2003). As of April 2021, 23 of the 27 member states had released National GPP Action Plans.[23] The Commission set out the legal basis for GPP in its 2014 EU Directive to be transposed by member states into national legislation. It has also developed common GPP criteria for over 20 product groups and encourages members to localize these criteria for national use. The Netherlands and Sweden are recognized for their extensive and user-friendly national environmental criteria sets. Many countries have chosen to create mandatory GPP requirements for certain priority product groups. The EC has prioritized a move to more mandatory GPP in the coming years, with greater focus on circular economy considerations, innovation procurements and development of LCC tools (five have been developed to date). It promotes GPP adoption through programs that foster peer-to-peer sharing among countries and joint procurement initiatives. The Sustainable Procurement Platform "Resource Centre" offers a useful repository of EU and global documents on GPP.

22 The Western Cape Government's Sustainability website provides links to extensive range of documents on the sustainable procurement program.
23 The EU maintains a comparative summary of these Action Plans that outlines the GPP policy framework, including any mandatory GPP rules, implementation tools, and monitoring efforts. See EC 2020e.

6.2. GPP assessments

Assessments can help establish the status of GPP implementation, identify the strengths and weaknesses in GPP practices, and can set a baseline that can be used to track progress. Table 24 highlights three assessment tools that focus on the status of GPP in procurement systems. The OECD's Methodology for the Assessment of Procurement Systems (MAPS) applies a comprehensive framework that covers the essential elements of an effective and efficient procurement system. The MAPS Supplementary Module on SPP (MAPS 2021) offers a useful tool for countries wishing to assess progress in the implementation of SPP at the center-of-government. The diagnostic assesses the regulatory, institutional, and operational framework for SPP and market practices. MAPS SPP module is the most comprehensive and rigorous diagnostic tool and the most demanding; it also has the advantage of being consistent and applicable as part of a diagnostic of broader procurement reforms. The UNEP SPP Index Methodology covers five critical elements of sound SPP systems: strategy, regulation, support, purchasing criteria, and monitoring (UNEP 2021). The UNEP SPP methodology generates a single index score that can be used to compare performance across countries and track progress over time. ISO 20400 offers a quick online assessment tool designed for both private and public organizations that focuses on management approaches to building sustainable supply chains in line with the standard (ISO 2017). The ISO 20400 assessment is better suited to the self-assessment of individual organizations than national systems.

Assessments are informed by research, surveys, and consultations. Research focuses on reviews of existing regulations, institutions, and procurement processes to understand those that support or present obstacles to GPP. Research can also identify reform actions to date and assess uptake and effectiveness. Surveys and focus groups help gather views from contracting authorities on their motivations and barriers to buying green as well as their training and support needs. Surveys and focus groups can also be used to gather information from firms and potential suppliers to test their experience and readiness for GPP.

Assessments that follow a participatory approach will help build the buy-in needed for success. Effective participation requires a more active role for key stakeholders in the design, implementation, and interpretation of diagnostic work, together with a commitment to maintain participation in follow-up actions. Given the wide scope of authorities, consultations can begin with a representative group of those most willing to participate or likely to have an impact on or benefit from GPP, including major public buyers at all levels of governments, agencies with significant levels of purchases, agencies that offer public services such as hospitals and schools, as well as local authorities and cities. Multi-stakeholder working groups or task forces can be useful in bringing together stakeholders, especially between the private sector and public bodies, to tackle challenges and identify entry points for reform.

Table 24. Assessment Tools

Tool	Coverage	Focus	Product	Application
MAPS Supplementary Module on SPP	Assesses procurement systems against four criteria (VfM, transparency, fairness, and governance) across four pillars (legal, regulatory, and policy framework; institutional framework and management capacity; procurement operations and market practices; and public accountability, integrity, and transparency) using indicators and sub-indicators. The Supplementary Module on SPP uses the same structure as the main assessment, with 14 SPP indicators and 29 sub-indicators.	National	Diagnostic report. Identifies substantive and material gaps in system and factors that may impede reforms.	Usually undertaken with specialist support, but can be self-assessment.
UNEP SPP Index Methodology: SDG Indicator 12.7.1.	Assesses progress against SDG indicator 12.7.1, which measures "the number of countries implementing SPP policies and action plans." The index comprises five parameters: an SPP action plan, policy, and/or regulatory requirements at the national or local levels or both; an SPP regulatory framework that is conducive to SPP; practical support delivered to public procurement practitioners for the implementation of SPP; SPP purchasing criteria, standards, and requirements; SPP monitoring system; and the percentage of sustainable purchase of priority products and services (UNEP 2020).	National	Scores for each parameter and summary index score.	Usually self-assessment. Results may be subject to validation for purposes of international benchmarking.
ISO 20400 self-assessment	The ISO 20400 standard offers a self-assessment tool with twenty questions that can be used by procuring institutions to evaluate their level of GPP implementation. The survey focuses on the integration of GPP into the institution's procurement system across nine areas: strategy for supply chains; procurement policy and strategy; procurement governance; capacity; stakeholder engagement; prioritization; performance management; grievance redress; and the procurement process. An online tool facilitates survey response and the presentation of data.	Organ-ization	Each question is scored on a five-point scale. The results are presented in a radar graph.	Self-assessment

BOX 23. GPP Assessments

Multi-stakeholder working group. The United Kingdom, a pioneer in GPP reform, formed a "Sustainable Procurement Task Force" with membership from businesses, NGOs, and public bodies. The goal was to develop an action plan for SPP reform based on a review of current achievements and informed by good procurement practice. The Task Force developed a Flexible Framework as a self-assessment tool for public agencies to assess and monitor their reform efforts. The framework sets out five themes: People; Policy, Strategy, and Communications; Procurement Process; Engaging Suppliers; and Measurement and Results as key building blocks of GPP systems. Agencies can identify themselves within five performance levels within each theme, identifying both areas of progress and remaining gaps for future reform efforts (DEFRA 2011).

Situational analysis. Ecuador conducted a situational analysis to inform its SPP reform plans, supported by UNEP and the EC (UNEP, no date 1). The analysis reviewed regulations and institutions to identify barriers and opportunities and compiled a summary of SPP reform activities. A representative group of 21 public agencies participated in a comprehensive survey on sustainable purchasing practices and their motivations and barriers to SPP. The agencies included central ministries, public companies, municipalities, and public service agencies. A similar situational analysis undertaken in Peru includes an annex with the survey questions used to inform the baseline study (UNEP, no date 2).

Surveys. The Korea Environmental Industry and Technology Institute (KEITI) surveyed contracting authorities across the country on their motivations for and obstacles to purchasing green products. The brief eight-question survey invited procurers to identify the support needed and provide ideas to improve GPP policy (KEITI 2018). The survey showed that most procurers were motivated by the Republic of Korea's top-down approach: a procurement law that makes green purchasing mandatory in certain product categories and compels agencies to report on their implementation.

6.3. GPP strategies and action plans

GPP strategies and action plans provide a framework for the implementation of reforms. They authorize procuring agencies to adopt GPP practices. They motivate those that may be hesitant to change long-standing procurement practices. They hold those responsible for GPP accountable for progress in implementation.

GPP strategies and action plans can be developed at the national, subnational, and organizational levels. They may be developed as stand-alone initiatives or mandated as part of a broader environmental policy agenda. Some governments require public institutions to publish their GPP strategies and actions. These requirements may be mandatory for institutions within the scope of the national GPP program (such as centralized institutions) and voluntary for others (such as autonomous public entities and local governments). Governments may encourage procuring entities to prepare GPP strategies and action plans on a voluntary basis by offering support and recognition.

GPP strategies and action plans share common characteristics. Table 25 presents a summary of contents of a typical GPP action plan. The table is slightly adapted from the model table of contents in UNEP's 2012 "Sustainable Public Procurement Implementation Guidelines," which lay out a step-by-step approach to the implementation of SPP at the country level (UNEP 2012).[24] Preparation of strategies and action plans starts with an assessment of the current status of and constraints and opportunities for GPP implementation. The PPA typically takes the lead in the preparation of national GPP strategies. Participatory approaches tend to be most effective in mobilizing support for plan implementation. This may entail regular consultations with internal and external stakeholders through the

24 UNEP has supported the development of SPP NAPs in Ukraine, Moldova, Vietnam, Ecuador, Colombia, Peru, Argentina, Costa Rica, Uruguay, Mauritius, and Tunisia within the context of UNEP support projects. See the UNEP webpage on SPP Project Countries.

various iterations of the planning documents. In some cases, stakeholders may be given a formal role in the planning process through the creation of multi-stakeholder working groups or task forces.

Successive strategies and action plans can increase the level of ambition by expanding the scope of GPP practices and shifting from voluntary to mandatory application. They typically follow a phased implementation approach that guides the gradual expansion of GPP practices. Periodic reviews and revisions help to ensure that GPP implementation is on track and can increase ambition as capacity improves. Ambition can be increased across several dimensions:

- **Institutional coverage.** Application of GPP practices typically starts in selected central government agencies where there are conditions for successful implementation and gradually expands to encompass all of central government, autonomous agencies, and local authorities.

- **Procurement categories.** Priority GPP procurement categories can increase in number and coverage, often expanding from the less complicated, highest-impact categories to those that are more complex in successive plans. Application of GPP practices can be made mandatory in some product categories and voluntary in others, but the number of mandatory categories is gradually increased over time.

- **Environmental criteria.** GPP reforms usually start with simple environmental criteria, such as the application of ecolabels in specific product categories. More complex environmental criteria can gradually be introduced to focus on specific environmental impacts, such as GHG emissions reductions, and more multifaceted methods such as LCC. Mandatory application may start with those criteria that are relatively easy to monitor, such as single-use plastic bans, and gradually expand to those that are more complex.

- **Operational approaches.** The complexity of operational approaches can increase over time, starting with those that are relatively easy for procuring agencies, such as joint procurements, framework agreements, and catalogues. PSS and PBCs can be introduced gradually as capacity grows, progressing eventually to innovation procurement methods. Plans can make application of methods mandatory in some contexts, such as the required use of catalogues for specific product categories.

GPP can be addressed as part of a broader procurement strategy and action plan. During the early stages of reform, GPP may merit a dedicated strategy and action plan to ensure that it receives adequate attention. However, this does carry the risk that GPP will be seen as a niche procurement issue rather than part of the mainstream, routine work of procurement agencies. Where the PPA prepares strategies and action plans to guide its broader procurement reform agenda, a strong case may be made for the integration of GPP reforms into the broader strategy from the start. Certainly, as GPP practices become mainstream, the rationale for a separate GPP strategy and action plan declines. The integration of GPP into national procurement strategies helps ensure that GPP is seen as a mainstream practice aligned with government policy objectives rather than a niche issue of interest only to specialists.

Table 25. SPP/GPP Action Plans

Indicative Structure of GPP Action Plan
Context: antecedents of GPP policy, alignment with environmental and climate change policies, and supportive of market development initiatives
Objectives: specific objectives for GPP in terms of implementation and environmental impacts
Targets: implementation and impact indicators and targets for the plan period
Responsibilities: scope of application of the action plan and roles of key stakeholders in government
Capacity building: training, information, and awareness raising activities to support implementation
Communication: outline of communication activities, tools, objectives, target groups, key messages
Regulatory framework: changes or adjustments to public procurement legislation
Procurement planning: outline of responsibilities for operational procurement planning
Sustainable procurement cycle: measures to ensure the integration of sustainability issues at all stages of the procurement cycle: identifying needs and demand management; pre-qualifying and qualifying suppliers; developing specifications and evaluating bids; awarding contracts and contract management
Priority product groups and services: list of priority products and services for GPP, with objectives in terms of percentage of green procurement and environmental impacts
Market engagement: formation of the process of dialogue and communication with suppliers
Monitoring, reporting and evaluation: responsibilities for reporting on GPP implementation at agency and whole-of-government level, key performance indicators used for reporting, and arrangements for third-party evaluation of progress
Audit: arrangements for internal and external audit and key performance indicators subject to review
Budget: estimation of costs of implementation of GPP action plan and provision for support to procuring agencies

BOX 24. GPP Strategies and Action Plans

National. Slovakia has released three NAPs on Public Procurement since 2007. GPP was introduced as a voluntary practice and uptake monitored year to year. The 2016–20 Action Plan introduced mandatory GPP for three product categories: paper, ICT, and vehicles. Market consultations were held for 12 priority product categories with the goal of defining minimum mandatory criteria for one more category per year. A goal was set of 50 percent of public procurement at the central government level to be green by 2020, defined as integrating at least one requirement from the EC's GPP criteria. Three priority areas for action were set out: training of public authorities through seminars, helpdesks, and materials; monitoring; and cooperation with the EU and national institutions (OECD 2014c).

Agency. Indian Railways (IR) became a GPP leader within India in the absence of a national GPP policy or program. IR first set out its GPP commitments within its Vision 2020 policy, released in 2009. Rail travel was seen as key to India's response to climate change, offering a less polluting mode of transport that could promote inclusive development. Vision 2020 made commitments to save up to 15 percent of energy through energy efficiency and source at least 10 percent of renewable energy, including through procurement of energy-efficient products. Other commitments included: green toilets in all coaches, adoption of water recycling technology for cleaning, and waste management to achieve "near-zero waste." (Government of India 2009).

Regional. The Basque Country developed an updated GPP program for 2016–20, building on its first Program in 2011–14 (Gobierno Vasco 2016). The Program set three principal goals: to promote resource-efficient public spending, to coordinate closely with the market to boost eco-innovation and local businesses, and to broaden commitment to GPP to all government bodies. Actions are defined along five strategic lines: development of technical content; integration of sustainability criteria into tender processes; training and awareness; coordination with the market; and communication, dissemination, and networking. Although the first Program applied only to central government bodies, the second extended its reach to all public entities across the region. Two sets of GPP targets were established to measure the level of institutionalization and green purchasing. As part of the program, three levels of green criteria were developed for inclusion in tenders, along with a checklist for suppliers and a tool designed to serve as a guide for companies.

Municipal. The city of Cape Town, South Africa, integrated GPP commitments into its 2017 Supply Chain Management Policy rather than create a stand-alone policy or strategy. A set of Green Procurement Guidelines was then developed to provide staff with detailed guidance on implementing GPP. The Policy set as a procurement principle: "to support green procurement initiatives as far as is reasonably possible" and encourages procurers to consider green procurement in all specifications. Under this Policy, the city has implemented several GPP projects from LED traffic and streetlights, energy-efficient municipal office buildings, fuel-efficient vehicles, green housing developments, and energy-efficient computers, as well as an assessment of the greening potential of stock items. Based on this experience, the city released its first Green Procurement Action Plan in 2021 with seven clear objectives with outcomes, activities, and timeframes to scale up green procurements (City of Cape Town 2021).

Increasing ambition. In Thailand, the government prepares four-year Green Public Procurement Promotion Plans (GPP Plans) that have progressively expanded the type of entity and the number of priority product categories covered. The first GPP Plan (2008–11) targeted only government departments within ministries and 17 product categories; the second (2013–16) covered all public organizations from the central to the local levels as well as state enterprises, public universities, and 22 product categories; and the third (2017–21) included private companies registered on the stock market and a total of 28 product categories (UNEP and KEITI, no date).

Integrated GPP. Sweden's National Public Procurement Strategy for 2016 sets out seven policy objectives: public procurement as a strategic tool for doing good business; effective public purchasing; a multiplicity of suppliers and well-functioning competition; legally certain public procurement; public procurement that drives innovation and promotes alternative solutions; public procurement that is environmentally responsible; and public procurement that contributes to social sustainability The strategy commits the government to increase the use of GPP, especially in product categories with a major environmental impact (Government of Sweden, no date).

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