



SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs

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SEAD Initiative Procurement Working Group

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About SEAD

The Super-efficient Equipment and Appliance Deployment (SEAD) Initiative of the Clean Energy Ministerial is a voluntary multinational collaboration whose primary objective is to advance global market transformation for energy efficient products. With SEAD, participating governments have access to the resources and technical expertise needed to build and implement cost-effective product efficiency policies and programs, which lead to reduced energy costs to consumers, more robust economies, and typically represent the lowest-cost opportunities to achieve significant greenhouse gas emission reductions.

SEAD participating governments are working together to develop common technical foundations that will enable faster and easier adoption of cost-effective product efficiency policies. The Initiative's broader market transformation efforts include collaborative work on incentives, awards, and procurement programs in an effort to further enhance global markets for highly efficient products.

SEAD procurement activities are led by government representatives from Canada, India, Mexico, South Africa, Sweden, the United Kingdom, and the United States. The SEAD Guide for Monitoring and Evaluating Green Public Procurement Programs is one of several resources that SEAD has produced to support policymakers as they develop and implement procurement programs that will reduce energy demand and CO2 emissions. More information on SEAD procurement activities is available at www.superefficient.org/procurement.

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Super-Efficient Equipment and Appliance Deployment (SEAD) Procurement Working Group
Collaborative Labeling and Appliance Standards Program (CLASP)

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DISCLAIMER

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Acronyms and Abbreviations

BREAM	Building Research Establishment Environmental Assessment Method	KRW	Korean Won
CHP	Combined Heat Power	kWh	Kilowatt-hour
CO ₂	Carbon dioxide	LEED	Leadership in Energy and Environmental Design
CEQ-OFEE	Council for Environmental Quality- Office of the Federal Environmental Executive	m ²	Square meter
DEFRA	Department for Environment, Food and Rural Affairs	M&E	Monitoring and evaluation
DoE	US Department of Energy	MoE	Ministry of the Environment
EC	European Commission	NGO	Non-Governmental Organization
EEP	Energy Efficient Procurement	OMB	Office Management and Budget
EMS	Environmental Management System	PPS	Public Procurement Service
EO	Executive Order	PPTRS	Pollution Prevention Tracking and Reporting System
EPA	US Environmental Protection Agency	RCRA	Resource Conservation and Recovery Act
EPEAT	Electronic Product Environmental Assessment Tool	SEAD	Super-Efficient Equipment and Appliance Deployment
EU	European Union	SD	Sustainable Development
FEMP	Federal Energy Management Program	SDC	Sustainable Development Commission
FY	Fiscal Year	SDGE	Sustainable Development on the Government Estate
GBS	Government Buying Standards	SOGE	Sustainable Operations on the Government Estate
GGC	Green Government Operations and Procurement Commitments	SPAP	Sustainable Procurement Action Plan
GHG	Greenhouse Gases	SPP	Sustainable Public Procurement
GOCO	Government-Owned, Contractor Operated	SQL	Structured Query Language
GPIS	Green Products Information System	SSPP	Strategic Sustainability Performance Plan
GPP	Green Public Procurement	SSSI	Sites of Special Scientific Interest
IT/ICT	Information (and Communication) Technologies	Tm	Metric Tonne
KEITI	Korea Environmental Industry and Technology Institute	UK	United Kingdom
Km	Kilometer	US	United States of America
KONEPS	Korea ON-line E-Procurement System	USD	United States Dollar
KPI	Key Performance Indicator	USDA	US Department of Agriculture
		WWF	World Wildlife Fund (now World Wide Fund for Nature)

Policy Makers Summary

Over the last several decades governments have developed a broad range of Sustainable Consumption and Production (SCP) Policies in order to reduce the environmental impacts of products, fight climate change, improve resource efficiency, reduce energy use, and boost green economic growth. SCP policies include different types of policy instruments – economic tools, regulatory or communication instruments, such as ecolabels, and voluntary agreements including Environmental/Energy Management Systems.

Green Public Procurement (GPP) and Energy Efficient Procurement (EEP) ,are programs that use various SCP policy instruments to demonstrate leadership by public institutions to stimulate demand and transform the market for green and energy efficient products and solutions. Depending on the focus and requirements of relevant policies, EEP/GPP is used to improve the overall environmental performance of the public sector or to promote specific products and economic sectors in the transition towards a green economy.

A common precondition for the establishment of green or energy efficient purchasing policies is the existence of both voluntary and mandatory labeling schemes for environmentally sustainable and/or energy efficient products in the market.

The market power of the public sector and the successful implementation of EEP/GPP policies in countries or regions including the United States of America, Japan, and the European Union have increased the role of public procurement as a key instrument in climate protection, environmental, and sustainability policies.

Policy goals and Key Performance Indicators

The broad range of policies using public procurement as a tool has led to a variety of approaches to monitor and evaluate GPP/EEP programs and of key indicators, directly related to the primary policy objectives.

Key Performance Indicators (KPI) must be identified in relation to policy objectives and might refer to the:

- Progress in institutional implementation of EEP/GPP
- Level of expenditures on green products or services
- Reduction of environmental impacts and energy and cost savings
- Impact on market transformation

KPI for different policy objectives are summarized in Table 1.

Table 1. Type of KPI used based on the policy objective

Objective: Progress in institutionalization of EEP/GPP

- EEP/GPP plans implemented, responsibilities allocated, staff trained, processes adapted, etc.

Objective: Level of procurement of green products

- Total and/or percentage of green tenders and/or products purchased (in units or expenditure)

Objective: Reduction of environmental impacts

- Reduction of GHG emissions and other impact factors
- Reduction of energy and water consumption
- Reduction of waste generated
- Life-Cycle Cost savings

Objective: Impact on market transformation

- Market share of selected green products or services
- Number of environmentally certified products or services

Embedding M&E in Policy Design

Successful monitoring of EEP/GPP policies helps to increase performance and improve results. Early planning of M&E systems can help to better define EEP/GPP policy objectives, reduces costs, and minimizes technical or operational difficulties when deploying the M&E systems.

Key aspects to consider during policy development are:

- Ensure that policy objectives are S.M.A.R.T. (Specific, Measurable, Achievable, Realistic and Time-based) by considering early on how they will be measured.
- Include clear monitoring requirements in the policy document.
- Ensure that the focus and target agencies of the M&E system are in line with the specific policy objectives.
- Establish intermediate performance levels or tiers when defining quantitative targets in order to measure progress, encourage implementation, and communicate results to all relevant stakeholders.
- Consider providing economic or reputational incentives to promote implementation and reporting.

Setting efficient EEP/GPP M&E Systems

Complying with M&E requirements can be extremely time-consuming and burdensome if M&E objectives and indicators are not based on available data and/or on existing processes and tracking systems. To ensure an efficient and reliable M&E system the following recommendations should be considered:

- Involve all relevant stakeholders in the design of the M&E system early on the process.
- Integrate EEP/GPP M&E requirements into existing processes and tracking systems.
- Standardize procurement management software and other applications prior to initiating monitoring to facilitate data tracking.
- Prioritize data sources that are directly available.
- Use e-tendering platforms or similar applications to consolidate information and data for automatic compiling and processing.

The following table (Table 2) gives an overview of necessary data sources for different types of KPIs.

Furthermore, other key aspects have to be taken into account depending on the chosen approach to measure and assess progress and results of EEP/GPP programs. These are compiled in Table 3 below.

Table 2. Data sources to measure different KPIs

KPI: EEP/GPP plans implemented, staff trained, etc.

- Status assessment questionnaires
- Interviews
- Direct review of plans and procedures

KPI: Total and % of green tenders and/or purchased products

- Contract estimates based on tenders
- Suppliers' reports
- Centralized online product catalogues
- Internal financial system
- Tenders (individual tenders, tender publishing platforms, electronic tendering systems)

KPI: Cost savings; reduction of GHG emissions, energy and water consumption or waste generation

- Product inventories
- Cost and consumption data
- Product labeling (especially for energy consuming products)

KPI: Market penetration of selected green products

- Eco-Label databases
- Market data and studies

Table 3. Key recommendations for M&E systems targeting different EEP/GPP policy objectives

Objective: Progress in institutionalization of EEP/GPP

- Establish performance levels in order to communicate results and progress to all relevant stakeholders and encourage implementation.

Objective: Level of procurement of green products

- Ensure user friendliness of monitoring requirements.
- Integrate monitoring into financial accounting procedures and/or centralized procurement systems.
- Focus on tracking the procurement of priority product groups.
- Clearly define “green”.

Objective: Reduction of environmental impacts

- Use proxy evaluations if real data tracking is too burdensome.
- Choose only key environmental characteristics.
- Decide on which phases of the life cycle to focus (production, use, end-of-life)

Objective: Impact on market transformation

- Assess product groups where public procurement has an important market share
- Or policies and programs focusing both on public and private green consumption

To sum up

This guide provides a detailed overview of the above-mentioned aspects and shows the process to implement successfully EEP/GPP M&E systems. Best practices are included in each chapter to illustrate successful approaches. Comprehensive Case Studies from countries representing different geographical regions are also included at the end of the guide.

0. Purpose, Scope and Overview

Purpose

The purpose of this guide is:

- to provide an overview of different approaches to monitor Green Public Procurement (GPP) programs,
- to identify best practices, and
- to provide recommendations to assist policymakers and practitioners from all government levels to define and/or improve the Monitoring and Evaluation (M&E) systems for their GPP programs.

Is not the purpose of the guide to define a standardized M&E system to benchmark and compare performance between organizations, this could be the objective of a different study.

Scope

Given that the goal of SEAD procurement activities is to transform the global market for energy efficient equipment and appliances using procurement to signal demand, the guide covers M&E systems of Energy Efficient Procurement (EEP) programs.

As EEP is often integrated into GPP plans or other overarching policies, most of the content of the guide refers to green procurement in general, as it applies equally to the monitoring of EEP and other types of environmentally preferable acquisition practices.

Monitoring Socially Responsible Public Procurement is not covered in this guide as it falls outside the scope of SEAD.

Overview

Chapter 1 introduces the benefits of monitoring EEP/GPP policies.

In Chapter 2 the different types of EEP/GPP objectives and commitments set at the policy level are highlighted and classified, as they influence the type of M&E systems that public authorities will put in place to track compliance.

The core of the guide is Chapter 3. It provides guidance on the different M&E systems to track progress for each type of EEP/GPP objective identified in chapter 2.

Chapter 4 introduces facilitating measures that can help to improve EEP/GPP implementation and reporting, such as data tracking, provision of incentives, and integration of EEP/GPP requirements into existing management systems.

The overall recommendations to design and/or improve EEP/GPP M&E systems are presented in Chapter 5.

Finally, Chapter 6 presents in-depth case studies of M&E systems from public agencies in France, Chile, South Korea, the United Kingdom, and the United States.

1. Introduction

To promote sustainable development and green economic growth, public authorities are increasingly using their purchasing power as an instrument to signal market demand for green solutions, in coordination with other policy measures.

By introducing environmental criteria and considerations into the procurement of goods, services, and construction works¹—that is, by applying green public procurement (GPP)—the public sector reduces the environmental impact of its operations, may improve efficiency by rationalizing needs, and reduce expenditure, especially when purchasing energy efficient products. GPP also accelerates the market transformation for green solutions, encouraging eco-innovation and new, environmentally conscious business practices.

GPP takes into consideration a large range of environmental aspects such as:

- Water use and conservation
- Energy consumption and efficiency
- Greenhouse gases emissions reduction
- Waste minimization and separated collection for recycling
- Product durability, reparability and recyclability
- Exclusion of hazardous & non-biodegradable substances
- Resource efficiency and use of renewable materials ...

¹ Goods, services and construction works are mainly referred to hereafter as “products”.

Public authorities around the world are using GPP as a policy instrument in a wide range of policies, from energy efficiency to broad environment-related policies, and even policies to promote economic development.

In recent years, several governments have implemented policies to procure energy efficient appliances. When deploying these policies, efforts have focused on developing resources for implementation (e.g. guidelines, energy efficiency specifications for tenders, life-cycle costing tools, training, etc.). Very few resources have been dedicated to defining monitoring systems to track progress against the set objectives. While implementation resources are necessary to roll-out policies; developing monitoring and evaluation (M&E) mechanisms are critical to ensure their effectiveness.

By having M&E systems and reporting requirements in place, an organization:

- Demonstrates political commitment;
- Embeds GPP policies throughout the organization, keeping each agency accountable for compliance, which can simultaneously raise conformity rates;
- Assesses progress in meeting policy objectives and evaluates impacts, which can be communicated to relevant stakeholders, thus enhancing transparency;
- Reinforces its exemplary role in promoting sustainable development by “walking the talk”, which encourages and legitimizes the promotion of sustainable

consumption and production by other sectors of society; and

- Identifies areas that need improvement, which will help to target supportive measures and thus improve efficiency and effectiveness in policy implementation through good governance.

In addition, considering at the policy development stage how GPP objectives and targets will be monitored, that is which methodology will be needed to monitor progress, can help to better define the program's objectives and targets.

As the US Department of Energy (DoE) has found:

DoE has tracked trends in environmentally preferable purchasing through its annual reports for years, being able to identify those product groups with greater success and the main impediments for those groups where GPP is less advanced. Thus, the trend analysis allows the DOE Green Acquisition Advocates to focus on product areas that are not as successful.

Source: US Department of Energy (2009). Sustainable Acquisition, Recycling, and Pollution Prevention Practices. FISCAL YEAR 2008 REPORT. Washington, DC: US Department of Energy.

Guide Objectives

The expansion of GPP programs has made many resources available to policymakers and procurement officials to integrate environmental considerations into procurement processes, including a growing number of guidelines, environmental specifications for tenders with information on verification documents, life-cycle costing tools, best practice recommendations, and training materials. However, there is still limited information about M&E approaches for such programs.

This guide seeks to close this gap. It provides an overview of different approaches and specific recommendations to improve the monitoring of GPP programs.

Drawing on interviews with public authorities and other resources, the guide presents case studies, examples, and recommendations to assist policymakers at all levels to define or improve their GPP M&E systems.

2. EEP/GPP Policy Objectives and Elements

As policy objectives influence the type of M&E system that government officials implement, this chapter summarizes the different types of policies that include GPP/EEP commitments and the type of policy objectives they set. Other influencers at policy level on the effectiveness of M&E systems are also highlighted.

Each environmental policy, regulation, or initiative has a different scope, goals and specific objectives. These objectives (together with other factors such as policy design) influence the selection of instruments used to achieve policy goals—such as mandatory standards, subsidies, training, awareness campaigns, etc.—and the types of key performance indicators (KPIs) used to monitor success.

Regulations and guidelines to support environmental and economic policy implementation through public procurement are embedded in a wide range of policies, including:

- Product-specific policies;
- Energy efficient procurement policies;
- Overarching green procurement strategies (which often include energy efficiency aspects);
- Climate protection or other environmental and sustainability policies;
- Economic policies (e.g. for green growth); and
- Programs to improve environmental performance of administration or agency operations.

Given that each of these policies has a different objective, the role of EEP/GPP will have differential importance, as do the elements to support EEP/GPP implementation. KPIs might not

focus solely on procurement, but rather on broader environmental parameters (energy and water consumption, waste generation and recycling, etc.) to meet policy goals.

Table 4 summarizes, for each of these types of policies that include EEP/GPP commitments, their main goals, elements and performance indicators, and includes some references from public administrations around the world as examples.

Furthermore, public authorities, particularly at the local level, often commit to implementing EEP or GPP by participating in voluntary initiatives (see Box 1 for examples). Such initiatives usually encompass three main elements: defining an EEP/GPP policy or agreement, conducting green procurement actions using specified environmental criteria, and monitoring achievements.

Box 1. Examples of Voluntary Initiatives

- [Cities for the Forest Campaign](#), World Wildlife Fund (Spain)
- [EcoBuy program](#) of the State of Victoria (Australia)
- [Energy Efficiency Program in Public Buildings](#) of Buenos Aires (Argentina)
- [Mayor of London's Green Procurement Code](#) (UK)
- [Procura+ campaign](#) of ICLEI (Europe)

Table 4. Types of policies that include EEP/GPP requirements and objectives

Policy scope	Elements covered	Examples of policies	Examples of EEP/GPP objectives
<p>Product-specific policies</p>	<p>The main goal of product-specific policies is to transform the market for green technologies and practices and thus reduce environmental impacts.</p> <p>These policies may set labeling or certification requirements for products (including buildings). Public procurement requirements are included to use the purchasing power of the government as a catalyst for market transformation.</p> <p>Supportive actions such as training are rarely included, hence if there is monitoring in relation to procurement, it generally focuses only on procurement activities rather than on operations-related actions.</p>	<p>European Union Regulation (EC) No 106/2008 of 15 January 2008 on a Community Energy-efficiency Labelling Programme for Office Equipment; Directive 2009/33/EC of 23 April 2009 on the promotion of clean and energy efficient road transport vehicles or Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings.</p>	<p>Regulation 106/2008 establishes that all acquisitions by Member States above a certain threshold have to comply with the Energy Star requirements on maximum energy consumption.</p>
<p>Energy efficient procurement policies</p>	<p>The goal of energy efficient procurement policies is to encourage the purchase or contracting of energy efficient products and services.</p> <p>These policies are generally defined in relation to existing national or international energy-efficiency standards and labels to facilitate implementation.</p> <p>Monitoring focuses on the procurement of these products, rather than management-related activities or environmental parameters.</p>	<p>China Circular of 17 December 2004 on the Implementation of Government Procurement of Energy-saving Products and Circular of 30 July 2007 on Establishing a Mandatory Government Procurement Scheme of Energy-saving Products.</p> <p>Japan Green Contract Law (Law 56 of 2007) Concerning the Promotion of Contracts Considering Reduction of Emissions of Greenhouse Gases and Others by the State and Other Entities.</p>	<p>Japan Green Contract Law has as objective to contribute to achieving the targets for greenhouse gas emissions set by the Government (reduction of 8% of emissions connected to affairs and projects of each governmental agency from 2010 to 2012).</p>

<p>Overarching green procurement strategies</p>	<p>These policies normally aim at improving the overall environmental performance of public procurement. As such, they might include not only green procurement targets, but also consumption reduction goals.</p> <p>GPP strategies consider procurement a process that is linked to habits and behavior. As such, these policies include supportive actions like training requirements, dissemination plans, stakeholder engagement, development of tools and resources, etc.</p> <p>The type of indicators used to monitor implementation range from environmental parameters to green solutions procurement, as well as operations-related aspects.</p>	<p>Canada Federal Government Policy on Green Procurement.</p> <p>Brazil Regulation nº1 of 19 January 2010, on environmental sustainability criteria in the procurement of goods, services and works of the Federal Public Administration and related agencies.</p> <p>Spain Order PRE/116/2008 of 21 January 2008 publishing the approval of the Plan on Green Public Procurement of the Central Government and Related Agencies.</p>	<p>Spain Order PRE/116/2008 sets different objectives depending on the actions. The plan includes an objective of reducing energy use by up to 20% by 2016 in buildings; a reduction of 20% in fossil fuel consumption and an increase in biofuels consumption of up to 38% in transportation; and for IT equipment, 100% of all new computers, screens and imaging equipment must comply with the energy consumption limits defined in the Energy Star standard.</p>
<p>Climate protection, environmental, or sustainability policies</p>	<p>These overarching strategies may reference EEP/GPP as a tool to support other actions, but EEP/GPP is not the focus of these policies.</p> <p>Sometimes an overall EEP/GPP target is defined, but most of these policies set greenhouse gas reduction targets or other environmental relief goals, with procurement as an instrument to meet these targets. In these cases, environmental parameters are used as indicators, and monitor EEP/GPP actions indirectly. When policies only require the development of EEP/GPP action plans, the specifics related to procurement are left for the action plans.</p>	<p>Mexico City Climate Action Program 2008-2012.</p> <p>South Africa Notice 908 of 2009, National Energy Efficiency Strategy of the Republic.</p> <p>Colombia National Development Plan 2010-2014: Prosperity for all.</p>	<p>Colombia's National Development Plan sets a target of 10% of Government purchases to be green by 2014.</p>

Green growth policies

The main goal of green growth policies is to improve or promote certain economic sectors or the economy as a whole.

In general, these policies recommend EEP/GPP as a tool that may be used to achieve the programs objectives, but do not define specific policy measures. Some might require the development of specific EEP/GPP plans or programs.

If GPP is monitored, the tracking mechanism generally focuses on the green products or services purchased rather than on environmental impacts.

United States [Farm Security and Rural Investment Act of 2002 \(FSRIA\)](#) or [Resource Conservation and Recovery Act \(RCRA\)](#)

The United States RCRA states that “each procuring agency shall develop an affirmative procurement program which will assure that items composed of recovered materials will be purchased”.

Energy/ Environmental management plans to improve performance of administrations' operations

The main goal of these policies is to improve the overall environmental performance of organizations. Therefore, results are often monitored using environmental performance indicators (reduction of energy and water consumption, waste generation and recycling, etc.) and cover EEP/GPP indirectly.

EEP/GPP measures focus mainly on embedment in management plans and procedures, and on purchasing/tendering actions. Thus, indicators directly linked to GPP are based on operations-related activities and level of green procurement.

United States [Executive Order 13514 of 5 October 2009 - Federal Leadership in Environmental, Energy and Economic Performance.](#)

United Kingdom Framework for Sustainable Operations on the Government Estate (SOGE).

France [Circular of 3 December 2008 concerning the exemplarity of the State in respect of sustainable development in the operation of its services and institutions.](#)

Within the United Kingdom SOGE, commitments in relation to the Sustainable Procurement Action Plan (SPAP) include:

Permanent secretary/ies have the SPAP commitments incorporated into their performance objectives; or

Use the Sustainable Procurement Task Force Flexible Framework and level achieved in each of its 5 key areas.

From the policy analysis, GPP commitments and objectives can be classified into four categories (the first two are more practical, and the last two, relate more to final goals) that can be present simultaneously in policy documents:

1. To institutionalize or formalize EEP/GPP in the organization. This includes defining EEP/GPP plans, allocating responsibilities for EEP/GPP, raising awareness and training staff, engaging with suppliers, developing resources, etc.
2. To increase the procurement or purchase of environmentally preferable products and services.
3. To achieve GHG mitigation and reduce environmental impacts through greener procurement practices.
4. To accelerate the entry of energy efficient and greener products and services into the market.

Considering in advance how objectives are going to be monitored is relevant, in order to ensure that objectives are S.M.A.R.T. (i.e. that they are Specific, Measurable, Achievable, Realistic and Time-based) and to reduce difficulties later on when setting up the M&E system (see Box 3).

This forward planning is especially important in EEP/GPP as policy development and implementation fall, in many cases, to different departments. Often the Environment or Energy departments responsible for the EEP/GPP policy predetermines policy objectives and targets that affect the monitoring, but it is within the procurement units that such policies are implemented.

Other aspects at the policy level that may influence the success of monitoring are: How prescriptive M&E

requirements are within the policy document, and which agency is in charge of it.

The enforcement level and M&E obligations in each policy vary depending on factors such as the type of policy document, the division of powers and jurisdictions under the scope of the policy, etc. However, the inclusion of M&E prescriptions (agencies required to report, frequency, etc.) in the approved policy document provides some leverage to the monitoring agency. Examples of monitoring requirements in policy documents are presented in Box 2.

On the other hand, not all units or organizations in charge of monitoring have the same command or authority; hence, the unit or organization to report to should be agreed upon and selected to maximize response.

Box 2. M&E requirements in policy documents

Japan's [Green Procurement Law](#) stipulates that: "The head of each ministry and agency and the head of each independent administrative institution, etc. shall prepare and publish, without delay after every fiscal or business year ends, a summary of its procurement track record of eco-friendly goods, etc. and submit it to the Minister of the Environment."

The French [Circular concerning the exemplarity of the State regarding sustainable development in the operation of its services and its public buildings](#) requires all central government agencies to send annual reports on the achievement of specific indicators set for the whole government to the Interdepartmental Delegate for Sustainable Development.

Box 3. Challenges to an European Union GPP Monitoring System

Since 2003, the European Commission (EC) has conducted several surveys at the EU level on the implementation of GPP in public authorities. In its [Communication “Green Public Procurement for a Better Environment” \(COM \(2008\) 400, published on 16 July 2008\)](#), the EC proposed that, by 2010, 50% of all tendering procedures should be green. Green tenders were defined as those compliant with the “core” GPP criteria defined at the EU level. However, that objective poses several difficulties when being monitored.

First, some countries, regions, and municipalities have their own GPP criteria, many of which differ from the EU criteria. Criteria used at the local or regional level might not match the “core” criteria at the EU level. Furthermore, the “core” GPP criteria are multi-criteria: that is, they encompass more than one specification with varying degrees of importance with regards to their environmental impact reduction potential. In order to comply with the “core” criteria, the M&E system monitors some of these “core” specifications, therefore tenders should introduce all the prioritized EU specifications to qualify as green, but that is rarely done in practice.

Second, some countries monitor their own GPP plans, duplicating efforts for those public authorities under the scope of both M&E systems, since the objectives and measures of national plans differ considerably from one another and not all of them monitor progress with the same indicators as the EC.

In addition, the EC monitoring covers all levels of government in the EU (from local to national), requiring input from many organizations. As limited central information is available, the monitoring relies mostly on responses to a lengthy survey. As the survey is not mandatory, the response rate has been quite low in a number of Member States and answers risk to be biased, as the public authorities that reply are more likely to be those with a certain minimum level of GPP implementation. Also the large scope of the study and the data analysis make such an M&E system relatively expensive.

Due to these and other factors, monitoring the EU target is complicated and burdensome.

Therefore, when defining quantitative targets, the regional context and the type of M&E system required to monitor them should be taken into consideration at an early stage to avoid or minimize difficulties.

3. EEP/GPP Monitoring and Evaluation Systems

The different M&E systems that can be implemented to track progress and compliance with the four categories of EEP/GPP objectives are introduced in this chapter. First, an overview is presented on the primary considerations for setting up an EEP/GPP M&E system. Next, each type of M&E system is presented; this section highlights its components, discusses pros and cons of different options within each system, and presents limitations and opportunities to complement other systems. Examples and best practices are also included to demonstrate how different public authorities have overcome some of the barriers or difficulties in each approach.

The main objective of any M&E system for a given policy is to track progress against set targets and commitments, in order to assess results and impacts achieved and plan further supportive measures to improve results. The type of M&E system used will depend on the following:

- predetermined targets and commitments, which were classified into four categories in Chapter 2;
- prescriptions set at the policy level (e.g. if certain product groups have been prioritized already at policy level); and
- the information tracking systems used by authorities who are subject to monitoring (e.g. if they have a centralized procurement system or not, etc.).

In order to define the specific M&E system the following tasks (summarized in Figure 1) have to be conducted, especially when policies are less prescriptive:

Figure 1. Elements to consider for any EEP/GPP M&E system



As policies may set different types of objectives, one of the first elements when defining the M&E system is to decide the focus of the system.

The target group that will be required to monitor or that will be covered by the M&E system has to be defined too.

To establish an efficient M&E system that is accurate and representative, but not too complex or burdensome, relevant stakeholders must be involved at the initial planning phase when implementing the M&E system (that might include procurement, finance or facility managers depending on the system). A preliminary analysis of instruments already in place should also be conducted in order to integrate, as much as possible, the M&E system into existing workflows and tools (especially when monitoring actual procurement of green products, see Section 3.2).

After gathering this initial information, the specific M&E system can be developed. Sections 3.1 to 3.4 present different systems and approaches to monitor the four types of objectives presented in the previous chapter:

- 3.1.** Institutionalize EEP/GPP within organizations.
- 3.2.** Increase the actual procurement of green products.
- 3.3.** Reduce environmental impacts.
- 3.4.** Accelerate market transformation.

For each approach, limitations and barriers are identified and recommendations are made for improvement. M&E systems can be designed to monitor more than one of these objectives; thus, elements from different approaches may be combined.

To measure the success of an M&E system, KPIs have to be identified to monitor progress. As highlighted in a recent report by the Energy Sector Management Assistance Program², in energy-related or climate protection policies, such as EEP programs, the overall policy goals are energy efficiency and the reduction of GHG emissions. Therefore, KPIs such as energy consumption, GHG emissions, and even cost savings are commonly used and help evaluate factors linked to EEP. These KPIs can evaluate not only how many green products are acquired, but also if procurement needs are reduced. For GPP, such common indicators don't exist mainly due to two reasons. First, the range of environmental parameters is wider and their effect is disparate and cannot be combined into a single indicator. Secondly, unlike energy efficient products, many of these parameters have no direct impact on the environmental performance of the organization, e.g. recycled content of paper). Therefore, GPP might require a larger variety of KPIs to monitor achievements than EPP. The type and number of KPIs will have to be selected in line with the selected approaches of the M&E system.

Finally, even though overall EEP/GPP targets might be set at the policy level, establishing performance levels or tiers is recommended in order to communicate results and progress to all relevant stakeholders and encourage implementation. Performance tiers allow organizations to take a step-by-step approach to achieving targets, and make it easier to benchmark progress. Progress levels are particularly relevant when monitoring EEP/GPP institutionalization, as evaluation is more subjective (see UK case study, section 6.4).

² Singh, J., Culver, A., and Bitlis, M. (2012). Technical Report 003/12. Public procurement of energy efficient products. Lessons from Around the World. Washington, DC: Energy Sector Management Assistance Program, The World Bank.

3.1. Monitoring EEP/GPP Institutionalization in Organizations

To change consumption habits, declarations of intentions are not enough. This applies to both policymakers and procurers. In order to embed the environmental dimension into an organization's procurement operations and procedures and contribute to better EEP/GPP results, institutional measures are key. These may include the definition of EEP/GPP plans; the allocation of EEP/GPP responsibilities; awareness raising and training of staff involved in any of the phases of procurement; the adaptation of procurement procedures, tender models, software; etc.

When policies include objectives related to the embedment of EEP/GPP in the organizations' operations, or if we want to evaluate the overall situation of EEP/GPP within a department or organization, several qualitative methods can be used.

The most common tool used by public authorities are **surveys**. They gather mainly qualitative information, although they might also require some quantitative data, and are therefore relatively easy to complete (see Appendix I and Appendix IV) and have a high response rate, even in low-performing departments or organizations. An added benefit is that surveys can reach a large number of organizations and raise awareness by causing respondents to reflect on current practices and consider alternative approaches.

If specific commitments have been established, it is best to use closed questions in the survey (with yes/no, multiple choice, or numeric answers) rather than open-ended questions. Closed questions track compliance more easily, and can compare and benchmark results between departments or organizations (see UK case, Section 6.4).

If commitments are generic and only require that EEP/GPP plans are defined by each department or organization within the scope of the policy or initiative, then the survey should include open-ended questions where responders describe their plans and activities during the reporting period and can attach documents for verification. Such an approach requires more time to review and is less easy to evaluate and compare results, but organizations can still define some broad quality and performance levels, especially in relation to training personnel, to evaluate progress (see DoE case, Section 6.5).

One weakness of surveys is that the results may not be precise and may represent only the opinion or perception of people who complete them. This is especially critical when results are compiled to reflect the entire organization, but procurement is decentralized and may be implemented differently in each department.

Other methods are **interviews** or **direct review** of organization's plans, procedures, software, etc. (done partly in the Korea and US cases, section 6.3 and 6.5 respectively). Both methodologies provide much richer detail than surveys and can help identify aspects not initially considered that will help improve implementation. However, they tend to require more resources if the number of agencies or authorities is high.

Depending on the focus of the evaluation these methods can also be used in combination, as is demonstrated in the example in Box 4.

Qualitative surveys and interview help evaluate attitudes and mechanisms in place, as well as the institutional aspects that allow or hinder EEP/GPP, but they do not provide information on the extent to which EEP/GPP is implemented in purchasing. To more accurately evaluate that, it is recommended to undertake a more objective and quantitative analysis of actual procurement actions (see Box 5 and Section 3.2).

Box 4. Status Assessment of SPP in Uruguay

From 2010-2011 the Government of Uruguay participated in the project “Capacity Building for Sustainable Public Procurement”. This project was led by the Marrakesh Task Force on SPP and UNEP and its aim was to support countries with the development and implementation of SPP National Action Plans.

To evaluate existing institutional capacity for SPP, the Government used a self-assessment questionnaire that was developed as part of the framework of the project, and complemented it with in-depth interviews with procurement staff in the different levels of the Government in order to identify barriers and practices already in place that could facilitate or hinder SPP.

The status assessment questionnaire is conceived as a tool to also monitor progress once the SPP Action Plans are put in place and it is available online at: <http://www.iclei-europe.org/mtf>

Supplementary questions have been compiled in the guidelines produced at the end of the project, available here: <http://www.unep.fr/scp/procurement/docsres/ProjectInfo/UNEPImplementationGuidelines.pdf>

Source: Ecoinstitut (2011). Estudio de caso: Uruguay, iniciando el desarrollo de capacidades para las compras públicas sostenibles. UNEP (Unpublished)

Box 5. GPP Monitoring in Sweden

In Sweden, GPP monitoring is performed by the Swedish Environmental Protection Agency. Monitoring began in 2004, it takes place every three years (the latest one conducted in 2013 based on data from 2012) and consists of a qualitative questionnaire and a quantitative analysis of tenders.

First, a general questionnaire is sent to all government agencies to better understand the overall state of GPP. Questions are qualitative rather than quantitative, mostly multiple-choice or numeric, and aim to gather information on specific GPP policies integrated into organizational operations and policies. The topics covered by survey questions include: staff training, frequency of GPP in tenders and direct purchase, use of national standardized GPP criteria (developed by SEMCO) or other sources, inclusion of life cycle costs in tendering processes, barriers to and resources for GPP, and general information on procurement (annual expenditure, level of centralization, most common type of contract, etc.).

Quantitative analysis of tender documents (approximately 300 in 2009) published during the fiscal year is also conducted. For each product group for which SEMCO has produced standardized GPP criteria (27 in 2007), 10 tenders are randomly chosen from the country-wide tenders platform —managed by a private company—and are analyzed to identify which GPP criteria were introduced and in which sections of the tender documents (as mandatory technical specifications, award criteria, etc.).

Source: Personal communication with Peter Nohrstedt, Swedish Environmental Management Council (August 2010).

3.2. Monitoring the Level of Procurement of Green Products

In order to define a system to monitor and evaluate the procurement level of green products, several aspects must be taken under consideration as illustrated in Figure 2. These are:

1. Whether the system will focus on procurement intentions (tenders), on actual purchases and contracts (green products acquisitions) or both;
2. What key indicators will be measured;
3. Which products will be monitored (all of them or only a list of prioritized products);
4. Which requirements tenders or purchases must comply with to qualify as “green”;
5. Which sources of information will be used and how data will be collected.

Figure 2. Elements to establish a monitoring system of green products procurement



Element 1 and 2: Approach and Indicators

To monitor the level of procurement of greener products, two approaches are taken that can also be combined: (1) Monitoring green tenders, that is the introduction of environmental criteria in tender documents, or (2) Monitoring actual acquisition of green products.

When **monitoring tenders**, the indicators normally used are the percentage of tenders, both in number and in economic terms that are green in relation to the total amount within a given reporting period.

The main advantage of monitoring tenders is that they can be tracked more easily than product purchases, as all the information is found in the tender itself and does not require data input from different people or from suppliers.

The disadvantages are several. Within a tender several products might be procured and green criteria might apply to only some of them. In service related contracts, green criteria may refer only to the products, which represent a small portion of the overall contract costs. Counting such tenders as green overestimates the level of GPP (see Box 16 for a quick fix). It is important to also consider that when monitoring tenders, direct purchases are frequently, if not always, excluded from the scope of the monitoring, losing what might be an important portion of overall public procurement. Special attention must also be paid to framework agreements; they might approve several products and/or companies, but the resulting secondary contracts might not qualify as green³.

³ A framework agreement allows one or more purchasing authorities to award multiple contracts to one or more companies

Furthermore, depending on how an organizations defines what qualifies a tender as green, one might count tenders as green that in the end, don't result in the acquisition of a green product or service. That would be prevented if only tenders with compulsory environmental criteria qualify as green (that applies also for framework agreements).

Nevertheless, it is often argued that for public procurement to create a "market pull" for energy efficient and green products, organizations need to send a clear signal to the market about their green purchasing preferences. Public authorities do this through their tender documents and purchase orders, which capture their organizations' purchasing requirements. Therefore, to evaluate the impact, it would not be necessary to monitor what is actually procured but to monitor the degree to which green criteria are included in tender documents.

When **monitoring the acquisition of green products**, generally the level of EEP/GPP is calculated using the percentage of green products purchased in terms of expenditure and, to a lesser extent, in units in relation to the total purchased. This second indicator is relevant to evaluate the environmental benefits of green products, as normally environmental factors for transforming green purchases into environmental benefits use physical units (pieces, tons, liters, etc.) rather than economic ones (see Section 3.3).

The advantages of monitoring acquisition of green products is that this shows not just intentions, as could be the case when monitoring tenders, but rather actual purchase of green products. This type of monitoring tends to cover all kinds of

who have been admitted to the framework by an initial competition.

purchases—both from tendered contracts and direct purchases—and facilitates the evaluation of environmental impact reduction achieved with EEP/GPP.

Nonetheless, tracking green product acquisition is less straightforward than tracking tenders. Financial systems and budgets are normally coded at a higher, aggregated level than product procurement, so certain products might not be directly identifiable in existing systems unless they are set up to track information at a product level (see Box 6). Additionally, products used within service contracts cannot be tracked using the organizations' systems, but require input and reporting from the service providers. That can be an obstacle to tracking given the tendency to outsource services, [such as cleaning services that are contracted to an external company](#), and to change acquisition models from procurement of products to services, [such as from buying to leasing photocopier machines](#). Thus, monitoring the purchase of certain green products is likely to be increasingly onerous unless strong relationships and reporting habits are built with contractors.

Also, purchases occur more frequently than tenders, increasing the number of transactions to be monitored. Within the same tender, several purchases can be conducted in each reporting period, and there also may be other decentralized direct purchases. This implies that more people are involved in tracking green expenditure, reducing data accuracy.

This challenge abates when products are contracted centrally and purchased through procurement platforms (stores or catalogues), which allow direct and automatic tracking if they are programmed for it (see Chile case study, Section 6.2).

Box 6. Cardinia Shire Council: Tracking Green Purchases via Its Finance System

Cardinia Shire Council, a public authority in the State of Victoria (Australia), participates in the State's EcoBuy Program and is committed to buy green products and report annually on its progress. To do so, the Council has set up mandatory fields in its financial software that procurers fill in to accurately and consistently capture expenditure under various green categories.

To ensure appropriate data registration, measuring, and tracking, green procurement has also been integrated into the finance system procedures and training. The Council is considering creating a cross-functional team to review the category names to ensure they are as user friendly as possible for non-procurement staff and convey the clearest meaning across the organization.

Source: EcoBuy Awards 2011 Winner: Cardinia Shire Council Tracking green purchases via its finance system. Award for Excellence in Green Purchasing, Measurement and Continuous Improvement. 9th ECO-Buy Awards, Celebrating Achievements in Green Purchasing, June 2011.

In that regard, procurement management softwares⁴ present great opportunities to collate meaningful data on EEP/GPP procurement, even if they are often underutilized or could be made more useful through targeted improvements⁵ (see Section 4.1).

Element 3: Scope

After deciding whether to monitor tenders or actual product procurement, organizations have to determine the scope of the monitoring, namely: 1) to monitor all procurement activities, or 2) to focus only on a group of prioritized or designated product groups.

Monitoring **all procurement activities** is rarely done, as it leaves open and to the discretion of each department or organization the definition of what is green (or to an external consultancy firm hired for the task), since it is not possible to define green criteria for all types of procurement activities. However some approaches have proven useful without being overly burdensome when monitoring the greening of tenders (see Box 7).

⁴ The term procurement management system refers here to the systems used by public authorities to handle their procurement (either the purchasing process alone or integrated with planning, accounting or other management systems).

⁵ Payne, C., Weber, A. & Semple, A. (2013). Energy efficient Public Procurement. Best Practice in Program Delivery. SEAD.

Box 7. Summary of Criteria in Tenders from the Basque Government Departments and Agencies

In 2009, the Basque Government introduced changes in its administrative tender model, used by all its departments and agencies for all purchases, in order to make it easier to monitor the introduction of environmental and social criteria in tendering processes. The following was added at the end of the tender:

MONITORING BOX FOR THE INTRODUCTION OF SOCIAL AND ENVIRONMENTAL ASPECTS IN THE TENDERING PROCESS

Criteria	Social insertion	Gender equality	Occupational risk	Environmental
Subject matter				
Selection criteria				
Technical Specifications				
Award criteria				
Special contract clauses				

Even though the table does not provide information on which criteria are introduced, it allows quick identification of greened tenders for any product or service (not only priority groups) and measures progress in the level of SPP/GPP requirements.

Data from 2009 and 2010 show progress in the level of demand of GPP. In 2009, most criteria were generic contract clauses and compulsory criteria were required in few tenders. In 2010, however, the number of tenders with compulsory environmental criteria tripled over the previous year, and more contracts included green options as award criteria.

This system not only shows progress in the number of tenders with environmental criteria, but also it shows whether or not criteria are being made compulsory.

Figure 3. Percentage (in nº) of Tenders with GPP Criteria by Tender Section (2009 & 2010)



Apart from this, the Basque Government GPP monitoring system includes other questions on management-related issues, similar to the UK Flexible Framework (see UK case study, Section 6.4), on tenders for a list of prioritized product groups and on purchases of a short list of products for environmental impact calculations.

Source: Ecoinstitut, with data from Ecoinstitut (2009). Informe de seguimiento del Acuerdo de Gobierno en el ámbito ambiental y del grado de apoyo de IHOBE en Compra y Contratación Pública Verde. Ihobe and Ecoinstitut (2010). Medición de resultados de compra y contratación pública verde en la CAPV. Ihobe. (unpublished reports).

When the monitoring focuses on **prioritized product groups**, the selection is based on:

- Specific EEP/GPP objectives at the policy level.
For example, the procurement of 95% EPEAT-registered IT equipment is set in US Executive Order 13423;
- The existence of standardized GPP criteria at the supra-national, national, regional or local level.
The European Commission monitors the implementation of GPP criteria for the first ten product groups for which voluntary standardized GPP criteria at the EU level had been developed;
- Significance in terms of expenditure, environmental impact, and/or ubiquity within the organization.
See the new approach used by Chile and the US DoE (case studies 6.2 and 6.5).
- The level of procurement centralization.
For example, to monitor only product groups centrally contracted by the procurement department or agency, included in the central products catalogue or tendered through a specific platform.

This approach, of prioritizing certain products, is used by most public authorities as it limits monitoring efforts and allows for a clear definition of what qualifies as green, which is a prerequisite for certain evaluations of environmental benefits achieved with EEP/GPP (see Section 3.3). However, this approach provides information about only a fraction of overall procurement.

When monitoring tenders, the scope can be further constrained to only cover products over a certain value threshold. The downside of this approach is that results are less representative of the overall GPP implementation.

Element 4: Definition of Green

To categorize a tender or purchase as “green”, it is fundamental to define the parameters by which it will qualify as such.

The criteria for green qualification can either be defined in policy documents or be based on standardized green criteria defined at supra-national, national, regional, or local levels (see Box 8).

The definition of what is green is highly political, especially when monitoring organizations from different regions, and might affect improvement. For example if the bar is set too low, results might be good, removing politicians’ incentive to improve. If it is set too high, poor results might discourage organizations from participating. Designers of M&E systems have to be aware of this and design systems that can show some achievement but promote improvement too.

Box 8. Definition of “Green” in China, the United States, and the European Union

In **China**, products included in the government energy efficient procurement product list, which have to be preferentially purchased by the government, are those awarded with the national Energy Conservation Certification.

At the federal level in the **USA**, according to [Executive Order 13514 of October 5, 2009 “Federal Leadership in Environmental, Energy, and Economic Performance”](#), agencies have to advance sustainable acquisition to ensure that 95% of new contract actions including task and delivery orders, for products, works and services are energy efficient (Energy Star or FEMP designated), water-efficient, biobased (USDA designated), environmentally preferable (e.g., EPEAT certified), non-ozone depleting, contain recycled content (EPA designated), or are non-toxic or less-toxic alternatives.

The **European Commission** proposed in its [Communication “Green Public Procurement for a better Environment” \(COM \(2008\) 400, published on 16 July 2008\)](#) that, by the year 2010, 50% of all tendering procedures should be green, where "green" means compliant with endorsed common “core” GPP criteria as indicated in the same communication (the criteria address different environmental characteristics for each product group, and are developed and updated with input from stakeholders).

The qualification of contracts or purchases as green can be based on:

- A **single criterion**, such as recycled, water efficiency, low GHG emissions, or compliance with a certain eco-label (that may wrap in a single criterion multiple environmental attributes).

This is easier to implement and monitor, as only one aspect has to be tracked. However, complementary policies may demand different procurement requirements for products and services, therefore a decision will need to be made on what criterion is prioritized or if multiple criteria should be reported.

If the environmental benefits of green products are going to be estimated, more tools exist to calculate the environmental impact reduction based on a single criterion than for multiple criteria. This should be taken into consideration when defining the monitoring criteria, so that all information is gathered at once.

One risk of monitoring a single criterion is that it might reduce completeness in the purchasing process (e.g. practitioners might include only the criterion monitored and not cover other impacts on the product’s life cycle). In these simple cases, progressive multi-criteria approaches might be preferable.

- **Multiple criteria**, that is, a combination of single attributes required for the same product: for example, a data center with low energy consumption, components free from certain heavy metals and other toxic chemical substances, and a percentage of recycled content in its casing.

When GPP criteria are developed based on existing eco-labels but do not refer to them directly, then GPP criteria become a set of multiple specifications. On the other hand, and especially for construction works and services, GPP specifications can include selection criteria for companies, compulsory technical specifications or award criteria for the products and service tasks, or performance clauses for the delivery of the contract. To designate a tender or product/service as green, it may be fairer to evaluate compliance with several possible criteria. However, the process becomes more onerous, as more criteria have to be tracked.

Furthermore, if all selected green criteria have to be complied with, some tenders or products might not qualify as green even though they do meet some environmental criteria. In such cases, it is advisable to define a list of possible criteria with a score for each one and a minimum overall score for the tender or product to qualify as green. This way, all relevant efforts are taken into consideration (see Box 9).

Box 9. Definition of Green Tenders in a Pilot GPP Monitoring by Ihobe (Basque Country)

In 2009, Ihobe (Public Agency for Environmental Management of the Basque Government) tested an adapted version of the GPP monitoring methodology piloted in 2008 at the EU level with a group of Basque public authorities. In order to decide whether service contracts qualified as green or not, a point system was used. Thus, for cleaning services, for example, tenders would qualify as “light green” if the sum of the scores of the criteria that the winning offer met were between 35 and 60 points and as “dark green” if the score was above 60 points, according to the following criteria:

Criteria	Points
Use microfiber cloths and mops	5
Regular staff training on occupational safety and environment	20
The main 2 cleaning products are not classified with the hazardous phrases defined in Ihobe’s GPP manual	Max. 10
The main 2 cleaning products comply with the criteria set in a type I ecolabel	Max. 20
Garbage bags contain at least 80% recycled plastic	10
Garbage bags comply with the criteria of an ecolabel	5
Toilet paper contains 100% recycled fibers	10
Toilet paper complies with the criteria of an ecolabel	5

Source: Ecoinstitut (2009). Propuesta de metodología para la medición de resultados de compra y contratación pública verde en la CAPV. Ihobe (unpublished).

For such an approach to be feasible, the monitoring system has to:

- Monitor only a fraction of all tenders.

For example in Sweden, as presented in Box 5, the Swedish Environmental Protection Agency randomly selects 10 tenders by product group from a nationwide tendering database. In the EC monitoring of 2009, authorities were required to answer questions regarding their most recent procurement contract (awarded offer) on each prioritized product group. In the DoE case study (Section 6.5), tenders for only two types of services are monitored and used as proxies.

- Collect the information at the same time the tender is produced or the contract is awarded (see Box 15, Box 16 and Box 17).

Element 5: Data Collection

To report on the level of green procurement, each department or organization can track and/or gather information from different data sources. Some of these data sources will require compilation by the department or organization and reporting to the one responsible for the monitoring through a survey. Other data sources can be used directly by the “monitoring” organization.

Reporting procurement or tender data via **a survey** can be time consuming if too much information is required, reducing the response rate. Moreover, results are rarely verified unless limited data is demanded, and departments or organizations with low performance might not respond. However, the request can raise awareness and promote EEP/GPP implementation in the future. If all information is processed automatically and no benchmarking, training, or

communication efforts are in place, departments or agencies may not be aware that EEP/GPP requirements exist and may lack the incentive or knowledge to implement EEP/GPP.

For example, during the monitoring of the GPP Agreement in the Basque Country Government, conducted with a questionnaire, an increase in demand for support for green tenders was detected in comparison to the rest of the year.

If **data is centrally available**, EEP/GPP evaluation can be conducted directly by the “monitoring” organization, reducing the monitoring time, as little or no waiting time is required as compared to surveys. A central data source also makes it possible to portray results from both lower- and higher-performing organizations. Thus data and results are more reliable than through a questionnaire/survey.

Table 5 provides some general pros and cons of the different data sources to monitor green procurement levels:

Table 5. Pros and Cons of Data Sources for EEP/GPP Monitoring

Data Source	Pros	Cons
Procurement of green products		
Contract estimates based on the tender (see also section below)	<p>Internal information is readily available</p> <p>Tracking does not involve data entry by staff</p>	<p>Cannot yield data on products within service contracts</p> <p>In some cases, no estimates are available</p>
Suppliers' reports	<p>Burden on vendors to supply data</p> <p>Gives valid data on quantity purchased, value, and green attributes of products and services</p> <p>Is the only way to track product procurement within service contracts</p>	<p>Some suppliers might not track such data, so it should be required as part of the contract</p> <p>Can be time consuming, even when the requirement is in the contract</p>
Centralized online products stores/catalogues	<p>Information is easily available at internal level</p> <p>If programmed correctly, they provide precise data on purchased quantities of green products (in economic and physical units)</p> <p>Can be analyzed centrally without requiring each organization to report</p>	<p>Only useful for a limited number of products, as most purchases are not centralized nor all of them suitable for an e-catalogue</p> <p>Cannot yield data on products within service contracts</p>
Internal financial system	<p>Information is easily available at internal level</p> <p>Gives valid data on expenditure</p> <p>May allow integration with internal audits</p>	<p>Normally not adapted for such tracking, requiring considerable investment to monitor purchases in physical units, as they normally only track expenditure</p> <p>Data inputting is conducted by many different people, which can generate errors (training is required)</p> <p>Cannot yield data on products within service contracts</p>

Green tenders

Individual tenders	Generate awareness within each organization	Each department or organization has to report, generating possible data bias Still demands manual analysis and reporting
Tender publishing platforms	Can serve to centrally select data, minimizing bias	Reduces awareness-raising within the organizations Demands manual analysis and reporting
Electronic tendering systems	Allow automatic data analysis and therefore ability to process larger amounts of information	If not programmed correctly, might leave out certain green tenders (see Chile case study, Section 6.2)

Therefore, when quantitatively monitoring the level of green procurement, the M&E system should use data sources that are directly available and require the input of the least number of people, in order to minimize errors, eliminate bias, and be less time-consuming for the organization as a whole.

3.3. Monitoring the Environmental Benefits of EEP/GPP

Organizations introduce environmental criteria into their procurement activities to reduce environmental impacts and contribute to global efforts to protect the environment.

To evaluate and communicate the contribution of EEP/GPP on energy efficiency improvements and impacts reduction (as measured by reduced GHG emissions, decreased energy and water consumption, reduced waste production, etc.), public authorities can calculate the environmental benefits of EEP/GPP. This can be done either as a one-time evaluation to provide EEP/GPP advocates with proof of the benefits of green procurement in order to gather internal support and justify activities; or as part of their regular EEP/GPP monitoring practices.

The different approaches and elements needed to calculate the environmental benefits are summarized in

Figure 4. All the elements are interconnected so iteration might be necessary before finalizing the system.

Element 1: Approach and type of analysis

From a life cycle perspective, the impacts from many green products occur mainly during their production and disposal. Some can also generate impacts during their use, and in some cases these impacts can be easily measured (e.g. energy and water consumption or waste generation). Therefore, when measuring the environmental benefits of GPP/EEP, the approaches may be designed based on:

- **Products purchased** or used in services and construction projects (in this case direct or proxy analysis can be conducted depending on what environmental characteristics are used as a reference), or
- **Performance** of the organization with respect to environmental parameters such as energy or water consumption (which is an indirect analysis).

Table 6 summarizes the differences between direct, proxy and indirect evaluation.

Figure 4. Elements to calculate the benefits for the environment of EEP/GPP

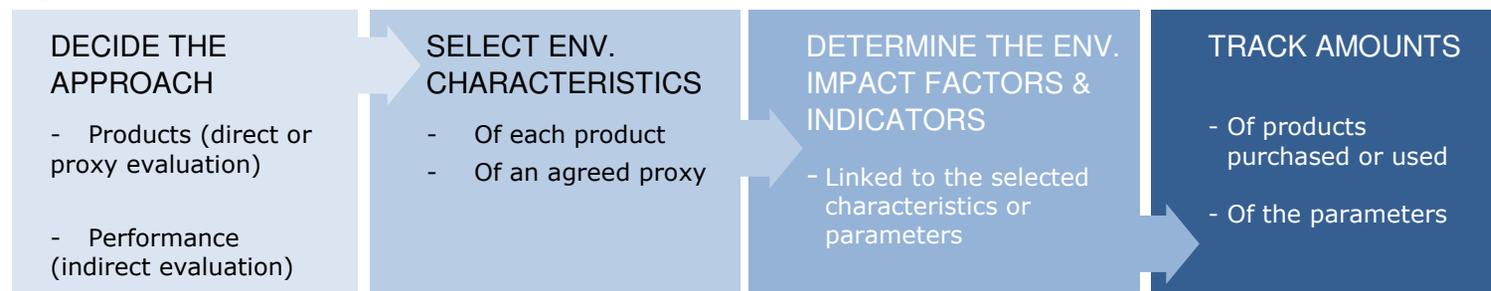


Table 6. Approaches to Calculate GPP Environmental Benefits

Based on PURCHASED PRODUCTS		Based on ENVIRONMENTAL PERFORMANCE
Direct evaluation	Proxy evaluation	Indirect evaluation
<p>Based on the purchased products and requires precise and detailed data of each specific product acquired.</p> <p>This level of data tracking makes the process burdensome and excessively exact given that some approximations and default data might be used to calculate the environmental benefits afterwards.</p>	<p>This evaluation is also based on products purchased, but environmental benefits are calculated using proxies, rather than the product’s specification.</p> <p>This approach is less precise and might under- or overestimate environmental benefits, but it is simpler and data is easier to track. That is why most organizations use proxy evaluations to estimate the environmental benefits of EEP/GPP (see Box 11 or Box 12).</p>	<p>Based on performance-based environmental parameters (see Box 10).</p> <p>This approach reduces the number of parameters to track and makes it possible to monitor the effects of green solutions without making estimates. However, as an indirect evaluation, performance may be affected by other actions.</p> <p>As indirect evaluation reflects the environmental performance of an organization, it is frequently used when EEP/GPP is part of “green the government” programs.</p>
<p>For example, by comparing the energy consumption of each IT unit purchased in a contract (kWh in each operating mode) and the quantity thereof, with the consumption of previous equipment or non-efficient IT units.</p>	<p>For example, if televisions rated class-A according to the national energy label are purchased, energy consumption can be calculated using the exact energy consumption of each TV (direct evaluation) or by using the minimum consumption for class-A as a proxy for all the items. Savings could be calculated by comparing the energy consumption of the purchased TVs with TVs rated class-D or lower.</p>	<p>For example, vehicle fuel consumption reduction expected from buying energy efficient vehicles can be estimated using the direct or proxy approach, or indirectly by monitoring annual fuel consumption to measure the actual reduction due to green procurement.</p> <p>However, the reduction may be due not only to the purchase and use of more efficient vehicles, but also the implementation of eco-driving programs and/or a reduction in activity. Likewise, “external” factors can lead to an increase in fuel consumption even though vehicles are more efficient.</p>

Box 10. Indirect Evaluation of Green Vehicle Procurement in the USA

In the United States, energy efficiency improvements and GHG emissions reduction achieved in vehicle fleets through green procurement actions are not monitored on each year's purchases but indirectly through the overall performance of the improved fleet, based on real data.

Through the web-based Federal Automobile Statistical Tool, agencies input data required by several regulations (both energy and economic/budget related) on: vehicle inventory, purchases and disposals (actual, planned, projected, forecast), type of fuel, type of ownership (purchased, GSA-leased, commercially-leased), mileage, cost data (acquisition, indirect, maintenance and depreciation costs), and fuel consumption and cost.

Based on this information, GHG emissions reduction associated with vehicle procurement and use can be calculated and input into the overall target for GHG emissions reduction by the federal government.

For more information:

https://federalfleets.energy.gov/federal_requirements/reporting/fast

Element 2: Environmental characteristics or parameters

As presented in Table 6, for product-based calculations the product's environmental characteristics can be defined by using either the product itself or an agreed proxy. Special attention should be paid when selecting these characteristics for monitoring, as they are key for calculating environmental benefits (see next step).

For performance-based calculation, the environmental parameters to monitor will have to be selected (e.g. consumption of different types of fuel, electricity, water, waste generation, etc.).

Element 3: Environmental impact factor and indicators

This data is needed to translate the products' green characteristics into environmental benefits (included health-related benefits- such as improvement of air quality). If the monitoring does not provide information in line with the environmental impact factors, impacts reduction cannot be calculated. These conversion factors can refer to the product's whole life cycle (that is, based on the impacts of a product or solution during production, transformation, transport, use, and disposal), but generally they refer to only one phase such as:

- Production phase, especially for non-consuming products.
- Use phase, for consuming products.

When finding such impact factors, it is recommended to use not only environmental impact reduction ratios between green and not-green products, but also to have the total impact reduction figures to calculate the environmental benefits achieved from consuming less (see next step).

For electricity, the typical impact factor would be grams of CO₂ per kWh. For vehicles, it could be also grams of CO₂ per liter of fuel. For recycled paper it could be saved timber per ton of purchased paper.

Special attention should be given to the indicators used to express the impacts in order to be able to aggregate environmental impacts reduction (see Box 11 and Box 12).

Element 4: Amount of purchase or use

To most accurately estimate the total reduction of environmental impacts achieved, organizations must track the amount of products purchased or used, or the environmental parameter (energy consumption, water consumption, etc.). Data will have to be reported or adjusted in consistent and meaningful units in line with environmental conversion factors.

For example, for paper, the monitoring system might ask for the usage of 100%-recycled paper purchased be documented in tons, but each organization may record quantity in a different unit (e.g. boxes, packs, reams, sheets), if at all.

M&E system designers should take into account that sometimes only expenditure is recorded, thus requiring additional information can be challenging.

When tracking the number of products consumed, organizations should track not only the purchases of one tender, but also the trends in overall consumption.

As GPP is also considered an instrument to improve the environmental performance of public authorities, the introduction of the environmental perspective into procurement includes not only "buying green", but also other activities in the field of responsible consumption, such as reducing needs or using resources more efficiently. If only the environmental benefits of buying green products in comparison to non-green alternatives are evaluated, an organization buying a larger quantity of, for example, recycled paper might show better results in the reduction of environmental impacts than another that reduced its overall consumption purchasing the same green product. Therefore, monitoring the environmental impact reduction of public authorities on the basis of purchased products should also consider overall purchases (of green and non-green products) to avoid penalizing organizations that become more efficient and reduce their purchasing needs.

Box 11. Benefits of Vienna’s ÖkoKauf Program

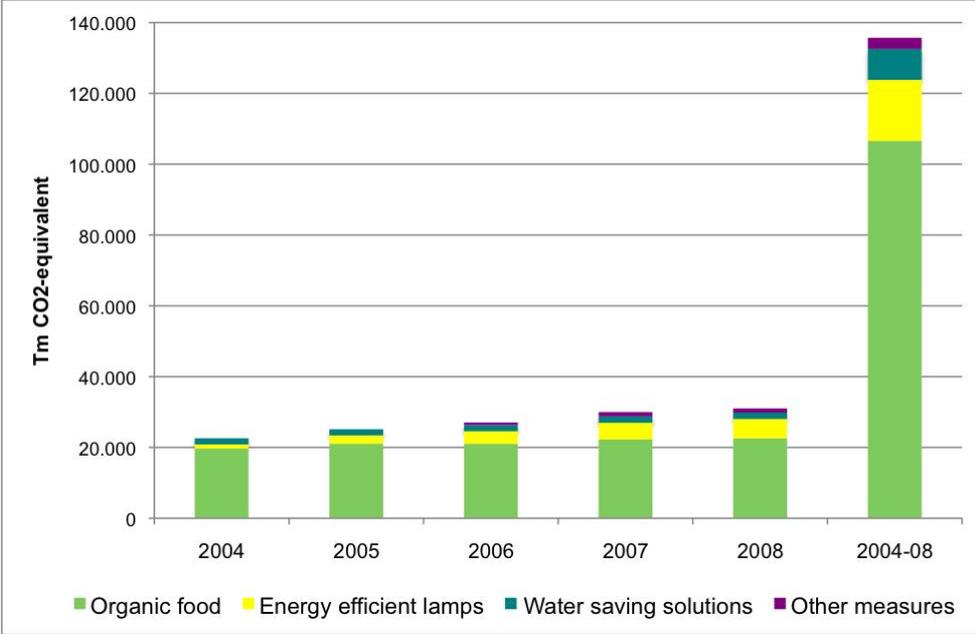
The green procurement program of the Vienna City Council, known as *ÖkoKauf Wien*, was set up in 1999 as one of the spearheads of the city’s climate protection program, *KliP Wien*.

Even though *ÖkoKauf* does not maintain detailed metrics of the environmental impacts reduction of its achievements, some calculations have been done to communicate the environmental benefits and cost reductions of the program, as there is a general misperception that ecological goods and services always come with a price premium.

For the environmental dimension, and depending on the product, they have calculated impacts during the use or production phase of the product or service. For example:

- For organic food, an indicator of the environmental relief during production of organic versus conventional food.
- For energy efficient lamps and water-saving devices, the estimated reduction of water, hot water, and electricity consumption during use.

Figure 5. CO₂-eq. reduction achieved with GPP in Vienna, Austria (2004-2008)



Source: Presentation by Georg Patak (2011). *ÖkoKauf Wien*. European Public Sector Award 2011 and ESMAP (2011). *Municipal Eco-Purchasing in Vienna, Austria*. ESMAP Energy Efficient Cities Initiative Good Practices in City Energy Efficiency, October 2011.

Box 12. Measuring Environmental Benefits in the Project SPP in Urban Administrations in China

The Project Sustainable Public Procurement in urban administrations in China (SuPP-Urb China), funded by the EuropeAid SWITCH-Asia Programme, aims at implementing sustainable public procurement standards in municipal Public Procurement Centers in Tianjin, Qinhuangdao, and Lanzhou and to mainstream their application in China.

To assess the positive environmental impacts of SPP actions in the three target cities, the Environmental Management College of China developed a simple spreadsheet for monitoring and comparing environmental benefits achieved. Users only need to input data and the final results are automatically calculated and shown by indicator.

The monitoring focuses on four product groups:

- Electric appliances: computers, printers, copy machines, refrigerators, air-conditioners, lighting facilities;
- Paper: office paper, paper for printing documents;
- Office furniture: wooden furniture;
- Vehicles: official cars, busses for public transport.

For paper and furniture, impacts during the production phase (and some upstream impacts) were used as environmental conversion factors.

For electric appliances and vehicles, impacts linked to the use phase were selected to estimate the environmental impacts reduction. In both cases, proxy evaluations were conducted.

Figure 6. Environmental Benefits achieved with SPP in Tianjin, Lanzhou, and Qinhuangdao, China (2010-2011)



Source: Renzhi, Z. and Mingshun, Z. (2011). Methodology for Monitoring Environmental Benefits of Sustainable Public Procurement. Sustainable Public Procurement in Urban Administrations in China. An action under Europe Aid’s SWITCH-Asia Programme Paper No.: 09_EN/CN. Environmental Management college of China. Graphic from: Philipps, S. et al (2011). Sustainable Public Procurement in Urban China. How the Government as Consumer Can Drive Sustainable Consumption and Production. UNEP/Wuppertal Institute Collaborating Centre on Sustainable Consumption and Production.

3.4. Monitoring Market Development of Environmentally Sustainable Solutions

One of the principal reasons for introducing EEP/GPP requirements in policies is to serve as a catalyst to advance market transformation for green products and services. As such, one approach to evaluate the success of EEP/GPP commitments could be to conduct a market survey to analyze the change in market-share for energy efficient and environmentally sustainable products. This would be particularly useful at the national level, but also possible at regional and municipal levels.

However, this approach has rarely been effectively used. On the one hand, there is a lack of targets for market transformation at the policy level to monitor. On the other, it is difficult to isolate and measure the effect of GPP in market transformation, as the public sector is not the only player nor is public procurement the only instrument influencing market changes. Furthermore, tracking market transformation has limited benefits as it yields only information on EEP/GPP policy impacts or results, but provides limited input to improve EEP/GPP embedment.

When selecting an approach it is important to consider that monitoring is not only used to evaluate policy compliance and impacts, but also to hold agencies accountable for implementation and to identify areas for improvement. This information cannot be obtained through market studies.

Measuring market transformation would be most effective in regions or countries where green procurement programs focus on both the public and private sectors (see Box 13) and/or for product groups where institutional procurement holds an important market share (see Box 14). Examples of sectors where this would be most relevant for many products include defense, health and public transportation.

Box 13. Market Penetration of Green Products In Australia

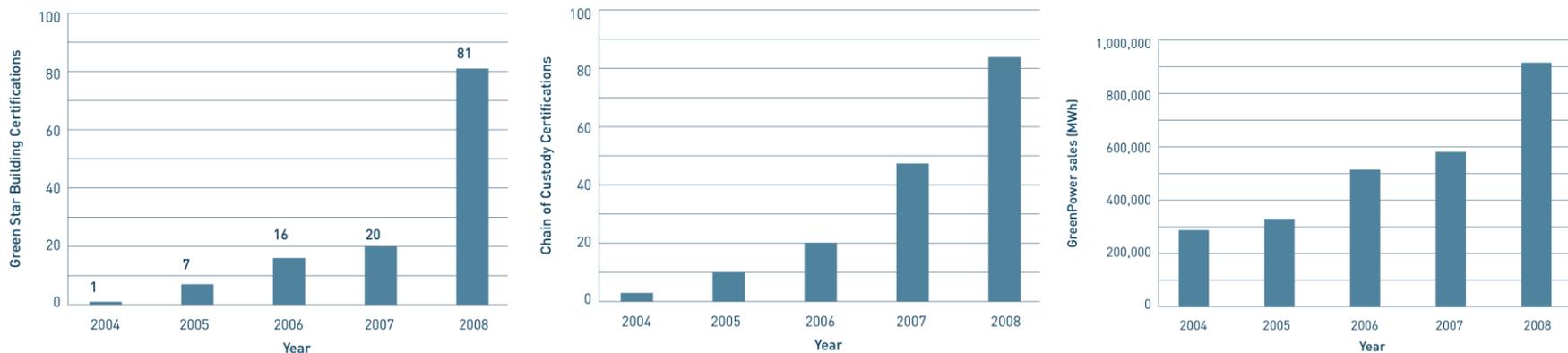
In 2009, ECO-Buy, a not-for-profit Centre of Excellence in Environmental Purchasing of the State of Victoria (Australia), commissioned a report to examine the state of environmentally preferable or green purchasing in Australia in both public and private sector organizations.

In order to measure the impact of green purchasing at a macro level and highlight how green purchasing is influencing the market, the study analyzed a wide variety of high-level surrogate indicators and selected three due to factors such as data access, consistency, and comparable time frames. The three proxy indicators were:

- Green Star Building Certifications, to determine the shift towards sustainable buildings in office space,
- Forest Stewardship Council chain of custody certifications, to reflect the commitment of Australian companies to producing goods from sustainably sourced timber,
- Green Power consumption, in terms of sales to commercial customers.

The measures identified positive growth in the three indicators, suggesting by the authors of the study that in recent years there have been positive measurable impacts from public and private institutional green purchasing.

Figure 7. Market Evolution of 3 Green Products in Australia (buildings, timber products, and electricity)



Source: NetBalance Foundation (2009). Green Purchasing in Australia 2009. Eco-Buy Limited.

Box 14. GPP of Janitorial Services and EU Ecolabel Demand in Catalonia (Spain)

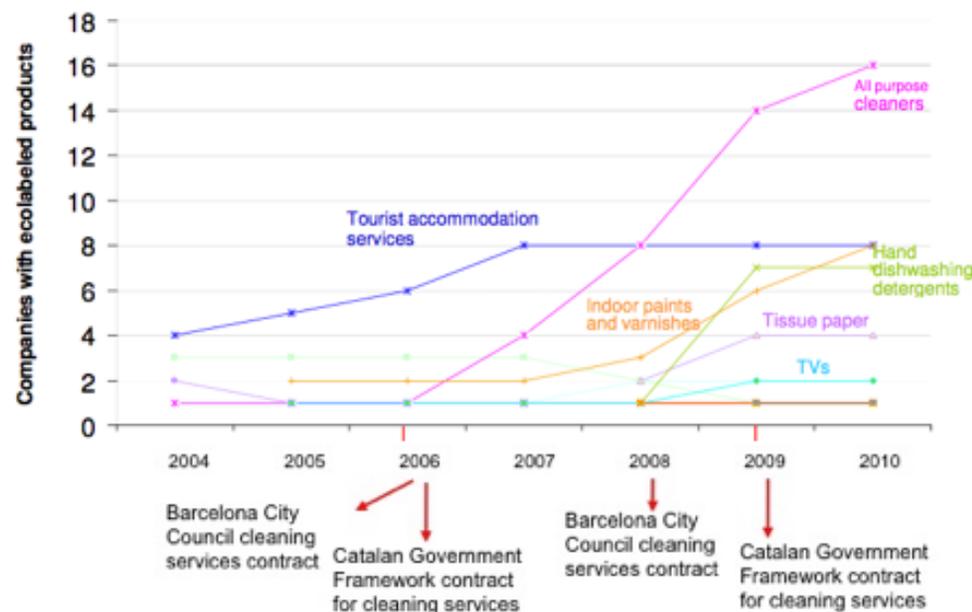
Companies apply for an ecolabel for many reasons, including to enhance their reputation, gain market advantage, or respond to customers' demands.

Since 2004, the Department of Territory and Sustainability of the Catalan Government has been the responsible body in Catalonia for awarding the European Ecolabel. In 2012, in a review of the evolution of companies by ecolabel product categories, a relatively clear relation was identified between the increase in the number of companies certifying professional multipurpose cleaners with the EU ecolabel and significant GPP actions in the region.

After major janitorial contracts for the Barcelona City Council (in 2006 and 2008) and the Catalan Government (in 2006 and 2009) included environmental criteria for cleaning products, the number of companies certifying professional cleaning products increased considerably (see Figure 8). This, together with other evidence (e.g. marketing messages stating that the company's products comply with GPP criteria) indicate that GPP has stimulated the market of such ecolabeled products in the region.

For other product categories, the relationship was not seen, for several reasons such as: reduced number of manufacturers in the region that requested certification by the Catalan body (figures were only available for companies certified in Catalonia, and not Europe-wide) and lack of other product categories oriented mainly for professional use and not the general public.

Figure 8. Evolution of Companies Ecolabeling Cleaners in Relation to Major GPP Actions in Catalonia



Source: Sans, M. (September, 2012) *Green Public Procurement policies drive green market in Catalonia*, 8th EcoProcura Conference, Malmö, Sweden.

4. Supportive Instruments

Organizations can implement different supporting measures in order to institutionalize EEP/GPP, facilitate monitoring, and promote reporting. This chapter presented three types of supporting measures that can be implemented. The *integration of EEP/GPP tracking elements within procurement and financial tools and processes* serve to remind purchasers of EEP/GPP obligations and make data gathering less burdensome. *Economic and reputational incentives* encourage better results and reporting. Finally, the *integration of EEP/GPP into existing energy or environmental management systems* reinforces implementation and ensures data tracking and reporting.

4.1. Tracking Systems within Procurement Tools and Processes

When monitoring EEP/GPP in terms of actual procurement of green products and services (either of tenders greening or actual purchases), one of the difficulties is the lack of integration of EEP/GPP tracking systems within existing procurement procedures and tools. Because of that, data is not systematically registered and annual tracking of green procurement becomes extremely time-consuming, especially when GPP covers a wide variety of products and services, procurement is highly decentralized, and the criteria used to define “green products” demands compliance with multiple specifications. This lack of integration also misses an opportunity to increase GPP implementation by reminding practitioners of the environmental requirements to be included in their purchases.

Some solutions applied or being tested by public authorities are:

- Embed a summary of GPP actions in the **organization’s tender model**. This may be done through the following examples:
 - A simple checkbox to indicate whether green criteria have been introduced in the tender;
 - A table for purchasers to indicate where in the tender GPP criteria have been introduced (in the subject matter, selection criteria, technical specifications, etc.) (see Box 7);
 - A list to indicate if criteria for designated products have been introduced (recycled, bio-based, energy efficient, etc.);
 - A table to indicate if national or local standard green criteria have been introduced (fully vs. partially, core vs. comprehensive, mandatory vs. best practice).

This approach will allow greened tenders to be easily identified either manually or through automatic electronic systems. The information to be collected in the tender will depend on the M&E system in place and the set EEP/GPP targets.

- Request procurers to **complete a form** (in addition to the tender) when preparing a tender, awarding a contract, and/or at completion of the work. The form summarizes the energy efficiency or green criteria introduced in the tender or complied with by the awarded offer, depending on how the indicator has been defined. To swiftly compile the forms, they could be sent to a centrally designated EEP/GPP coordinator or even completed using an online platform (see Box 15, Box 16 and Box 17).

Box 15. Tracking green tenders in Malta

Since 2012, procurers in the Government of Malta have to make sure to include in tender documents for certain prioritized product groups the GPP criteria set by the Government.

To monitor compliance, all calls for tenders must be supported by a form (Tender Originators Form), which was revised in order to include data on the application of GPP alongside information on the tender (promoter, estimated value, lots, etc.). Procurers have to submit a scanned signed copy of this form to the Office of the Prime Minister by e-mail to track and verify compliance.

Figure 9. Tenders Monitoring Form of Malta Government

TENDER ORIGINATORS FORM		
A – General Details		
Department/Ministry		
Tender Reference		
Tender Description/Title		
Tender Type	Works <input type="checkbox"/>	Services <input type="checkbox"/>
	Supplies <input type="checkbox"/>	Other (specify) <input type="checkbox"/>
Tender Procedure	Open <input type="checkbox"/> Other (specify) <input type="checkbox"/>	
Funding Source (specify)		
Estimated Value Exc. VAT ¹	€	
CPV Number/s ²		
Completion/Delivery Period		
Project Leader/Manager		
B – Tender Documents		
Officers that prepared:	Name	Grade/Position
Instructions to Tenderers		
Special Conditions of Contract		
Specifications/Terms of Ref.		
Estimate/Bill of Quantities		
Tender Drawings/Plans ³		
C – Lots (if applicable)		
Lot Description	Estimated Value Exc. VAT	CPV Number/s (12345678-9)
1.	€	
2.	€	
3.	€	
4.	€	
[...]		
D – Drawings (if applicable)		
Reference Number	Description	
1.		
2.		
3.		
4.		
5.		
[...]		
<small> ¹ If the tender is divided into lots, please fill in Section C. ² CPV are mandatory. A searchable list is available from www.cpvs.gov.mt. ³ If the tender documentation includes drawings/plans, please fill in Section D. </small>		
Page 1 of 2		

E – Green Public Procurement	
Questions	Answers (Circle out those not applicable)
1. Does this call for tenders include the procurement of paper, IT equipment, textiles, gardening products or services?	Yes/No
2. Does this call for tenders include the procurement of cleaning products and services, transport, furniture, food and catering services, electricity, construction, mobile phones, combined heat and power, thermal insulation, wall panels, hand floor coverings, windows, glazed doors and skylights, street lighting and traffic signals, and road construction and traffic signs?	Yes/No
3. If the answer to question 1 is yes, have the tender specifications been drawn up on the basis of the GPP criteria and guidance available for download from www.gpp.gov.mt ?	Yes/No
4. If the answer to question 2 is yes, have the tender specifications been drawn up on the basis of the GPP criteria and guidance available for download from www.gpp.gov.mt ?	Yes/No
5. If the answer to questions 1 or 2 is yes has a copy of this tender originators form been submitted to the Office of the Prime Minister an email opg@gov.mt ?	Yes/No
<small>A copy of all tender documents including tender estimates and one complete set of drawings, are attached herewith.</small>	
Date	
	(signed) Project Leader/Manager
	(signed) Head of Department
Page 2 of 2	

Source: Payne, C., Weber, A. & Semple, A. (2013). Energy efficient Public Procurement. Best Practice in Program Delivery. SEAD. and Contracts Circular N° 21/2011, of 14th November 2011, Green public procurement and other procedures. Department of Contracts, Government of Malta.

Box 16. Austrian Tenders Follow Up

The objective of GPP monitoring in Austria is to monitor whether public authorities use green criteria in tenders.

There are two indicators that correspond with the ones defined in the studies completed at the EU level: green tenders as a percentage of (1) the total number of tenders and (2) the total value. The indicators cover the 16 prioritized products or services with national level purchasing criteria.

Aware that collecting information for these types of indicators is best done when preparing the tender, the Austrian government developed an online application that procurers can complete during the procurement process to collect the following information:

- Criteria included in the tender selected from a list of national standardized green criteria (leaving space to indicate others) that is divided between selection criteria, technical specifications/contract clauses, and award criteria;
- Life-cycle cost considerations taken into account;
- The contract value and the percentage that the environmental criteria represent (given that in some cases environmental criteria are only set for a few products in a whole tender; or green criteria refer only to the products used in a service but most of the cost is for staff, therefore considering the total contract value as green would be misleading).

Source: Personal communication with Angelika Tisch from IFZ (September 2012).

Box 17. US Department of Health and Human Services Sustainable Buildings Plan

In order to record compliance with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings and related laws and regulations, the US Department of Health and Human Services (HHS) requires the completion of a Sustainable Building Checklist for each new project.

The Checklist is intended to collect and record sustainable features on all projects requiring HHS approval (new construction or improvement and build-to-lease projects) and consists of two parts. The first is used during project planning and has to be submitted to obtain a Facility Project Approval Agreement. The second is filled out at project completion and is submitted with the final project report to record the actual sustainable measures achieved. This process makes it easier to monitor and evaluate progress.

For certain leasing actions, the completion of a Sustainable Buildings Checklist for Lease Actions is also required. It is not intended to be used during the solicitation process but to record the sustainable features of a building after occupancy to help identify and prioritize procurement actions to achieve compliance (renovations, change of installations, etc.).

Source: US Department of Health and Human Services (2011). Federal Real Property Asset Management. Sustainable Buildings Plan, 30 April 2011. Office for Facilities Management and Policy.

- **Add information fields** in the financial platforms, electronic products catalogues used for purchasing by agencies, electronic tendering platforms or any other procurement management software that can facilitate tracking tenders greening or expenditure on green products (see Box 6 and Box 24 in the DoE case study, Section 6.5 and Chile case study, Section 6.2). This requires an initial investment to improve existing systems, but will save time afterwards that would be required to collect data.
- Insert **reporting requirements in tender and/or contract language** to make providers accountable for tracking green product sales to the administration. In these cases, it is very important to clearly define: (1) what qualifies as green, as vendors might erroneously describe items as green, and (2) what information has to be provided to integrate data from other providers, compare results between units or agencies, and/or calculate environmental benefits (see Box 18) - thus governments have to develop data reporting standards. It also requires tight contract management by the administration to ensure report delivery by contractors.

Box 18. Tenders Language for Procurement Tracking by Suppliers in King County (US)

According to the guidelines for procuring environmentally preferable computers in King County, Washington State (US), the county uses the following language in its call for tenders to require suppliers to track green sales:

“Contractors are required to provide quarterly reports quantifying the EPEAT registered and unregistered products purchased under this contract. The report, in a format acceptable to King County, shall identify the detail required by King County, which may include but is not limited to, type of product, quantity of product purchased, whether it is registered or unregistered and at what level it is registered with EPEAT”.

Alternatively, procurers may use draft language from EPEAT that includes a table for standardized data reporting:

“Suppliers are required to provide quarterly reports quantifying the number of EPEAT registered products purchased under this contract. The information must be reported in a matrix providing the following data for the current quarter, the fiscal year, and the duration of the contract.”

	Unregistered		EPEAT Bronze		EPEAT Silver		EPEAT Gold		Total	
	No. of products	\$ spent								
Desktops										
Laptops										
Monitors (LCD)										
Monitors (CRT)										
Total										

Source: Environmental Purchasing Program (2012). Environmentally Preferable Computers. King County.

4.2. Economic and Reputational Incentives

Even when monitoring is part of EEP/GPP policies, organizations' commitment to track progress and report on achievements may vary, especially when the targets or objectives are voluntary, no enforcement mechanisms are in place, and/or when policy commitments are set at a level with little or no jurisdiction over other administrations' activities.

In order to promote M&E, some administrations have established different types of incentives, namely: economic and reputational incentives.

Economic Incentives

Monetary incentives can reward public administrations that advance EEP/GPP implementation and report achievements. For example organizations with higher EEP/GPP results might receive higher priority when certain subsidies are allocated (see Korean case study, section 6.3) or EEP/GPP results might be used as an evaluation criterion in organizations' performance bonuses (see Korean and US cases, sections 6.3 and 6.5).

They can also penalize those organizations or units that fail to comply with minimum green procurement levels (see French case study, Section 6.1).

To avoid or minimize opposition and critics, especially in the case of penalizations, participation and consensus among all impacted parties is key.

Reputational Incentives

Comparison between peers and recognition of good results and efforts (both within but especially outside the organization) can have a positive effect on policy implementation if it impacts the reputation of organizations. Agencies with low performance in certain areas become motivated to improve their results and thus their reputation. Those with higher achievements get recognition for their efforts and improve their image with stakeholders.

Reputational incentives often go alongside EEP/GPP programs, as showcased in the DoE and UK case studies (sections 6.4 and 6.5) and in Box 19, Box 20, and Box 21. Normally, public presentation of GPP results are shown in two ways:

1. A **benchmark or ranking** of agencies based on their results, presenting both good and bad performances, as demonstrated in the UK case study in Section 6.3 and Box 19; and
2. A **list of top-performing** agencies based on overall results- see Box 20 and Box 21 and DoE case study (section 6.5)- or on leadership in specific areas of GPP implementation, such as policy quality, supplier engagement, or monitoring systems.

These mechanisms require, in general terms:

- Defining simple indicators that easily convey the different performance levels if more than one parameter is monitored (traffic light indicator, stars rating, medals-type indicator, etc.).
- Evaluating organizations' performance against the defined indicators in order to benchmark agencies according to their results.
- Making results public through a regular publication, organization's website, or awards ceremony, among other methods.
- Continuing the mechanism over time to have an impact on agencies' reputations.

To make the most of those department or public administration excelling in a particular area, the publication of results should also include information on how such results have been achieved to tie actions to results and share examples that can help others improve their own performances.

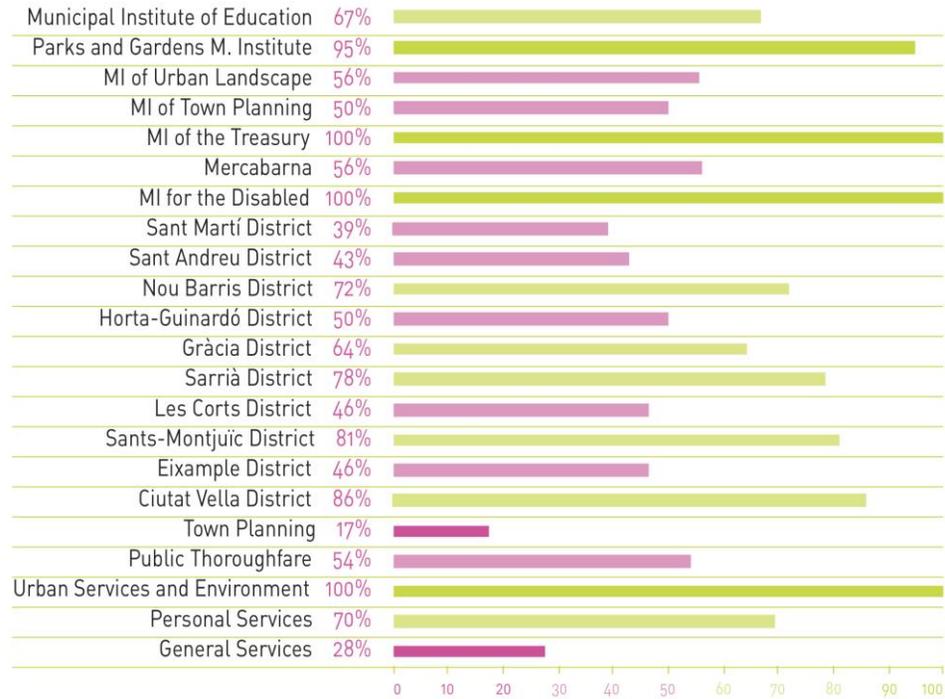
Box 19. Monitoring Recycled Paper Procurement in Barcelona City Council

In order to recognize efforts by certain departments of the City Council to implement a municipal decree for the procurement of recycled paper, and to encourage improvement in the lowest-performing departments, the Council published on its website the amount of paper purchased by each department and the percentage of recycled paper used in each quarter from 2002 to 2009 (see Figure 10 with data from 2005).

Calculating the indicator was easy as paper procurement is centralized in the municipality.

As a result, some departments increased their purchase of recycled paper to 100 percent and the lowest-performing departments considerably increased their recycled consumption (for example “Les Corts District” moved from 46% recycled paper consumption in 2005 to 100% in 2009 and “General Services” went from 28% to 96% during the same period).

Figure 10. Ranking of the consumption of recycled paper by local office (2005)



Source: Schaefer, B., Barracó, H., and Castiella, T. (2006). *+Sustainable City Council*. Environmental education guides nº30. Barcelona City Council. http://80.33.141.76/ag21/templates/a21/download_rekurs.php?idRekurs=408 and +Sustainable City Council website, section paper (retrieved on 11th June 2013), http://www.ajsosteniblebcn.cat/en/paper_3953.

Box 20. Green Procurement Performance Appraisal and Award in Taiwan

In order to promote GPP implementation and recognize efforts of leading agencies, the Government of Taiwan annually evaluates agencies' performance on green procurement based on "Green Procurement Amount Reports" and rewards those with excellent performance in a public event. Performance evaluation is based on three elements:

- Procurement percentage of designated green products—from a list of 20 product groups covering office stationery and paper products, office ICT equipment, electronic appliances, and a set of other items such as cleaning products or paints (70 points)
- Number of other green products purchased (10 points)
- Activities to support GPP implementation, including training courses, communication and dissemination actions, involvement of chief officers and subordinated agencies, creative procurement, etc. (20 points)

Depending on the total points obtained, agencies can be classed as Superior, Grade A, Grade B, or Grade C.

Results by class from 2002 to 2006 are summarized below:

Figure 11. Green Procurement Performance Appraisal of Taiwan Government Agencies 2002-2006

Appraisal class	Points (out of 100)	2002	2003	2004	2005	2006
Superior	More than 90	1	26	17	16	23
Grade A	More than 80	6	33	26	38	41
Grade B	More than 70	32	0	16	7	0
Grade C	Less than 70	21	1	1	0	0

Source: http://greenliving.epa.gov.tw/GreenLife/eng/E-The_Green_Procurement_Promotion_Result.aspx (retrieved 20 November 2012).

Box 21. Mayor of London's Green Procurement Code

The Mayor of London's Green Procurement Code is a support service for organizations committed to reducing their environmental impact through responsible purchasing. Being aware that management and behavior change are as important as specifications to source green products, the initiative provides assistance to embed GPP into all aspects of the organizations.

Organizations that sign the Green Procurement Code commit to achieving progressive environmental targets and can be awarded bronze, silver, or gold status as a mark of their success, depending on the results of their progress review and the completion of a third-party auditor review.

The progress review consists of two parts: (1) performance against pre-set management questions base on the UK Flexible Framework (see UK case study, Section 6.4), and (2) recorded green purchases of products and services during the previous financial year. Based on the combined results of both parts, organizations can be awarded one of the three levels (Figure 12).

Figure 12. Level awarding in the Mayor of London's Green Procurement Code

Part one \ Part two	Bronze	Silver	Gold
Bronze	Bronze	Bronze	Bronze
Silver	Bronze	Silver	Gold
Gold	Silver	Silver	Gold

Once organizations have been audited, success is celebrated at an annual awards ceremony, and award winners are listed in the initiative's annual progress report and on the Internet.

Figure 13. Mayor of London's Green Procurement Code Progress Review Report (2012)



The classification criteria, audit requirements, and program results are on the initiative website:

<http://www.greenprocurementcode.co.uk/?q=node/304>.

4.3. Integration in Environmental Management Systems

Environmental Management Systems (EMS) are management approaches that follow the model “Plan, Do, Check, Act” and serve to systematically:

- Evaluate the environmental performance, risks, and impacts of an organization’s operations and activities (caused directly or indirectly),
- Establish objectives, measures, and procedures to address aspects causing or threatening significant environmental impacts in order to improve the organization’s environmental performance, and
- Monitor and analyze performance in implementation in order to define new actions to ensure continual improvement.

When first implemented, EMS programs (such as ISO 14.001) tend to focus on direct impacts occurring in the organization’s facilities (water and energy consumption; waste generation and recycling; use and manipulation of hazardous products; generation of noise, odors, and gases emissions; etc.). Especially in administrative/office buildings, the scope is soon enlarged to include indirect impacts stemming from the supply chain, including first-tier contractors and following-tier suppliers.

Including procurement activities as part of such EMS will serve not only to apply EEP/GPP as a measure to reduce direct impacts, but also to evaluate the overall effects of unsustainable acquisition practices and help implement EEP/GPP in a consistent manner.

Furthermore, as EMS requires regular monitoring of results, such systems help to define and implement mechanisms for careful tracking of EEP/GPP measures. When doing so, special attention has to be given to defining mechanisms and monitoring systems that yield results in line with the EEP/GPP monitoring requirements and objectives set at a policy level within the organization or at a higher level.

Additionally, the integration of EEP/GPP into the EMS should mean that adverse findings are fed into the EMS corrective action process in order to ensure that action is taken and EEP/GPP implementation is progressively improved.

When green procurement commitments focus on energy efficiency and other energy related aspects, the integration of EEP requirements into existing Energy Management Systems (EnMS), under programs such as ISO 50001, will support and strengthen EEP implementation, as EEP is already part of EnMS. In this case, it is key to ensure coordination between both systems procurement requirements and M&E systems.

Box 22. Implementation of GPP Requirements in the Environmental Management Systems of DoE Facilities

EO 13423 directed US federal agencies to implement EMS at all appropriate organizational levels to ensure the use of EMS as the primary management approach for addressing environmental aspects of internal agency operations and activities.

In order to coordinate this requirement with others on GPP, the US Department of Energy (DoE) approved an internal order (DOE O 450.1A) for all facilities managed by federal staff or contractors, requiring:

- The implementation of EMS in all DoE sites integrated with the site's Integrated Safety Management System, and
- The inclusion in the EMS of the objectives and targets for annual review that contribute to achieving DoE sustainable environmental stewardship goals, including those on the acquisition and use of environmentally preferable products in the conduct of operations.

Source: US Department of Energy (2008). Order DOE O 450.1A Environmental Protection Program. DOE.

Box 23. Incorporate Contract Sampling into NASA's Facility Compliance Audits

Every three years, the US space agency NASA conducts an audit of each of its facilities. The audits, referred to as environmental functional reviews (EFR), are "second party" audits that serve:

- To provide insight into the level of environmental compliance and conformance with NASA's EMS at the facilities, and
- To comply with the requirements of EO 13423.

In order to review green purchasing procedures and actions, two members of the review team focus on green purchasing, using an audit questionnaire in order to evaluate compliance with policy objectives.

Source: Example Approaches to Green Purchasing Compliance Monitoring (2007).

5. Recommendations to consider when setting up EEP/GPP M&E systems

Even though the different political and cultural contexts of each public organization or region will influence the type of M&E systems used to evaluate EEP/GPP programs, this section highlights general recommendations to design strong policies that support monitoring, develop and deploy M&E systems efficiently, increase compliance, and communicate results in an easy-to-understand manner.

The case studies and examples presented in this guide show a broad range of priorities and approaches for the monitoring and evaluation of EEP/GPP programs. Reasons behind the diversity include the influence of other sectoral policies, policy prescriptiveness, the difference between policy development and implementation, the structure and level of centralization of purchasing systems, market-readiness, data availability, and the commitment level of involved actors.

A clear definition of policy goals and monitoring requirements, indicators, resource efficiency, embedment in existing tracking systems, additional facilitating measures, and visibility of results are necessary for successful and cost-effective implementation of M&E systems.

DESIGN STRONG POLICIES FROM THE MONITORING PERSPECTIVE

- **Consider how EEP/GPP is going to be monitored during the policy development** in order to define measurable objectives (in a cost-efficient manner) and avoid monitoring difficulties at a later stage.
- **Integrate M&E obligations in policy statements** to reinforce commitment and provide some leverage for the monitoring agency. These might include frequency, targeted authorities, data required, etc.
- **Ensure leadership** by appointing a monitoring agency with enough command or authority to maximize response.
- **Involve all relevant parties** (especially procurement units) at an early stage to build consensus when setting policy objectives and avoid the gap between policy development and implementation. That is also relevant when designing the M&E system.

- **Consider including incentives or benefits** linked to EEP/GPP reporting, especially when compliance to policies is voluntary or the approving organization has relatively limited jurisdiction over other administrations and there is a risk for low response rate, and consequently unrepresentative indicators. These incentives might be economic and/or reputational incentives as well as direct support (in tenders greening, training, calculation of environmental impacts reduction, etc.).

DECIDE THE FOCUS OF THE EEP/GPP M&E SYSTEM

- **Decide what objectives the M&E system will focus on** based on the policy level goals. This might require combining more than one M&E approach.
- **A mix of the approaches described in sections 3.1 and 3.2 is a considered best practice for monitoring GPP implementation** as it allows for the identification of areas for additional support and measures to improve implementation.
- **The approaches in sections 3.3 and 3.4 are more appropriate to evaluate the effect or impact of EEP/GPP policies** and can contribute to securing additional support.
- **Consider monitoring the market transformation** in regions or countries where EEP/GPP programs focus on both the public and private sectors and/or for product groups where institutional procurement make up a significant portion of the market.

- **Consider the level of awareness raising that you want to achieve through the M&E system**, as this will influence the type of information required and reporting mechanisms.

USE EXISTING EXPERTISE AND RESOURCES

- **Involve relevant parties** (finance managers, procurement units, facilities managers, or others depending on the focus of the M&E system) to establish an efficient M&E system that is accurate and representative but not too complex or burdensome and that it is integrated in existing purchaser workflows.
- **Conduct a preliminary analysis of existing data tracking tools and reporting requirements** that could be relevant to EEP/GPP or procurement in order to minimize duplication and promote integration whenever possible. This is especially relevant for quantitative data in order to start monitoring where data is available and/or to introduce the required changes in existing tools for efficient and reliable data tracking.

EVALUATE AND COMPARE RESULTS AND PROGRESS

- **Define appropriate KPIs** that can portray, in a clear and comprehensive way, all the dimensions of EEP/GPP progress. For EEP/GPP institutionalization, operations-related indicators might be required. For actual procurement, total amount and % as well as consumption reduction indicators are recommended. For environmental impacts linked to EEP, energy consumption, GHG emissions, and even cost savings are commonly used. For GPP, a larger variety of KPIs might be required as the range of environmental parameters is wider and their effects disparate and not combinable in a single indicator.
- **Ensure that statistical treatments and assumptions don't render results unreliable or unrepresentative** when calculating the KPIs.
- **Set minimum monitoring requirements to strive for reliable, representative, and comparable results** even if certain flexibility is required on how EEP/GPP is monitored, especially when monitoring on a large scale. In this case a one-size-fits-all approach might not be suitable due to different organizations' arrangements, missions, and resources (see US case, section 6.5).
- **Establish progress levels or tiers** in order to convey the idea that EEP/GPP is a process, encourage gradual implementation, and easily demonstrate progress to all relevant stakeholders. Tiers are particularly relevant when monitoring EEP/GPP institutionalization, as evaluation is more subjective (see UK case study, section 6.4).

TRACK AND COLLECT DATA EFFICIENTLY

- **Integrate EEP/GPP M&E requirements into existing processes and tracking systems**, especially when monitoring green tenders and/or acquisition of green products to make data tracking more efficient.
- **Prioritize data sources** that are directly available, centralize information (e.g. e-tendering platforms), and require the input of the least number of people to minimize errors, eliminate bias and be less time-consuming for the organization as a whole.
- **Electronic applications or software are the most efficient solution for compiling and processing data automatically.** They can be programmed to retrieve data from other platforms, reducing data input duplication (see Korea case, section 6.3) and to produce direct calculations and graphical output of results (see UK case, section 6.4). This might require standardization of procurement management software and other applications, which might not exist within an organization, let alone between different public authorities.

MONITOR ACTUAL PROCUREMENT OF GREEN PRODUCTS

- **Consider the implications of monitoring tenders versus purchases** in relation to the availability of information, number of transactions to register, product groups covered, definition of “green”, possibility to calculate afterwards environmental impacts, etc. before selecting an approach (section 3.2 compiles the main pros and cons of each option).
- **Decide if the monitoring will cover all procurement activities or a list of product groups.**
- In the second case, **select products based not only on the ones for which information is more easily available**, but also based on the expenditure level, impact of the organization’s procurement on the market, and sectors with high environmental and health risks.
- **Define clearly what qualifies a purchase or tender as “green”** to allow for a comparison of results. It is easier and less time consuming to monitor a single criterion (recycled, energy efficient, ecolabeled, etc.) than multiple criteria, especially when information is gathered on a decentralized basis. However that might hinder completeness during procurement. If this is a potential risk, a progressive multi-criteria approach might be preferable.
- **Try to define “green” in a way that shows some achievements, but promotes improvements too.**

CONVEY THE ENVIRONMENTAL BENEFITS OF EEP/GPP

- **Evaluate the environmental impacts reduction of EEP/GPP programs** either as a one-off or on a regular basis, to prove the benefits of green procurement. This will help to gather internal support and justify activities.
- In those regions or administrations where EEP/GPP is considered more expensive, **evaluate the lifecycle cost reductions achieved**, especially of energy efficient solutions, to make the business case for green procurement.
- **Evaluate not only impacts reduction from changing from conventional to green alternatives, but also from reducing overall consumption.** The goal of green procurement is not only to buy greener products, but to improve efficiency by “doing the same or more with less.”
- If environmental benefits are calculated based on purchased products, **ensure coordination with data required for evaluation actual procurement levels**, as some additional requirements might be necessary for a meaningful assessment (for example, to report both on expenditure and physical units).

STREAMLINE M&E EXERCISES

- **Accompany the M&E system with clear definitions, explanations, instructions, and verification documents** (if required) to avoid misinterpretations and allow efficient monitoring and centralization of data at a pan-government level. Monitoring organizations should invest less time to answer queries or verify data and more on data analysis and evaluation of results.
- **Provide training to impacted parties on the data tracking tools and reporting requirements** used in the M&E system to ensure appropriate data registration and minimize errors. That is especially relevant when tracking systems require multiple users to input data.
- **Test the systems in advance**, as sometimes definitions are not as straightforward as intended.
- **Minimize changes in the M&E systems** to consolidate its understanding and ensure data comparability and identification of trends.

INCREASE COMPLIANCE

- **Consider setting up reputational and/or economic incentives or other benefits** linked to the reporting of EEP/GPP results and performance levels; and **decide the type of incentive** based on only “rewards” or on “award and punishment”.

- **Ensure participation and consensus among impacted parties** when defining economic incentives, especially in case of penalizations, to minimize opposition (see France case study, section 6.1).
- Whenever relevant, **integrate EEP/GPP monitoring requirements in the organization’s environmental or energy management systems (EMS/EnMS)** so that the EMS/EnMS review processes yield results in line with the M&E system set within the organization or at a higher level.

COMMUNICATE AND PRESENT RESULTS

- **Publish and make EEP/GPP indicators and results publicly available** in order to increase government transparency and show leadership to the general public.
- **Use visual and simple evaluation indicators** (traffic light, stars rating, or others) to present progress and benchmark organizations in an easy-to-understand manner.
- **Don’t report on results alone** but include information on why and how exceptional results have been achieved by a department or authority. This will link actions to results and share examples that can help others improve.

RECOMMENDATIONS FOR DEVELOPING ECONOMIES

- **Focus first on monitoring and assessing EEP/GPP institutionalization** (as presented in section 3.1), if public procurement systems are not implemented and structured well enough.
- **Link that to existing or planned initiatives to reform and improve the Government's procurement and control systems.** For example, by adding some general GPP aspects in procurement assessment tools such as the Methodology for Assessing Procurement Systems (MAPS)⁶, a tool commonly used to assess national procurement systems.

Focusing on identifying areas for institutional improvement will allow EEP/GPP implementation and monitoring measures in procurement reforms to begin to integrate (like in standard tendering documents, e-procurement or bidding platforms, procurement workflows, etc.). This will allow for more quantitative monitoring on the level of EEP/GPP procurement (as presented in section 3.2).

- **Evaluate the environmental and economic benefits of EEP/GPP**, even if it is only as a one-off for a few product groups in order to convey the benefits of EEP/GPP.

⁶ Roos, R. (2012). Sustainable Public Procurement. Mainstreaming sustainability criteria in public procurement in developing countries. Centre for Sustainability Management - Leuphana University of Lueneburg: Digital.

6. Extended Case Studies

6.1. Financial Mechanism to Promote Environmental Monitoring and Performance in France's Central Government

GENERAL INFORMATION

Region: Europe, France

Promoter: Commission for Sustainable Development (Ministry of Ecology, Sustainable Development and Energy)

Targeted public agencies: Each Ministry of the French Government

Enforcement level: Mandatory



BACKGROUND

In 2008 the French Central Government, recognizing the unique role of the government in achieving sustainable development, passed a regulation requiring all ministerial departments to develop an Exemplary Administration Plan (*Plan Administration Exemplaire*) to achieve sustainable development in their services and operations.

To guarantee a certain consistency and efficacy in the government's actions, a set of common measures and targets for all Ministries was defined, focusing on procurement, eco-responsibility (mainly consumption reduction), and social responsibility. To track compliance, mandatory annual reports are also required.

To encourage the attainment of the common objectives and the integration of the principles of sustainable development in the Ministries' operations, a financial mechanism was established to accompany implementation and reporting of the plans (from FY 2009 onwards).

THE EXEMPLARY STATE FUND

The mechanism consists of a virtual fund (called *Fonds d'Etat exemplaire*) of approximately 100 million Euros created by setting aside ("freezing") 1% of the procurement budget that each Ministry is allocated at the beginning of the year.

Each ministerial department has to report on its achievements against the commonly set targets to recover the "frozen" budget.

INDICATORS OF THE FINANCIAL FUND

The common indicators are set after an interdepartmental consultation held during the meetings of the *Etat exemplaire* Steering Committee.

The set of indicators is meant to expand gradually in number (eight in 2009, eleven in 2010, fourteen in 2011, and eighteen in 2012), in both scope of coverage and stringency.

For example, for 2012, indicators on the procurement of electric or hybrid vehicles and on organic food in public cafeterias were added, and the requirement for the purchase of low-CO₂ emissions vehicles became stricter, requiring a certain percentage of vehicles to emit below 120gCO₂/km instead of the 130gCO₂/km of 2009.

Each year, a regulation is published detailing each indicator, the compliance target, calculation methodology for each indicator, and the required documentation to prove compliance.

Some targets consist simply in the provision or not of the required information, such as reporting on the number of electric and/or hybrid vehicles purchased. Others are quantitative, requiring a certain minimum, such as the

procurement/renting of at least 5% of vehicles with emissions below 120gCO₂/Km or the provision of training on eco-driving to 100% of the departments' professional drivers.

REDISTRIBUTION MODEL

The frozen funds are redistributed among the departments according to their performance in achieving the targets. Thus, the more targets achieved, the higher the return will be, with a minimum number of targets reached to participate in the redistribution (in 2012, at least 11 out of 18 indicators had to be met). Two cases may arise:

- If a department does not reach the minimum threshold of indicators (11 in 2012), it immediately loses 50% of its contribution, which will be redistributed among the departments that meet or exceed the threshold (explained below). The department can recover the other 50% if it complies with the objectives for the previous reporting year during the following year. If it still fails, the money cannot be recovered and is added to the fund for next year's distribution among those that do comply.
- If a department meets or exceeds the minimum threshold, it immediately gets 50% of its contribution and benefits from the redistribution of the other portions (from them, the other departments that met the threshold, and percentages lost by other departments). The amount allocated to each ministry is distributed according to a formula of "maximum competition" that allocates funds taking into consideration the financial contribution to the fund and the performance of a ministry in comparison with the

contributions and performances of all the others that reached the minimum threshold.

SECOND-PARTY VERIFICATION⁷

To verify compliance and achievement of targets, all reports and supportive documents are sent to the Commission for Sustainable Development (*Commissariat général au développement durable*), which reviews the material, asks for further information whenever necessary, calculates the reimbursements, and informs the financial services to release the funds.

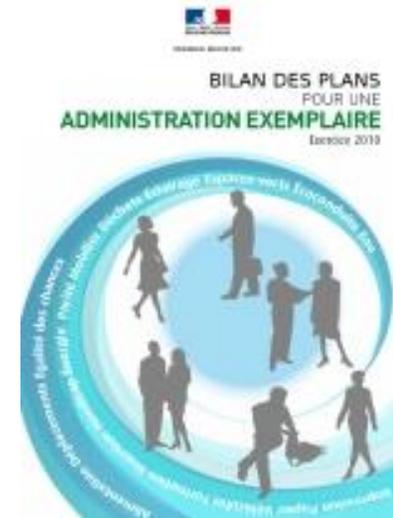
It is a time-consuming task for which approximately seven person-months are dedicated each year.

⁷ Second-party verification is used here to describe the verification of data by reviewers from outside the scope of the reporting department or area in question, but conducted by members of the same organization.

SUMMARY OF RESULTS

In 2011 the French Government published the report “Assessment of the Plans for an Exemplary Administration – Fiscal Year 2010” in order to publicly present results by the different ministries.

Figure 14. Report “Assessment of the Plans for an Exemplary Administration – Fiscal Year 2010”



Important progress has been achieved in improving the indicators tracked for the financial fund. All affected actors have reduced the energy consumption in buildings by an average of 6,6% and almost all buildings have gone through an energy audit; Ministries have reduced the acquisition of vehicles and their emissions have been reduced to an average of 120gCO₂/km; and paper consumption has been reduced by an average of 17%. In most cases, Ministries have surpassed the required progress, including in those areas not subject to the financial fund.

Compliance by Ministry with each of the 11 indicators of the financial fund for 2010 is presented in Figure 15.:

Figure 15. Results on the indicators of the financial fund accompanying the “Exemplary Administration Plan” (2010)

Ministry in charge of...	Total (over 11)	Energy audits	Annual assessment	Social assessment	Vehicles	Paper	Imaging equipment	Energy consumption	Social clauses	Communication activities	Training on sustainable development	Training on sustainable procurement
Interior	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Immigration	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Ecology	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Education and research	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Justice	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Culture	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Prime Minister services	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Economy	9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Foreign affairs	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Health	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Labor	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Agriculture	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Defense	11	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
State Council	10	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
Court of Auditors	7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									

KEY TAKE-AWAYS

Success Factors

- It is a powerful incentive for departments to quickly implement targeted measures to improve sustainability in their operations, mobilizing management towards a common goal.
- It has served to raise awareness about sustainable development in the financial services, which are not inherently sensitive to it.
- In some departments, the financial mechanism has led to the establishment of a budget heading marked as *Fond Etat exemplaire* for the “frozen” budget that is returned during the next year and invested in sustainable development.

Limitations

- Competition instead of collaboration can have negative effects (some criticize the idea of competing departments).
- The system focuses on a limited number of common indicators (lowest common denominators among departments) and not other measures the departments might implement.
- An uneven effort is required for each department to achieve the common targets. Because the objectives are identical, not all departments are at the same level of maturity and performance in terms of sustainable

development, and the effort required from each department is not homogeneous.

- The time and effort is large for departments and for the Commission for Sustainable Development, first to agree each year on the indicators and targets, and then to gather the documents and information required for validation. Even though the number of justification documents have been reduced, the “second-party” verification by the Commission is laborious and sometimes at the expense of the overall program or the exchange of good practices.

FOLLOW-UP OPPORTUNITIES

After four years, and as foreseen in the regulation, the *Plan Administration Exemplaire* was reviewed in 2012, with a dedicated consultation working group in charge of providing recommendations to the Plan Steering Committee in relation to whether or not to keep the financial fund. The main three options within the group were:

- (1) To strengthen the present fund;
- (2) To keep the fund for its value as an effective instrument to steer improvement, but slightly modify it;
- (3) To replace the fund with a contractual arrangement between each Ministry and the Interministerial Delegate for Sustainable Development in order to define sustainable development actions and provide direct support for its implementation.

Some elements the different stakeholders of the financial fund considered important were:

- A greater exchange of best practices;
- More involvement and agreement at the top management level of the ministries in the whole process towards sustainable development and not only in the definition of the indicators of the fund;
- A cap on the number of indicators to give more stability to the different ministerial services in charge of reporting on the indicators;
- Linked to that, the establishment of systems or tools to facilitate information collection and reporting;
- Indicators tailored to specific Ministries impacts, thus having à-la-carte or customized indicators and targets, defined in relation to each Ministry's baseline.

As a result of this process, it has been decided to remove the financial fund. However, the Steering Committee wants to continue promoting better results, accountability and transparency, and has proposed a new Plan which is pending approval. This plan replaces the fund with an obligation for all Ministries to report indicators of social responsibility as part of their annual activities reports, and to consider these results in the evaluation and development of their sustainable development plans. The reasons for this changes are to allow more flexibility for ministries to achieve their objectives and to allow each Ministry to prioritize actions that will have the greatest impact in order to speed overall environmental improvement.

FURTHER READINGS (in French)

- Circular n°5351/SG of 3 December 2008 concerning the exemplarity of the State regarding sustainable development in the operation of its services and its public buildings (2008), <http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000020243534>
- Complement to the Circular n°5351/SG - operation of the financial mechanism accompanying the implementation of the Exemplary Administration Plans (2010), http://www.developpement-durable.gouv.fr/IMG/pdf/cir_30729.pdf
- Complement to the Circular n°5351/SG – 2012 Indicators (2012), http://circulaires.legifrance.gouv.fr/pdf/2012/05/cir_35225.pdf
- Assessment of the plans for an exemplary administration – Fiscal Year 2010, http://www.developpement-durable.gouv.fr/IMG/pdf/Rapport_PAE.pdf

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6.2. Monitoring Sustainable Public Procurement in Chile through Centralized Electronic Procurement Platforms

GENERAL INFORMATION

Region: Latin America, Chile

Promoter: Chilean Central Government – Directorate of public procurement (*ChileCompra* Directorate), Ministry of Finance

Targeted public agencies: *ChileCompra* Directorate, but indirectly covering all public administration tendering through the electronic procurement platform www.mercadopublico.cl

Enforcement level: Mandatory for *ChileCompra* Directorate



BACKGROUND

At the end of the 1990s and in early 2000, the Government of Chile modernized its operations to improve management, transparency, and control. This process included the implementation of “electronic government.”⁸

Public procurement was one of the sectors where the introduction of Information and Communication Technologies was identified as a priority because of its effect on improvement on all the objectives of the modernization agenda.

For that purpose, in 2003 a new procurement law was approved⁹ covering the procurement of products and services, but not construction, of the Chilean public sector (with some exceptions). The legislation establishes the obligation of all organizations under the State’s administration to conduct their tendering activities through the electronic systems that the Directorate of Public Procurement (known as *ChileCompra*) would establish (Article 18).

⁸ Universidad Técnica Federico Santa María (2011). Identificación y Sistematización de los Impactos de la Reforma de las Compras Públicas de Chile en el Nivel Municipal. *Programa ICT4GP Serie de documentos de trabajo n°5*. Inter American Network of Public Procurement (Red Interamericana de Compras Gubernamentales).

⁹ Law No. 19.886 on Terms and Conditions of Administrative Supplies and Service Provision Contracts, published in the Diario Oficial on July 30, 2003.

The law also includes the obligation for *ChileCompra* to establish framework contracts *ex officio* or upon request, in which case public authorities under the scope of the law must buy from these contracts (Article 30). Authorities at the local level are not obliged to use such agreements, but they can voluntarily adhere to them.

To implement the regulations, *ChileCompra* set up an electronic procurement platform in 2004 that has evolved from a basic to a transactional electronic system, including among other services:

- The State's tendering platform, *Mercado Público*, which centralizes the call for tenders of goods and services from most public authorities in the country (public companies are excluded); and
- The online *ChileCompra Express*, where public authorities can buy products centrally procured through framework contracts by *ChileCompra* (which in 2011 represented almost 20% in economic terms of all goods and services tendered on the platform).¹⁰

¹⁰ In 2011, a total of 8 billion USD were tendered through *Mercado Público*, out of which 1.4 billion USD were managed as framework contracts in *ChileCompra Express* (17% in economic terms). In the number of contracts, however, this amount represents only 0.26% (530,000 orders from 2 billion in total).

SUSTAINABLE PROCUREMENT COMMITMENTS AND/OR TARGETS

ChileCompra is the public agency managing the public procurement system at the Federal level and is committed to promoting sustainable development through the introduction of social and environmental considerations in its own procurement practices of the agency and rest of public authorities.

The President announced in 2008 that the Government would develop a SPP policy. A draft policy was developed in 2009, which guided *ChileCompra* actions until the "Policy on Socially Responsible Public Procurement"¹¹ was approved in 2012. In it, the Directorate establishes the objective to achieve at least 15% sustainable procurement by 2012 for a group of high-impact product categories¹².

¹¹ Política de Compras Públicas Socialmente Responsables, 14 de marzo de 2012 (March 14, 2012). *ChileCompra* – Ministerio de Hacienda.

¹² The prioritized product categories are, according to the United Nations Standard Products and Services Code: Manufacturing and Production Components and Supplies; Structures Components and Supplies; Building and Construction; Equipment; Accessories and Office Supplies; Cleaning Equipment and Supplies; Paper Products; Furniture; Accessories; Appliances and Consumer Electronics; Construction & Maintenance Services; Industrial Cleaning Services; Environmental Services; Equipment and components for the preparation, distribution and filtering of air/gases; and Electrical and Lighting supplies, components and accessories. Source: ChileCompra (2012). Política de Compras Públicas Socialmente Responsables De la sustentabilidad a la responsabilidad social. Ministerio de Hacienda: Digital.

MONITORING SYSTEM

To monitor compliance, the policy target is set as:

- 15% of tenders for certain product groups published and contracted by public agencies through the e-procurement platform must comply with sustainable criteria.

Approximately 15 product groups are included, covering more than 40 individual products and services.

Given the different levels of information available in the platform from the call for tenders published by any administration in *Mercado Público* and the online *ChileCompra Express*, the monitoring system analyzes them separately.

In the **monitoring of the *Mercado Público***, tenders are considered environmentally sustainable if they include one or more environmental award criteria.

When tendering through the platform, public authorities not only upload their tender documents and publicize the announcements, but also fill in several online forms that correspond approximately to the administrative tendering documents. In these forms, procurers have to specify, among other details, the selection criteria for companies to be able to participate, administrative information about the tender (duration, guarantees, insurances, etc.), and the award criteria. Procurers can specify different award criteria from a list of categories, including Energy Efficiency, Environmental Impact, and Social-related issues, although they can specify other criteria as well. This information is registered in the platform database.

Compulsory environmental criteria included in the technical specifications are not considered, as they are not registered in any field of the e-platform but are included in attached technical tendering documents, making them not automatically searchable.

When **monitoring the tenders in *ChileCompra Express***, the environmental characteristics of awarded products are displayed in the online store and companies are also registered in the official State suppliers database. Tenders considered sustainable are those:

- That included environmental/social award criteria,
- Whose selected suppliers comply with some sustainability criteria, and/or
- That resulted in the selection of products or services that have some sort of environmental/social certification

All this information is registered in either the tenders database, the suppliers database, or the online store's database, making it possible not only to quantify the tenders that included sustainability award criteria, but also tenders that resulted in the selection of environmentally and/or socially sounder alternatives.

As the monitoring system is designed to use the parameters and variables registered in the e-procurement platform (in the form of SQL databases), the sustainable procurement indicator is very easy to obtain and therefore to monitor.

Through standardized queries to the e-platform database, *ChileCompra* monitors the evolution of the percentage of

sustainable procurement each month at the internal level and produces two reports (at mid-term and by the end of the year) for the Ministry of Finance in order to evaluate the progress towards achieving the set objective.

So far, no differentiation has been made between social and environmental procurement, as the mandate covers sustainable public procurement. However, information is classified in the database separately so it would be easy to distinguish between social and environmentally responsible public procurement.

Thanks to the concentration of product/service procurement activities in the platform, the representativeness of results is 100% in relation to the design of the system, something that is difficult to obtain when purchases are decentralized and information has to be gathered through voluntary reporting by the different agencies. However, that does not mean that the indicator represents the percentage of actual tender greening for the selected product groups, as compulsory environmental criteria (i.e. in the technical specifications instead of the award criteria) are not taken into consideration. Therefore, the number of green tenders could be higher than that reflected in the indicator.

HUMAN AND ECONOMIC RESOURCES

The set-up of the monitoring system has not required a substantial investment of human or economic resources as it uses existing fields in the e-tendering platform databases to gather the relevant information.

Each month, running the queries to calculate the indicator takes approximately two hours, with some additional time required to draft the two reports for the Ministry of Finance.

As an estimate, the present monitoring system requires around 30 hours of work per year, which is conducted by in-house resources.

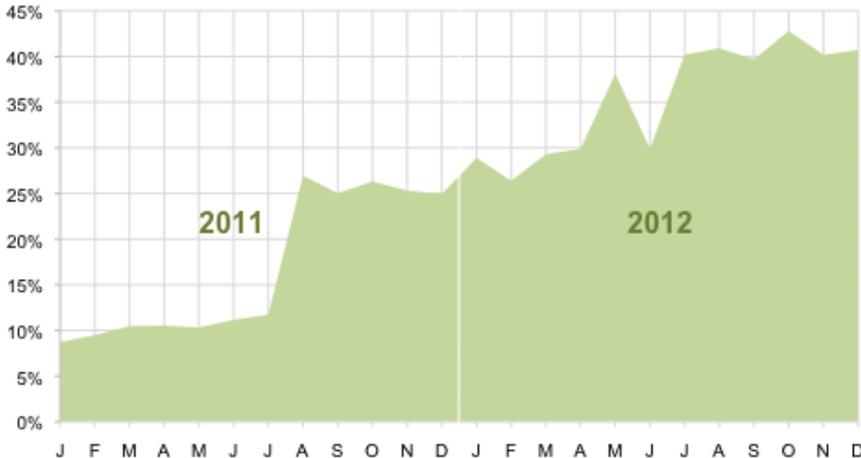
SUMMARY OF RESULTS

Since 2009, *ChileCompra* monitors the level of SPP every month. Results from 2009 to 2012 are shown below:

Figure 16. Evolution of Procurement Orders with Sustainability Criteria, (2009-2012)



Figure 17. Percentage of Procurement Orders with Sustainability Criteria (2011 and 2012)



The uptake of sustainability criteria was slow until mid-2011, when a significant increase occurred (Figure 17). Reasons this spike include a substantial increase in the use of framework agreements as a part of the procurement process and efforts to identify new sustainability criteria for the selected products through these types of agreements.

KEY TAKE-AWAYS

Success Factors

- The e-procurement platform for all public agencies in the country centralizes a large part of the tendering in Chile.
- Integrating the monitoring system with the e-procurement platform allows for monitoring without requiring additional information from other authorities.
- The programming of the e-procurement platform with specific fields for environmental and social aspects supports an automatic information search for the calculation of the SPP indicator, avoiding review of other documents or information sources.

Limitations

- The platform does not cover construction-related contracts, a very important group both in economic terms and in potential for environmental impacts reduction (in the short and long term).
- It does not count tenders that only include compulsory environmental criteria in the technical specifications and these will yield environmentally friendlier solutions. When considering only the award criteria, the selected solution might not have any environmental benefit.
- It does not allow monitoring procurement beyond the tendering phase. Actual results and green products purchased are not available (with the exception of *ChileCompra Express*), which means that they are

unable to verify the environmental impacts or energy savings achieved through GPP.

FOLLOW-UP OPPORTUNITIES

- Tenders with compulsory green criteria, which currently are not monitored, should also be tracked. To do so, the platform should be adapted to allow tracking such tenders.
- Although the system allows monitoring green and social aspects separately, reporting is merged under a single SPP indicator. In order to be aware of the implementation level of environmental criteria, results should be reported separately (green, social, and sustainable procurement).

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6.3. Monitoring and Evaluating Green Procurement in the South Korea mixing centralized and decentralized information sources

GENERAL INFORMATION

Region: Asia, Korea

Promoter: Ministry of Environment

Targeted public agencies: All public administrations (from central to local governments, including public agencies)

Enforcement level: Voluntary

BACKGROUND

Public procurement in the Republic of Korea is carried out through two different systems – centralized and decentralized – according to the Government Procurement Act. For purchases under certain thresholds, each public authority manages purchases and tendering processes through its own systems. However, for purchases and contracts above these established thresholds, public authorities are required to use the centralized procurement system, i.e. to grant authority to the Korean Public Procurement Service (PPS) to manage the procurement. PPS is the central public procurement agency in the country¹³. Purchases executed by the PPS account for approximately 30% of the total annual Korean public procurement volume, estimated to be about 89 billion USD.

In order to conduct all of these large procurement actions, PPS started digitalizing some of its procurement processes, and in 2002 it established the Korea ON-line E-Procurement System (KONEPS): a secure nation-wide electronic procurement system. KONEPS allows the entire procurement

¹³ Public organizations (State agencies) are required to go through the centralized procurement process if their purchases/contracts are above the following thresholds: a) For single domestic product groups, purchase above 100 million KRW (89,000 USD); b) For foreign products, purchase above 200,000 USD; and c) For construction projects of central governments, over 3 billion KRW (2.7 million USD), or electric works over 300s million KRW (270,000 USD). The purchase of state agencies and local governments shall be made through the PPS under the conditions of unit price contract (for third parties) or contract with multiple suppliers.



process to be conducted online. This includes activities such as submitting procurement requests, bids, contracting, payments, and consolidates information on national procurement projects. Furthermore, it serves as a “single window” to all procurement activities as it is linked to other public institution’s systems, allowing public and private organizations to find and provide all contract-related documents in the platform. This concentration of information, combined with the integration with the digital budget and accounting system of the Korean Government, makes it easier to monitor purchases.

The promotion of green public procurement in Korea can be traced back to the late 1990s when regulations, such as the Act on Development and Support of Environmental Technology, recommended the implementation of GPP. However, it was in 2005 when the implementation of GPP was enacted as the 2004 Act 1125 on Encouragement of the Purchase of Green Products (hereafter Act) entered into force. This Act was an initiative of the Ministry of Environment (MoE), with the objective to “prevent wasteful use of resources and environmental pollution, and to contribute to sustainable developments in the domestic economy by encouraging environment-friendly product purchasing”. The Act requires public agencies to purchase environmentally sustainable products, not only when directly when purchasing supplies, but also indirectly through service contracts such as cleaning, building repairs and maintenance, etc.

Energy-saving procurement is promoted separately in Korea by both the Ministry of Trade, Industry & Energy and the Korea Energy Management Corporation, additionally it is promoted through other regulations, such as the Energy Use Rationalization Act¹⁴.

SUSTAINABLE PROCUREMENT COMMITMENTS AND/OR TARGETS

The Act doesn’t set any quantitative objective, but it requires public authorities - ranging from central to local governments and public institutions - to produce and submit to MoE, annually two sets of information:

- 1) Implementation Plans for purchasing green products with voluntary GPP targets. This is set by each organization at the beginning of the fiscal year; and
- 2) A Performance Report which includes the amount of green products purchased at the end of each fiscal year.

Although the Ministry hasn’t set a quantitative objective for the level of actual green procurement, MoE expects the green public market to increase by one and a half times by 2015.

¹⁴ In addition, the Government and public organizations are required, in the Energy Use Rationalization Guideline for Public Organization, to purchase certain products designated by the Ministry of Trade, Industry & Energy, namely: 1) High-efficiency energy machinery, equipment or materials; 2) Products subject to Reduction of Standby Power; and 3) Top ranked products by energy efficiency rating. Its procurement is coordinated also with PPS and are added and identified in KONEPS.

MONITORING SYSTEM

In order to monitor progress in the implementation of the Act, MoE monitors two aspects:

- Operations-related aspects, namely, the number of public authorities developing GPP Implementation Plans and reporting on its implementation.
- The level of actual purchase of green products and services.

With the information gathered on the level of purchase of green products, KEITI also calculates:

- The sustainability impacts of GPP based on the level of purchased green products.

Monitoring the deployment of Green Implementation Plans

This is monitored based on the number of public entities that submit their annual GPP plans to MoE by uploading them in GPIS (see below). It is evaluated according to the total number that should submit it¹⁵.

¹⁵ The total amount of plans and records cover the more than 30.000 public organizations in the country, however they are not collected individually. Umbrella organizations and regional governments are in charge of compiling the records of the subsidiary organizations and cities within their boundaries. Therefore in total about 870 documents are compiled covering the whole Korean public sector.

Monitoring the level of green products purchased

In order to monitor the level of green products purchased by Korea's public sector, the Act **defines green products**¹⁶ as those:

- That are certified or meet the criteria set by the Korea Eco-label
- That are certified or meet the criteria of the quality certificate for recycled products (Good Recycled Mark)
- In compliance with other environmental criteria set by MoE in consultation with the heads of relevant Ministries.



¹⁶ The products applicable for GPP are 9,799 within 150 categories certified by the Korea Eco-Label and 247 within 16 categories certified by the Good Recycled Mark as of June 2013.

To track progress, the **indicators** calculated by KEITI are:

- The total amount of green purchases measured in both units and economic value for product groups with ecolabel criteria (both Korea Eco-label and Good Recycled Mark), and
- Since 2010, the percentage of green purchases from a list of 33 product groups¹⁷ in relation to the total expenditure in those product groups (from 2013 the % of GPP is expected to be calculated for all the green product groups).

PPS also discloses information on GPP conducted through the platform in terms of:

- Percentage of GPP over the total purchases by PPS.

In order to facilitate GPP implementation and **data reporting**, KEITI set up in 2005 the Green Products Information System (GPIS, www.greenproduct.go.kr). The GPIS website serves as the main source of information for GPP in Korea and provides access to resources, such as GPP guidelines, a list/catalogue of certified products, a compilation of best GPP practices by

¹⁷ The 33 product groups monitored have been selected on the basis of their frequent and regular used by public authorities. They are: Copy machine; facsimile; washing machine; dish washer; refrigerator; air purifier; television/beam projector; digital projector; table; chair; storage closet; bed; partition; personal computer; laptop; printer; computer monitor; electronic monitor; office paper; printing paper; heating fuel; bedding; toilet tissue; tire; heavy equipment; special vehicle; storage battery; ballast for lamp; wire and cable; gas boiler; water saving faucet; water saving toilet bowl; water treatment.

Korean public authorities, and the application to compile GPP reporting data.

Given the two levels of procurement activities, those conducted by organizations individually and those conducted in their behalf by PPS through KONEPS, the monitoring system has been designed to integrate both results:

- GPIS tracks the records of green purchases conducted through KONEPS. As both systems are electronic applications, GPIS is directly connected to KONEPS and automatically calculates the data on green products purchased by PPS so that authorities don't have to report on that.
- For purchases conducted by authorities independently, i.e. outside KONEPS and the PPS, GPIS provides an online form that allows public organizations to manually enter procurement information.¹⁸ The fields to be reported are: 1) Expenditure in each of product groups and 2) The number of units purchased.

Evaluating the sustainability impacts of green purchases

To communicate the benefits of GPP and promote its further implementation, KEITI calculates the potential to reduce environmental impacts and the economic and social benefits of buying green.

To measure **environmental impacts** KEITI estimates the reduction of CO₂ equivalent emissions achieved from buying products certified or compliant with the Korea Eco-label. Calculations are made by comparing impact reduction for

¹⁸ In general, they account for about 40% of the total GPP monitored.

proxy eco-labeled products with conventional products (see Section 3.3 of the guide for more information).

The estimation of CO₂ equivalent reductions is conducted for 19 eco-labeled product groups¹⁹ (the Korea Eco-label), for which life-cycle assessment data was produced in order to estimate GPP's environmental and economic impacts.

The **economic benefits**, are calculated based on the estimated economic savings resulting from the reduction of CO₂ emission previously obtained.

Social benefits are expressed in terms of jobs created based on a figure provided by the Bank of Korea (the employment inducement coefficient). This indicator is used to demonstrate the relationship between expenditures on green public procurement over time with number of jobs created²⁰.

Publication of results

Once all data has been compiled by KEITI through GPIS, green purchase records from each public authority are made available to the public by MoE and KEITI. These are disclosed on the MoE's and GPIS websites, where the public can easily access and compare results. Additionally, case studies featuring good practices are annually published by KEITI.

¹⁹ They are electrical and electronic goods, construction materials, office furniture, and toilet paper.

²⁰ The Bank of Korea's Employment Inducement Coefficient is (as of 2005): 9.9 persons/1 billion KRW.

Incentives to promote implementation and reporting

The Government of Korea has developed two financial mechanisms to promote the purchase of green products and reporting of results, but only one is currently being applied.

The first mechanism included in article 16 of the "Act on Encouragement of Purchase of Green Products" states that MoE may grant environment-related subsidies to local governments with excellent purchase records of green products, in preference to other local governments. This mechanism has not yet been implemented.

The other mechanism, which is currently used, is defined in Article 27 of the Enforcement Decree of the Act on the Management of Public Institutions. It consists of an annual performance bonus that public organizations get at the end of each fiscal year that is dependent on their results in several indicators, including the level of green procurement. Based on the annual GPP records, KEITI calculates or evaluates, for each organization: 1) The percentage of green purchases in relation to the total amount of annual purchases. This approach avoids discriminating against small and medium organizations; and 2) The efforts made by each institution to improve the monitoring/reporting system of green purchases based on their annual GPP plan and performance report. The higher the GPP records, the better the results organizations will be for this indicator and the higher the bonus will be.

HUMAN AND ECONOMIC RESOURCES

The initial set up costs of GPIS in 2005 were approximately the equivalent of 720,000 USD. Since then, about 180,000 USD equivalent have been allocated annually for managing the system.

In terms of human resources, in KEITI there are 4 system administrators in charge of GPP that are responsible for the collection of the Purchasing Plans and the monitoring and evaluation of results, together with other tasks such as conducting training on GPP.

SUMMARY OF RESULTS

Since 2006, KEITI has collected and published GPP results from Korea's public sector.

In 2012, 94.9% of public organizations submitted their GPP plans, despite the absence of a penalty for non-compliance with the Act (this percentage has remained stable throughout the years).

Regarding the level of expenditures on green products and their sustainability benefits, the most recent records and progress since 2006 are summarized below (Table 7):

Table 7. Trends in GPP and its impacts

	2006	2007	2008	2009	2010	2011
KEITI Indicators (from KONEPS and directly reported by authorities)						
Total expenditure on green products (billion KRW)	861.4	1,343.7	1,584	1,629.6	1,641.2	1,645.5
% GPP over the total expenditure for 33 selected product groups ²¹					53.7	59.5
Reduction of CO ₂ equivalent emission from the shorter list of green products (in thousands of tons)	316	495	601	620	538	544
Economic benefits linked to CO ₂ emissions reductions (billion KRW)	4.8	7.5	9.1	9.4	8.1	8.2
Job creation (individuals)	737	4,775	2,379	451	115	33
PPS Indicator (only purchases through KONEPS)						
% of GPP over the total (domestic) purchases executed by PPS ²²	5.2	6.3	6.2	5.9	5.0	5.5

²¹ <http://stat.me.go.kr/nesis/index.jsp>

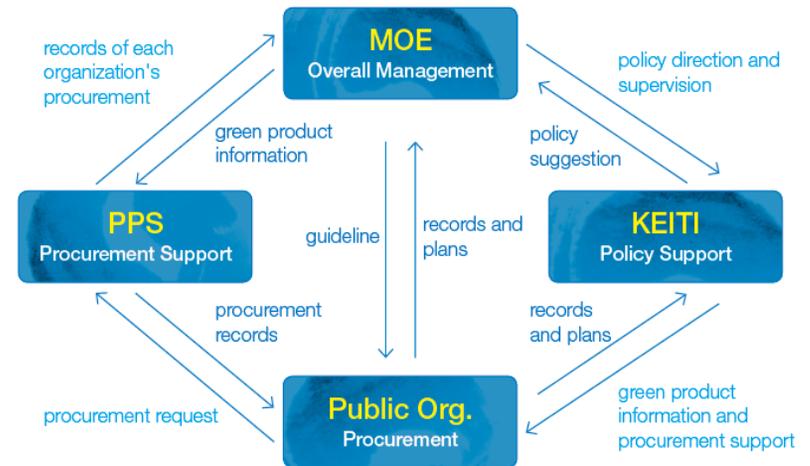
²² http://www.index.go.kr/egams/stts/jsp/potal/stts/PO_STTS_IdxMain.jsp?idx_cd=1376

KEY TAKE-AWAYS

Success Factors/ Positive aspects

- The prior existence of a well established e-procurement system (KONEPS) and the centralization of a large number of procurement processes through the central procurement agency (PPS), consolidated a large amount of GPP data into one single source.
- The institutional arrangement between key stakeholders (see Figure 18) such as PPS, MOE and KEITI to develop an integrated e-monitoring system which gathers GPP data from the existing systems, makes the monitoring more efficient and less burdensome for the procurement staff in each organization.
- The annual publication by the MoE of GPP guidelines, which not only provide technical assistance to procurers on GPP implementation, but also on reporting processes.
- The provision of intensive training to assist staff in charge of procurement to develop plans, compile data, and report results.
- The public recognition of organizations' best practices in implementing and monitoring GPP through recognition from MoE and media outreach.
- The use of green procurement records as one of the criteria to evaluate the annual performance of public organization, which affects the bonus that each institution receives at the end of each fiscal year and their reputation.

Figure 18. Working mechanism of GPP in Korea



Limitations/Challenges

- Lack of permanent technical staff within organizations appointed to prepare the Implementation Plans and keep track of green purchases.
- The monitoring covers all product categories for which eco-label criteria exist (either for the Korea Eco-Label or the Good Recycled Mark), but it was not until recently that the percentage of green purchases for certain product groups was monitored.
- As there is no general GPP objective at the national level and implementation plans developed by each organization include GPP targets only on a voluntary basis, the communication of progress and its perception might be weaker.

FOLLOW-UP OPPORTUNITIES

- Decision by KEITI in 2013 to expand the GPP indicators from 33 product groups to all the product groups. The aim is to further stimulate public demand for green products in all product groups and diversify the product groups certified by Korea Eco-label and Good Recycled Mark.
- Set up tiers and progress indicators to be able to communicate graphical the overall progress in GPP implementation for the whole government and/or by public authority.
- Publish EEP results together with GPP results in order to provide a broader picture of environmentally sustainable public procurement in the country.

FURTHER READINGS

- Government Procurement Act accessible after signing up, http://elaw.klri.re.kr/eng_service/main.do (in English)
- Act on Encouragement of Purchase of Green Products, <http://www.moleg.go.kr/FileDownload.mo?flSeq=38424> (in English)
- Guidelines for Purchase of Green Products, http://www.greenproduct.go.kr/app/Ntce0020.do?code_gu_bn=NTCE&ntce_numb=519&page_no=1 (only in Korean)
- GPIS website, <http://www.greenproduct.go.kr> (only in Korean)

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6.4. Monitoring and Evaluating GPP in the United Kingdom under the SOGE Framework

GENERAL INFORMATION

Region: Europe, United Kingdom (UK)

Promoter: United Kingdom Central Government - Department for Environment, Food and Rural Affairs (DEFRA)

Targeted public agencies: All central government departments, their executive agencies, and non-Ministerial departments in England with 250 full-time-equivalent staff and floor space greater than 1000m².

The target has been extended since 2011 to include Executive Non-Departmental Public Bodies (NDPB)²³.

Enforcement level: Mandatory



²³ A NDPB is an agency which has a role in the processes of national government, but is not a government Department or part of one, and which accordingly operates to a greater or lesser extent at arm's length from ministers. Executive NDPBs are set up to carry out administrative, commercial, executive or regulatory functions. They are legally incorporated and have their own legal identity, employ their own staff and are allocated their own budgets. Source: Cabinet Office (2012). The Approval Process for the Creation of Non-Departmental Public Bodies. Cabinet Office.

BACKGROUND

Since 1999, the UK Central Government has reported on the environmental improvement of its operations. It was systematized in 2002 with the development of the Framework for Sustainable Development on the Government Estate (SDGE), which established common targets in key operational areas (such as water, energy, transport, construction, etc.) against which departments had to report annually.

Regarding procurement, SDGE objectives included drafting by Departments of sustainable procurement strategies, the inclusion of environmental clauses in tenders, and the provision of training on sustainable public procurement (SPP) to staff and managers.

In 2005, the UK Government released its Sustainable Development strategy, "Securing the Future."²⁴ One of the elements of this strategy is the importance and leading role of the government in tackling sustainable consumption issues through its overall daily operations, including procurement practices.

The Government established in the Sustainable Development strategy:

²⁴ Secretary of State for Environment, Food and Rural Affairs (2005). "Securing the future" delivering UK sustainable development strategy. HM Government. London: TSO.

- The revision of the SDGE framework, which in 2006 resulted in the creation of the Framework for Sustainable Operations on the Government Estate (SOGE), which differs from the earlier policy in that it moves from activity-based targets to outcome-based targets²⁵.
- The goal is to be recognized as one of the leaders in sustainable procurement across European Union Member States. A business-led Sustainable Procurement Task Force was appointed to develop a Sustainable Procurement Action Plan (SPAP) for the public sector as a whole, which was published in 2006²⁶.

The Action Plan introduced a self-assessment mechanism, called the Flexible Framework, which allows organizations to measure and monitor their progress on embedding sustainable procurement over time. It defines five progress levels (from Foundation to Lead) in five key areas for full SPP implementation: (1) People; (2) Policy, strategy and communications; (3) Procurement process; (4) Engaging suppliers; and (5) Measurements and results.

For each area and level, a description is given for organizations to evaluate their current level and what would be required to progress to a higher level (for details, see Appendix II).

²⁵ Ullah, F. et al. Sustainable Development Commission Team (2008). Sustainable Development in Government. Annual Report 2007. Sustainable Development Commission.

²⁶ Department for Environment, Food and Rural Affairs-DEFRA (2006). Procuring the Future. Sustainable Procurement National Action Plan: Recommendations from the Sustainable Procurement Task Force. London: DEFRA.

As the SOGE is the Central Government's umbrella for sustainable operations, it was agreed to integrate all elements of government sustainable operations, including those from the Sustainable Procurement Action Plan, into the SOGE monitoring and reporting system. Thus the SOGE Framework consists of three elements²⁷:

- **SOGE Primary Targets** – 14 targets overall, including targets to reduce carbon emissions from offices and road vehicles, reduce waste and water consumption, and improve energy efficiency, recycling rates, and biodiversity. Two additional targets carried forward from the former SDGE framework relate to acquiring electricity from renewable and combined heat and power sources.
- **Mandated Mechanisms** – to help improve performance, including sustainability appraisals of office relocations, applying the Building Research Establishment Environmental Assessment Method (BREEAM)²⁸ standards to new construction or major refurbishments, and using formal Environmental Management Systems.
- **Commitments from the Sustainable Procurement Action Plan (SPAP)** – to cover leadership and

²⁷ Ullah, F. et al. Sustainable Development Commission Team (2009). Sustainable Development in Government 2008. Challenges for Government. Sustainable Development Commission

²⁸ Environmental assessment standard for buildings established in the UK in 1990 and comparable with the US Green Building Council's Leadership in Energy and Environmental Design (LEED).

accountability on sustainable procurement, budgeting and accounting practice, building capacity, raising standards, and supplier engagement.

In 2011, the program came to an end and was replaced by the Green Government Operations and Procurement Commitments (GGC). However, due to the early stage of the GGC, this case study focuses on the M&E system within SOGE, which ran from 2007 to 2011, briefly describing the GGC M&E system for the implications and contrasting elements of the two systems.

SOGE SUSTAINABLE PROCUREMENT COMMITMENTS AND/OR TARGETS

In SOGE, sustainable procurement targets were included in the three elements of the framework and not only in the SPAP commitments (Table 8)²⁹:

²⁹ Blakeley-Gover, J. and Clench, C. Sustainable Development Commission Team (2010). *Becoming the "Greenest Government Ever"? Sustainable Development in Government. Reporting period 2006 – 2009.* Sustainable Development Commission.

Table 8. SPP Targets in the SOGE Framework

Primary targets	<ol style="list-style-type: none"> 1. Departments to source at least 10% of electricity from renewable sources. 2. Departments to source at least 15% of electricity from Combined Heat and Power (by 2010) except where 100% is procured as renewable energy.
Mandatory mechanisms	<ol style="list-style-type: none"> 3. Application of BREEAM 'excellent' standards or equivalent to all new buildings, and 'very good' or 'excellent' for major refurbishments.
SPAP commitments	<ol style="list-style-type: none"> 4. Permanent secretary/ies have the SOGE targets and SPAP commitments incorporated into their personal performance objectives (leadership) 5. Staff with operations and/or procurement responsibilities have the Sustainable Operations targets and/or SPAP commitments incorporated into their personal performance objectives (staff objectives) 6. Department's Sustainable Development Action Plan delivers procurement actions. 7. Use the Sustainable Procurement Task Force Flexible Framework and level achieved in each of its 5 key areas. 8. Engagement with key suppliers on sustainable development, sustainable operations targets and SPAP commitments. 9. Including clauses for Quick Wins/extended mandatory product standards (for all relevant contracts – new and existing) or removing offers that fall below Quick Wins/extended mandatory product standards from framework agreements (where permissible under existing contract terms).

SOGE MONITORING AND EVALUATION SYSTEM

In order to monitor compliance and progress in achieving the targets and commitments set up at the policy level, each organization under the scope of the SOGE framework had to report annually on its achievements.

The **SPP monitoring system covered**, in line with the targets:

- **Operations:** SPP embedment in the organizational performance objectives, policies, and activities (objectives 4 to 8 in Table 8).
- **Tenders greening:** The introduction of environmental criteria in tendering processes (when contracting new buildings or major refurbishments and for products where environmental standards existed).
- **Procurement of green products:** Namely, green electricity and low CO₂ emissions vehicles).
- And indirectly, **environmental benefits** achieved through SPP and other actions when monitoring progress on SOGE primary targets related to energy and water efficiency, reduction of CO₂ emissions, and reduction of waste generation.

The **reporting mechanism** was through an on-line questionnaire that gathered the performance data as reported by departments. Each department had its own system to collect and process the required data, but all of them inputted the data in a standardized manner to allow comparison and benchmarking among departments.

Until 2008 the questionnaire was a stand-alone tool managed by the Sustainable Development Commission.³⁰ But from FY 2008–09 until the end of the SOGE reporting process in FY 2010–11, the questionnaire was integrated and administered within the e-PIMS platform, an existing central government property database used to collect building-level data for the SOGE primary targets. That implied a transfer of data collection from an external public body back to the government, namely the Ministry of Treasury^{31,32}.

For SPAP commitments, DEFRA developed the Flexible Framework Solution,³³ an electronic guidance package (consisting of a text and spreadsheet documents) that supports the implementation of the Flexible Framework across the procurement cycle and covers SPAP mandatory reporting requirements. Organizations could use the package on a voluntary basis to help collect and record data to report on their SPAP commitments for SOGE.

For tenders greening, no tool was developed to record implementation of SPP criteria, so each department and agency compiled the information its own way.

³⁰ The Sustainable Development Commission was an (independent) executive non-departmental public body (NDPB) wholly owned by the UK government, with the main role of providing independent advice to the Government on sustainable development.

³¹ The Centre of Expertise for Sustainable Procurement (CESP) within the Office of Government Commerce (OGC) of the Ministry of Treasury. The OGC was moved in 2010 to the Cabinet Office, responsible for supporting the Prime Minister and Cabinet of the United Kingdom.

³² Ullah, F. et al. Sustainable Development Commission Team (2009). Sustainable Development in Government 2008. Challenges for Government. Sustainable Development Commission.

³³ <http://sd.defra.gov.uk/documents/Defra-SustainableProcurement-FlexibleFrameworkSolution.xls>

The **evaluation system** to assess progress used two illustrations of performance: (1) “traffic light” indicator and (2) stars rating.

The “traffic light” indicator (see Figure 19) signaled the degree of progress made against each SOGE target according to the target deadline or level of implementation. Depending on the progress achieved in each target, points were awarded in order to evaluate the overall performance with the stars rating.

Figure 19. Traffic Light Scoring and Indicators

Color	Points	SOGE targets and Mandated mechanisms	SPAP commitments
Blue	1,1 or 1,2	'Excellent progress warranting recognition' which could mean a future target performance level has already been achieved (not for mandated mechanisms)	
Green	1	'Good progress' which is defined as being on track to hit the target.	Commitment is fully achieved
Amber	0,5	'Some progress' which recognizes that some progress has been made, but is not sufficient to be on track to meet the target	Commitment is partially achieved
Red	0	'No progress or poor progress' where no progress or in our judgment only slight progress has been made. Red is also used where data was 'not known'.	Commitment has not been achieved
Gray		Not applicable	Not applicable

The points awarded for each target were added together and divided by the total possible points against which departments were assessed in order to derive an overall percentage of points scored. Based on that calculation, the stars rating (see Figure 20) illustrated the overall performance of departments, in terms of the extent to which they achieved their commitments and targets.

Figure 20. Stars Rating Scoring Thresholds

Performance star rating	Definition
☆☆☆☆☆	Less than 25% of target points
★☆☆☆☆	25-39% of target points
★★☆☆☆	40-54% of target points
★★★☆☆	55- 69% of target points
★★★★☆	70-84% of target points
★★★★★	85% or more of the target points

See Appendix III for the comprehensive description of targets and points allocation of the 2009 SOGE Assessment Methodology.

REPLACEMENT OF THE SOGE WITH THE GGC FRAMEWORK

As mentioned, the SOGE ended in 2011 and was superseded by the Greening Government Operations and Procurement Commitments (GGC).³⁴

The fourth of the GGC commitments relates explicitly to sustainable procurement:

“Ensure Government buys more sustainable and efficient products and engages with its suppliers to understand and reduce the effects of its supply chain

- a) *Embed the Government Buying Standards (GBS) in departmental and centralized procurement contracts.*
- b) *Improve and publish data on our supply chain impacts, initially focusing on carbon, but also water and waste - setting detailed baselines for reducing these impacts.*

This commitment supports Commitments 1 to 3 (on carbon, water, and waste). The GGC additionally require reporting bodies to be open and transparent on the steps they are taking to address climate change adaptation, biodiversity and natural environment, procurement of food and catering services, sustainable construction, and people issues, all of which have a procurement dimension.

³⁴ Department for Environment, Food and Rural Affairs- DEFRA (2011). Greening Government Commitments: Operations and Procurement. Updated July 2011 with detailed commitment on emissions reductions. DEFRA.

The new **SPP monitoring system** covers:

- Tenders greening, quantified as number of tenders including the GBS, and
- Indirectly, the environmental benefits achieved with SPP and other practices through results on water consumption, waste generation, and GHG emissions reduction.

The main changes in relation to the former SOGE are the elimination of the management-related targets and the change from qualitative to quantitative evaluation of the inclusion of GBS in contracts.

For the 2011–12 reporting period, reporting bodies were required to report on and clarify where necessary:

- (1) Number of contracts over the OJEU³⁵ threshold that included a mechanism such as use of Government Buying Standards, targets, or financial mechanisms to drive reductions in environmental impacts and long-term cost (e.g. energy, waste, water)
- (2) How many new build and major refurbishment projects were completed in the past year, and how many of these have been or will be carried out to mandatory GBS standard and how many to the GBS Best Practice standard (The GBS for construction comprising (a) an holistic construction element based on meeting BREEAM or equivalent standards plus (b) a sustainable timber element)
- (3) For an indicative bundle of product types³⁶ (ICT products including imaging; paper; vehicles and furniture), how many new contracts were entered into and what the value of those contracts was in aggregate. And of these contracts, how many were to the GBS mandatory standard and how many to the GBS Best Practice standard, and what was the overall financial value.

³⁵ OJEU thresholds are the minimum value of a contract above which its advertising in the Official Journal of the European Union (OJEU) is obligatory.

³⁶ It is intended that the indicative product types reported on will be extended in the reporting requirements for 2012-13 and subsequently and further detail about the extent to which sustainability is embedded in departmental procurement practice will be required.

One of the reasons for the shift is the need to verify that the management changes and embedment of SPP in organizations is also translated into actual tenders, which was not possible before. The shift also aligns UK indicators with those being promoted and evaluated at the EU level (GPP level in number of contracts and expenditure of those contracts).

In relation to supply chain impacts, each organization or department is responsible for putting in place its own system to track environmental and socially responsible data. It is anticipated that from the 2012-13 reporting period, organizations will be able to make use of a supplier engagement tool (CAESER) available through the Government Procurement Service, or other suitable tools.

The **reporting system** has also changed. Under the GGC, departments have to report quarterly on energy consumption from different sources, mileage on different transport systems, water consumption, waste generation, and recycling and paper used. They use a spreadsheet template that automatically calculates and shows graphically their performance against baseline data to present progress towards achieving the targets and forecast the evolution to the GGC deadline in 2014/15.

Departments also have to submit an annual GGC progress report with not only the results from the monitoring of sectors (energy, water, waste, and paper), but also their plans on meeting the targets and their efforts to meet the other commitments on transparency, biodiversity, or sustainable procurement. A general report template is not yet available, however a template exists for the SPP section (the three questions listed before), and a general template is in development.

Figure 21. Defra's GGC Carbon Dashboard

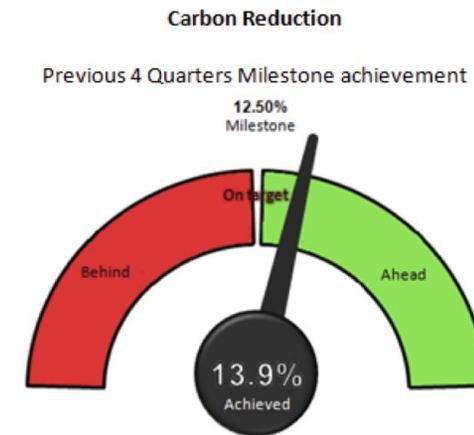
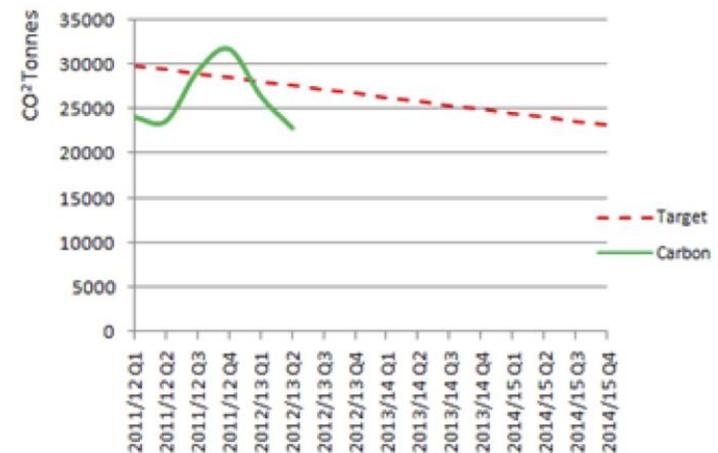


Figure 22. Defra's GGC Carbon Chart



Source: Department for Environment, Food and Rural Affairs. Greening Government Commitments: Defra's Performance. 2012/13 & Baseline. December 2012.

A rating system has not yet been developed for **results evaluation**, but a system is currently being discussed.

For the quantitative indicators on environmental parameters (carbon, waste, and water reduction), progress evaluation is conducted automatically using the same methodology that is used in the departments' spreadsheets and results are displayed graphically (see Figure 21 and Figure 22). For the other elements, the pan-government report only combines the responses obtained in the annual reports, so no benchmarking is conducted.

HUMAN AND ECONOMIC RESOURCES

For the GGC, Defra has invested the equivalent of 9 person-months to develop the spreadsheets and compile pan-government data. A greater onus is placed on reporting departments' contributions.

For the SOGE, when data compilation, review, and evaluation were conducted centrally by the now defunct Sustainable Development Commission, the estimated human resources devoted to SPP M&E was considerably greater, because of the cross-government evaluation of the SDC.

No data is available on average resources invested in each organization to obtain the relevant information and reporting for the SOGE or the GGC.

SUMMARY OF RESULTS

In 2010, the Sustainable Development Commission compiled a report³⁷ with the main results obtained with the SOGE framework since it began in 2006 until its last reporting period, as summarized in Figure 23:

³⁷ Source: Blakeley-Glover, J. and Clench, C. (2010). Becoming the "Greenest Government Ever"? Sustainable Development in Government. Reporting period 2006 – 2009. Sustainable Development Commission.

Figure 23. UK Government Performance against SOGE Targets, 2006—2009

	2006/2007	2007/2008	2008/2009
Operations			
	★★★★☆	★★★★☆	★★★★☆
CO ₂ Offices	AMBER	AMBER	AMBER
CO ₂ Vehicles	RED	GREEN	BLUE
Energy Efficiency	BLUE	AMBER	AMBER
Waste Arisings	BLUE	BLUE	BLUE
Recycling	GREEN	GREEN	BLUE
Water	AMBER	BLUE	BLUE
Water: new builds	GREEN	RED	RED
SSSIs	GREEN	GREEN	GREEN
Renewables	GREEN	GREEN	GREEN
CHP	AMBER	AMBER	AMBER
Mandated Mechanisms			
	★★★☆☆	★★★☆☆	★★★☆☆
BREEAM	RED	RED	RED
EMS	RED	AMBER	GREEN
Office Relocations	RED	RED	AMBER
Carbon Trust	AMBER	AMBER	AMBER
Sustainable Procurement Action Plan (SPAP) Commitments			
		★★★★☆	★★★★☆
Perm.Sec. Objectives	AMBER	GREEN	GREEN
Staff Objectives		RED	AMBER
SPAP	GREEN	GREEN	GREEN
Quick Wins		AMBER	AMBER
Engagement		GREEN	GREEN
Flexible Framework	AMBER	AMBER	AMBER

Government progress against SOGE targets 2009	
Energy efficiency	Up by 7.9%
Water use	Down by 19.9%
Recycling	Up to 48.4%
Waste	Down by 13.7%
CO ₂ emissions (offices)	Down by 10%
CO ₂ emissions (vehicles)	Down by 17%

KEY TAKE-AWAYS

Success Factors/ Facilitators

- During SOGE, the centralization of all reporting requirements in one system, the e-PIMS, lessened the reporting burden on departments by allowing data used for different purposes to be collected once.
- e-PIMS, an online database, has the capability to process and publish data, making the evaluation of results at the pan-government level and benchmarking between departments straightforward, reducing reporting time.
- This program also presented results graphically, forecasts results if progress is maintained until target deadline, and trends to achieve the set targets, which helped departments better plan measures and actions. The only drawback was that such information was not provided automatically.
- In the GGC, graphic output of results and forecasts have been maintained in the reporting spreadsheets with the additional benefit of providing departments with instant feedback on performance and trend evolution.
- The SOGE's traffic light indicator and stars rating are simple, easy-to-understand representations of the progress towards targets, which helps communicate results. The GGC maintains implementation progress reports by using the dashboard and chart representations of results.
- These representations, together with the publication of performance evaluations on the internet in a transparent manner, serve as a reputational motivator to improve reporting and performance.
- Another aspect mentioned as relevant for better reporting was the transfer of responsibility for gathering data from a non-departmental body (the Sustainable Development Commission) to a government department (a unit within the Ministry of Treasury). This change engenders greater ownership and responsibility for the data, which in turn improves data quality.³⁸
- The GGC improves procurement monitoring by adding a quantitative indicator to existing SPP indicators. Focusing on products that are, for the most part, centrally purchased, reduces the number of contracts to be monitored, and data can be gathered from the Government central procurement service.

Limitations/Challenges

- One of the limitations of the SOGE M&E system was its lack of detailed definition and metrics to monitor the target on the inclusion of quick wins/extended mandatory standards in relevant contracts, which makes the evaluation of this target quite subjective.

³⁸ Ullah, F., Shields, A-M., and Crees, J. Sustainable Development Commission Team (2009). Sustainable Development in Government 2008. Challenges for Government. Sustainable Development Commission.

- Poor definitions at the beginning of the SOGE monitoring resulted in varying interpretations of targets or terminology. This caused confusion and led to reporting difficulties for some departments making the process cumbersome for both the departments and reporting coordinators.³⁹ Therefore, special attention should be paid to proper definitions (of terms, metrics, and verification data) when a system is first set up or when major changes take place.
- With the GGC, the main challenge is the extension of reporting requirements to include Executive NDPB, which will provide a better image of the whole government outcomes but considerably increases the number of agencies to be monitored.
- For most aspects, such as procurement, reporting is still on an annual basis. However, for environmental parameters (water, energy, etc.) reporting is required quarterly. This, together with the increase in the number of government bodies to report, makes monitoring more burdensome. If this monitoring system forces the implementation of automatic procedures or systems, agencies will benefit in the long term.
- For GGC an electronic platform to gather information has not been developed yet. However, several departments are piloting an adapted e-PIMS system to evaluate if it can be used for GGC reporting. If the evaluation is successful and the platform is deployed to all departments, reporting will be more standardized

³⁹ Ullah, F. et al - Sustainable Development Commission Team (2008). Sustainable Development in Government. Annual Report 2007. Sustainable Development Commission.

making it easier to evaluate results at the pan-government level.

- When developing SPP targets, it was difficult to find the balance between the previous management-related targets (such as the Flexible Framework), which were easy to evaluate but provided little data about real contracting of greener products and services, and reporting on tender greening and expenditure. The latter might provide a more accurate depiction of SPP implementation in procurement actions but requires information that is difficult to track without proper systems.
- The Government Procurement Service would need to apply changes in their tracking system to better facilitate data for monitoring.
- The fact that the SPP indicator focuses on products for which buying standards exist is considered limiting. The GBS covers only a handful of product groups, many other procurement activities are excluded⁴⁰.

FOLLOW-UP OPPORTUNITIES

- In the GGC, some effective elements from the SOGE have been removed that should probably be reestablished, including a centralized reporting tool to cover other reporting requirements or an evaluation and rating system to easily communicate progress.

⁴⁰ Furthermore in the first GGC monitoring, data was not required for all products for which GBS exist but only for four products.

FURTHER READINGS

- General background to UK Government Sustainable Development policy from 2000 to 2011, <http://www.sd-commission.org.uk>
- Sustainable development in Government reports, including SOGE targets results for fiscal years 2007/2008 and 2008/2009, <http://www.sd-commission.org.uk/pages/sustainable-operations-on-the-government-estate-soge-assessment.html>
- SOGE performance results for fiscal years 2009/2010 and 2010/2011 (when the framework was superseded), <http://sd.defra.gov.uk/progress/soge/>
- Information on the most recent action plan for driving sustainable operations and procurement across the UK government (GGC program) which replaced SOGE, <http://sd.defra.gov.uk/gov/green-government/>

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6.5. Monitoring Sustainable Acquisition by the US Department of Energy within the Federal Regulatory Framework

GENERAL INFORMATION

Region: North America, United States of America (US)

Promoter: Department of Energy (DoE)

Targeted organizations: All facilities from DoE both managed by federal staff or through contractors under the GOCO model⁴¹.

Enforcement level: Mandatory



⁴¹ GOCO stands for "Government-Owned, Contractor Operated" and is a management arrangement by which a facility owned by the Government is operated under contract by a non-governmental, private organization.

BACKGROUND

Green procurement in the US federal government is promoted and encouraged in many different regulations and orders.

The first piece of legislation requiring the federal government to use its purchasing power to reduce its negative effects on the environment and to support the creation and maintenance of green markets came in 1976 with the publication of the Resource Conservation and Recovery Act (RCRA). The Act required the US federal government to actively participate in procurement programs to foster the use of recycled materials and to report annual expenditures on recycled products⁴².

Since then, several regulations have included GPP as a policy instrument. Regulations to green the government's operations have shaped GPP programs and plans at the federal level.

The main trigger was *Executive Order 13101 - Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*, approved in 1998. This Executive Order (EO) required agencies to develop and implement green procurement programs as part of an overall "green the government" framework, including contractors managing

⁴² To help focus procurement activities, the US Environmental Protection Agency (EPA) was in charge of compiling a list of designated products, which was enlarged over the years to contain a total of 66 different products at the beginning of 2010.

government facilities, and to report annually on achievements.

In 2007, EO 13101 and other regulations including GPP requirements were rescinded and replaced by *Executive Order 13423 - Strengthening Federal Environmental, Energy, and Transportation Management*. This EO integrated GPP requirements established in previous regulations, enlarged the definition of green procurement, and promoted a stronger integration of green procurement into government operations by requiring agencies to implement holistic green programs.⁴³

Although this EO set many different goals linked to procurement (on renewable energy, sustainable buildings, electronics stewardship, fleets, etc.),⁴⁴ GPP reporting still focused on acquisition of green products and green procurement plans, keeping separate reporting on green acquisition from reporting on sustainable buildings or vehicles fleets. Results, however, were subsequently integrated in three scorecards (shown below) that

⁴³ EO 13423 was incorporated into budget language and approved by the US Congress, becoming a statutory requirement with a higher enforcement obligation than an executive order.

⁴⁴ EO 13423 set goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, renewable energy, sustainable buildings, electronics stewardship, fleets, and water conservation. In addition, it required agencies to make widespread the implementation of environmental management systems (EMS) as the primary management approach for addressing environmental aspects and ensuring monitoring and continuous improvement of internal agency operations.

summarized current status and main progress made and planned towards achieving all the EO 13423 goals.

This approach was maintained after 2009, when *Executive Order 13514 - Federal Leadership in Environmental, Energy, and Economic Performance* was published. The EO does not rescind EO 13423 but expands and/or adapts some environmental performance requirements including:

- The obligation for each agency to develop, implement, and annually update an integrated Strategic Sustainability Performance Plan in order to achieve the sustainability goals and targets established in the order;
- An increased emphasis on high-performance sustainable buildings; and
- The change from product purchase to green contracts, setting a quantitative target for overall green procurement. Until then, only partial targets had been established for green products acquisition, such as a 95% of agency electronic products to be EPEAT-registered. EO 13514 set an overall quantitative target.

In terms of GPP monitoring, the separation is maintained and green procurement evaluation is based on green products and overall policy. Other procurement-related aspects, especially regarding buildings and vehicles fleet, are monitored separately.

SUSTAINABLE PROCUREMENT COMMITMENTS AND/OR TARGETS

Based on the federal regulatory framework, DoE sustainable procurement commitments and goals are:

- To update departmental sustainable acquisition plans, policies, and programs to ensure that all federally-mandated designated products and services are included in all relevant acquisitions.
- To purchase products and demand the use in services and works of products that are and/or have:
 - Recycled content (according to EPA-designated procurement guidelines)
 - Bio-based content (following a USDA-designated product list)
 - Energy efficient (either *Energy Star* or FEMP-designated)
 - Water efficient (according to EPA's *WaterSense* standards or others)
 - Non-ozone depleting substances (as identified in EPA's Significant New Alternatives Program)
 - Low or non-toxic and non-hazardous substances and materials
 - Other environmental characteristics (such as EPEAT-registered products).

DoE aims (according to EO 13514) for 95% of all new contract actions for products and services to include the above-mentioned criteria, when such products and services meet agency performance requirements. Additionally, the

DoE has set its own product-specific purchase targets in its Strategic Sustainability Performance Plan.

Other procurement-related objectives included in the DoE's Strategic Sustainability Performance Plan refer to sustainable buildings, energy from renewable sources, and low greenhouse gases (GHG) emitting vehicles. However, as already mentioned, these objectives are monitored through other channels.

MONITORING THE PROCUREMENT OF ENVIRONMENTALLY PREFERABLE PRODUCTS

GPP Monitoring Indicators

Due to the definition of green procurement and the reporting requirements at the federal level (since the approval of RCRA, to EO 13101 and EO 13423), monitoring has focused on:

- Linking procurement to the development and embedment of green procurement in the Department's procedures and operations;
- Acquisition of green products for which quantitative requirements exist; and
- Green tenders following the approval of EO 13514 in 2009.

Environmental impacts reduction achieved through SPP is also indirectly monitored when reporting on targets set in EO 13423, EO 13514, or other regulations related to energy and water efficiency, GHG emissions reduction, and vehicle fleet petroleum consumption reduction.

Operations-related aspects are monitored based on narrative answers and explanations on the scope and quality of the DoE's GPP plans presented by the DoE through a standardized questionnaire (see Department-level reporting below).

For **product acquisition**, the DoE monitored until 2009 purchases of:

- EPA-designated recycled products (in % of expenditure) – 66 different products at the end of 2009.
- USDA-designated bio-based products (in number of types of products) – from a list of 43 at the end of 2009.
- EPEAT-registered electronic equipment (in % of units by EPEAT level⁴⁵) – still monitored after 2009.

To **monitor green tenders**, the Executive Order does not define how to measure the process, keeping it flexible for each agency to define. As the type of contracts tendered by each DoE facility might vary considerably, the DoE conducts two monitoring activities to evaluate compliance with the EO 95% target.

⁴⁵ EPEAT® is an environmental rating system that helps identify greener computers and other electronic equipment by awarding them EPEAT registration (gold, silver or bronze) depending on the level of compliance with a comprehensive list of environmental criteria.

DoE requires all facilities to monitor two types of contracts tendered, which represents a large portion of the budget and might include a wide range of green products (in terms of product types and environmental attributes), even though the list might be extended over time. Those are:

- 1) Construction works, and
- 2) Custodial contracts (which include cleaning, landscaping, and grounds).

Each facility is required to provide data on contract actions during the fiscal year, contracts reviewed (justifying any exemption), contracts not eligible to be greened, and contracts that meet sustainable acquisition requirements, along with an explanation of review methodology and findings. The percentage (in number) of tenders greened in these two categories serve as proxies of the level of integration of green criteria in each facility's procurement activities.

Facilities managed directly by the DoE (not by contractors under the GOCO model) must also review on a quarterly basis 5% of new contract actions (independent of the subject matter) selected at random using the Procurement Management Review process and self-assessment checklist to monitor compliance with sustainable acquisition requirements.

Reporting Mechanisms

The reporting system has two components to gather relevant information, one at the facility level for overall DoE performance and one at department level for pan-government evaluation.

Facility-level reporting

Unlike other departments of the US government, the DoE owns a large number of buildings (almost 20,000).⁴⁶ In some cases, they are directly managed by federal staff (DoE personnel), but in many cases are managed by external contractors following the GOCO model.⁴⁷

As DoE facilities, they have to meet federal requirements. Being privately managed, however, they cannot always use federal systems or platforms such as the federal purchasing agencies (e.g., the General Services Administration or the Defense Logistics Agency). To address this DoE developed a unique tracking and monitoring system and required each private operator managing a DoE facility to develop its own procurement tracking system for reporting (see one example in Box 24).

The GOCO model allowed the DoE to be one of the few agencies to monitor expenditure level on recycled products from a very early stage, whereas other agencies relied on federal purchasing systems, which were not designed to track such data.

⁴⁶ 2011 Strategic Sustainability Performance Plan. US Department of Energy.

⁴⁷ According to data from 2010, the total number of DoE staff is 127,376, only 10% being Federal employees (2011 Strategic Sustainability Performance Plan. US Department of Energy).

Box 24. DoE's Pacific Northwest National Lab's Commercial Software to Track Green Purchases

At the DoE's Pacific Northwest National Laboratory, each card purchaser has to input his/her purchases into a software system every month. The software lists purchase type group (laboratory supplies, office products, etc.) and sub-group (copy paper, plastic envelopes, etc.) that purchasers select according to their acquisitions. Purchasers specify product type, using check boxes and drop-down menus, along with the environmental criteria complied with or the justification for non-compliance.

Source: EcoPurchasing Consultants (2010). EcoPurchasing: How to Count What Really Counts. Webinar: Tracking and Reporting on Responsible Purchasing. Responsible Purchasing Network (www.responsiblepurchasing.org/webinars/trackingwebinar_slides.pdf, retrieved July 2012).

The internal electronic data collection system, called the Pollution Prevention Tracking and Reporting System (PPTRS), was thus originally designed to centralize green products expenditure (EPA-designated recycled products) as required by RCRA. It was adapted afterwards to track other requirements.

Facilities managers had to input in the PPTRS:

- The EPA-designated products purchased during the reporting period, and
- The total amount (in USD) spent on products acquired that complied with EPA recycled-content criteria and those not complying with a justification based on lack of performance, availability, or price difference.

Although the information was input on mutual trust and on an ad hoc basis, DoE would conduct some follow-up of non-compliance statements in order to identify barriers and not-considered possibilities, and to provide feedback to facility managers, the market, and the White House in order to improve implementation and support programs.

For bio-based products, no quantitative report was required; therefore, facilities only indicated if items were purchased from the designated list during the reporting year.

With the approval of EO 13423 and the requirement to purchase EPEAT-registered IT products, PPTRS was upgraded to track and report the number of desktops, monitors, laptops, and thin clients that are EPEAT-registered (divided by level), Energy Star, or neither of the two.

In 2009, PPTRS was again changed to allow reporting on green tenders, in which case each facility inputs the number

of construction, custodial, and (optionally) other contracts conducted, reviewed, and the sustainability criteria met.

Department-level reporting

The reporting mechanism at the departmental level to evaluate compliance with federal regulations consisted, since EO 13101 until EO 13423, of a standardized questionnaire (see survey for fiscal year 2008 in Appendix IV). Agencies had to report on the following:

- | | |
|---|--|
| Product-related measures ⁴⁸ | <ul style="list-style-type: none"> - Combined purchasing data for 8 EPA-designated products⁴⁹, with optional reporting on the rest. - Percentage of EPEAT-registered office IT-equipment procured. - Qualitative information on how the department promotes and fosters the acquisition of other environmentally preferable products (<i>Energy Star</i>, FEMP-registered or <i>WaterSense</i> labeled in buildings, low toxicity substances, etc.). |
| Management-related measures ⁵⁰ | <ul style="list-style-type: none"> - Content and scope of GPP plans. - GPP goals and targets set. - GPP training to procurement staff and cardholders. - Auditing and review process for GPP. |

⁴⁸ Based mostly on data reported at facility-level.

⁴⁹ Tissue paper, Toner cartridges, Concrete/construction products, Landscaping timber, Park benches/picnic tables, Traffic barricades, Lubricant oils, and Signage.

⁵⁰ Based mainly on DoE programs and activities.

- Integration of GPP into facilities' environmental management systems.

Additionally, from 2006 until 2010, the performance of the DoE and other federal agencies in achieving sustainable practices and goals under EO 13423 was tracked through three scorecards prepared by the Office for Management and Budget (OMB) of the Executive Office of the President. These scorecards were used to assess and benchmark Departments' performance and progress and included metrics on green procurement (see Appendix V).

Departments were required to complete and send the scorecards to the OMB biannually, reporting achievements and actions taken and planned to demonstrate progress towards the EO goals.

After 2010 and in line with EO 13514, the three OMB scorecards were merged and simplified into a single scorecard, called the OMB Scorecard on Sustainability/Energy (see Appendix VI). Its metrics are directly aligned with those included in the 2011 President's Budget and focus mainly on outcomes. The updated scorecard integrated several energy-related indicators into GHG emissions reduction and the eliminated of the management-related metrics, as these are assessed directly by the OMB through the annual Strategic Sustainability Performance Plans that agencies submit annually. Therefore, green product procurement is not explicitly included on the Sustainability/Energy Scorecard, but is still evaluated.

Results Evaluation and Assessment

Procurement Data Evaluation

Facilities are assessed by evaluating the deviation of results from DoE’s procurement objectives, with no specific rating system in place.

For aggregated results, in 2009 DoE conducted an assessment of the environmental impacts (in terms of GHG emissions reduction) of green products purchases during 2008 by using different environmental benefits calculators for recycled products and EPEAT-registered IT equipment.⁵¹

Scorecards Evaluation

At the federal level, the OMB evaluates both the current status and progress of each department based on actions reported in the scorecards and employs a “traffic light” scoring system (Figure 24) to distinguish agency performance in implementing EO requirements according to a set of parameters (see Appendix V and Appendix VI).

Figure 24. Traffic light indicator to evaluate status and progress in the scorecards

Green	Success
Yellow	Mixed results
Red	Unsatisfactory

⁵¹ The tools are: 1) The Electronics Environmental Benefits Calculator, <http://eerc.ra.utk.edu/ccpct/eebc/eebc.html>; 2) EPA’s Recycled Content and Waste Reduction Model Tools, <http://yosemite.epa.gov/OAR/globalwarming.nsf/content/ActionSWasteTools.html>; and 3) Environmental Defense Fund Paper Calculator, <http://www.papercalculator.org>.

DOE VOLUNTARY GREEN PROCUREMENT TRACKING, THE GREENBUY AWARD

Given the changes in the reporting requirements at the federal level with EO 13514 from products expenditure to green tenders, in 2011 the DoE decided to create the GreenBuy Award Program to offer recognition to sites that:

- Exceed sustainable acquisition goals beyond traditional compliance and successfully purchase products that save energy, conserve water, and reduce health and environmental impacts; and
- Have in place effective programmatic controls and green procurement tracking systems.

The Award was created to promote and incentivize improvement on GPP implementation, tracking, and monitoring with recognition rather than by obligation.

On a voluntary basis, the GreenBuy Award **monitors** the procurement of green products (in % of units) that comply with at least one of the leadership environmental criteria⁵².

To achieve this, the DoE selected 40 priority products in 7 categories from previously monitored products based on the importance for DoE facilities and operations (compiled in a Priority Products List). For each of them, leadership attributes are defined by the criteria purchased products have to comply with and the leadership goal or target to be reached in order to be considered a leader.

⁵²Leadership environmental criteria are environmental specifications for prioritized products set by DoE’s Sustainable Acquisition Working Group after extensive research and review of dozens of green products and that exceed current compliance green requirements set at Federal level.

The **reporting mechanism** uses the same platform as for compulsory reporting, the PPTRS. For each priority product reported on, the organization specifies if the leadership goal were met and provides information on the exact percentage, criterion met, and data-gathering process to demonstrate quality data and compliance.

To determine which sites qualify for the Award, the DoE applies the Award **evaluation system**. According to the conditions set in the program, sites can qualify for GreenBuy Awards at three levels: Gold, Silver, or Bronze, based on their purchases of products complying with the leadership goals (Figure 25).

Figure 25. Conditions for the GreenBuy Award

Gold:	At least 9 products covering at least 5 product categories
Silver:	At least 6 products covering at least 3 product categories
Bronze:	At least 3 products covering at least 2 product categories

The Award is designed so that it will become progressively more challenging. Thus sites cannot be recognized for the same award level two years in a row (except for Gold), thus they need to achieve a higher level to be recognized. They can only report up to three of the same products from the previous year and must demonstrate a transition to other products from the Priority Products list.

HUMAN AND ECONOMIC RESOURCES

The process for information gathering and reporting by each facility varies, as some are larger than others and may manage different numbers of sites.

The DoE reviews all the facilities’ reports (about 50) and combines results in a **report to OMB**. This requires about 8 weeks of work for a team of 9 to 10 people, or 18 to 20 person-months worth of work annually.

Afterwards, OMB, in cooperation with other agencies (CEQ-OFEE, DoE, USDA), reviews the scorecards and the SSPPs.⁵³ Even though it is difficult to estimate the amount of resources used for the review, one person at OMB invests about 10-20% of her overall workload in reviewing all scorecards every six months and all plans annually. At least 25–30 other people review a specific agency plan and scorecard assessment annually as part of their duties.

The human resources utilized for the evaluation of the **GreenBuy Award** applications require approximately 3 person-months of work (4 people at 50% for 6 weeks). Prior to that, substantial staff involvement is required over many months, including many field staff, in the discussions, planning, and selection of the Priority Products list and criteria for the Award, including national conference calls.

⁵³ They are from 25 large federal agencies, which account for more than 98% of federal resources spent (personal communication with Cyndia Vallina from OMB, on December 2012).

SUMMARY OF RESULTS

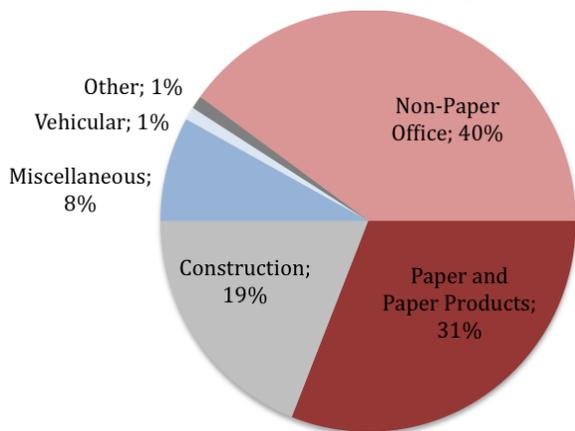
DoE results on acquisition of green products in response to EO 13423 reporting requirements (and other regulations like RCRA) for fiscal year 2008 are summarized below⁵⁴:

Expenditure on Recycled Products

66% of all DoE purchases contained recycled material, exceeding \$31.9 million. When adjusted for lack of product availability, cost, or product performance considerations, 90% of all DoE purchases of EPA-designated products qualified as green purchases.

Thanks to those acquisitions, the release of more than 955 Tm GHG (carbon emissions) associated with the manufacture of virgin-content products was avoided.

Figure 26. Recycled Content Purchasing by category

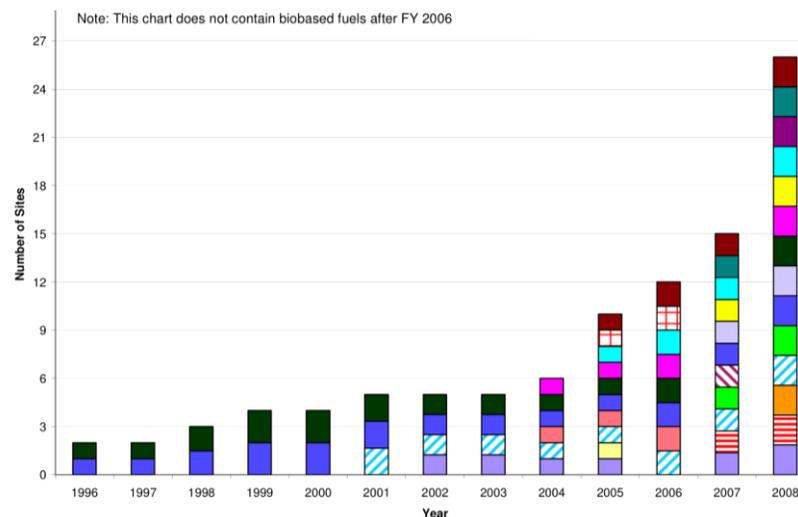


⁵⁴ Source: US Department of Energy (2009). Sustainable Acquisition, Recycling, and Pollution Prevention Practices. FISCAL YEAR 2008 REPORT. Department of Energy.

Procurement of Bio-Based Products

Both the variety of bio-based products purchased and the number of DoE sites making these purchases increased in FY2008: 26 sites purchased 18 types of bio-based products (excluding bio-fuels).

Figure 27. Types of bio-based products purchased by number of sites



Results linked to operations

73% of DOE sites reported having **embedded GPP in EMS** by establishing GPP objectives and targets in their EMS.

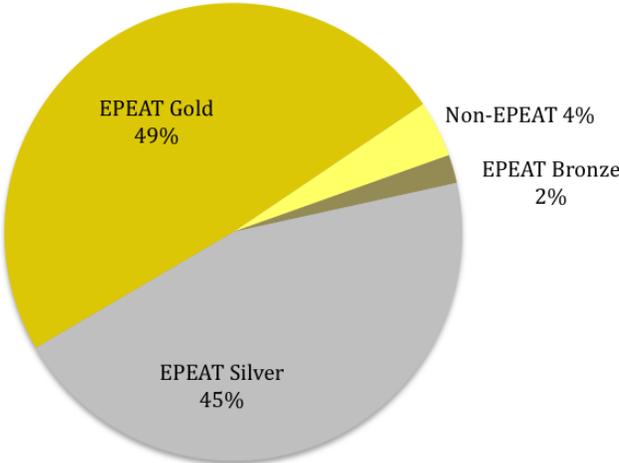
For **GPP training**, 100% of the procurement workforce (450 employees) and cardholders (2,000 employees) received training on green procurement. In the case of cardholders, a certificate was provided, and copies of the certificates are on file with the local Program Coordinator.

EPEAT-Registered Products

96% of DoE designated electronics purchases were EPEAT-registered.

Lifecycle environmental impact savings associated with DoE purchases and use of EPEAT-registered electronics in FY2008 are calculated at greater than 421,000,000 kWh of energy consumption and 47,000 Tm GHG reductions.

Figure 28. Computer purchases by EPEAT-type



GreenBuy Award results

Even though the GreenBuy Award is a voluntary program, it exceeded expectations in 2012, its first year of operation. Nearly three-quarters of all DoE sites reported on their purchasing performance, 11 making it to the Bronze recognition level, 8 to Silver, and 3 to Gold.

KEY TAKE-AWAYS

Success Factors/ Positive aspects

- The long trajectory (more than 10 years) on reporting green product expenditures has allowed the DoE and its contractors to put in place and improve tracking mechanisms and reporting tools to help monitor GPP.
- Consistent reporting requirements and systems have allowed for successful training initiatives and progressive improvement of the system. This cannot be achieved if changes are introduced every few years.
- Moving from green products purchased to green contracts monitoring has been generally well received by all facilities, as it is less time consuming. Furthermore, for the DoE this shift is in line with the importance to track management improvement actions and promote implementation. That was also one of the reasons for creating the GreenBuy program, to promote leadership and foster more green procurement not through tracking compliance but by providing incentives because after 10 years of product tracking no major improvements or changes had been observed.
- The operation model and possibility of facility operators to develop their own systems to track green product acquisitions made it possible for the DoE to report from a very early stage at a more comprehensive and detailed level than agencies with less flexibility and control over their purchasing platforms.
- At the federal level, having OMB in charge of reviewing all reports and evaluating results provides a perceived important incentive to report, as OMB is also in charge of approving departments' budgets. This creates pressure to have in place tracking and monitoring systems.
- DoE's development of a standard contractor requirements document,⁵⁵ including the requirement to achieve the DoE's Sustainable Environmental Stewardship goals (including procurement), used when tendering for the management of a site or facility, guarantees that these requirements are contractually binding.
- Furthermore, contractors operating DoE sites have an incentive to achieve environmental compliance and other key performance indicators (not only environmental), as they receive an economic bonus based on their performance and annual rating.
- Having the mandate to implement environmental management systems in all facilities and to embed green procurement in them is deemed positive, as sustainable procurement is thus included in the regular operations and procedures of facilities. The mandate generates routines to regularly improve monitoring and processes.

⁵⁵US Department of Energy (2008). Order DOE O 450.1A ENVIRONMENTAL PROTECTION PROGRAM. Department of Energy.

- As the department in charge of or co-responsible for some programs with procurement implications (like Energy Star or EPEAT), DoE is motivated to perform well or to conduct stricter monitoring. In fact, DoE monitored the acquisition of EPEAT-registered products before the requirements were compulsory.
- Even though the lack of a clear definition of how to monitor green tenders might be seen as a weakness, the fact that OMB reviews not only the results but also the methodology to obtain that indicator ensures that each department applies justified methods to contracts selection. This keeps the monitoring flexible and relevant for each agency, as some contracts might be more relevant for some departments than others.

Limitations / Challenges

- Even though DoE does not purchase many items through federal purchasing platforms, the lack of adaptation of the federal systems to record the information that was required to monitor and report on green procurement is perceived as an important limitation.
- With the change of indicator from purchases to tenders, results were weak during the first reporting year due to the lack of clear definitions for some elements. Therefore, special attention should be paid when new indicators or systems are put in place.
- The monitoring of tenders, though perhaps easier than monitoring green product expenditures, does not guarantee actual procurement of those products if criteria are not compulsory. Therefore, actual purchases might be lower with the new system than beforehand.
- The change from products to tenders makes it more difficult to translate green procurement into environmental benefits, as the environmental characteristics of the awarded tenders might not be known. For some products, however, the benefits can be monitored indirectly, especially for energy efficient or water-saving solutions.

FOLLOW-UP OPPORTUNITIES

- Given the separation when monitoring different procurement-related activities within DoE and also at the federal level, some compilation and global reporting on green procurement could help visualize the scope and relevance of procurement practices in overall operations improvement.
- A methodology to monitor green tenders should be established for all agencies in order to make results more comparable.
- On the communication side, apart from publishing all Departments' Sustainability/Energy Scorecard individually, a benchmark of their performance with the average pan-government levels could create incentives for agencies performing less well to improve their results. It would also allow a general Federal government overview.

FURTHER READINGS

- Background information and access to the different executive orders quoted in the case study, <http://www.fedcenter.gov/programs/buygreen/>
- DoE's Office of Health, Safety and Security website on Sustainable Acquisition, <http://homer.ornl.gov/sesa/sustainability/epp/>
- DoE's Office of Health, Safety and Security website, compiling green procurement and other related reports (for EO 13101, EO 13423 or Environmental Scorecards), <http://www.hss.doe.gov/sesa/environment/reports/>
- DoE's Office of Energy Efficiency and Renewable Energy website, with plans and reports on energy related objectives and actions (including procurement actions), http://www1.eere.energy.gov/sustainability/plans_reports.html
- DoE's Office of Energy Efficiency and Renewable Energy website section specially focusing on fleet requirements, monitoring system and reports (both at Federal and Department level), https://federalfleets.energy.gov/federal_requirements

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7. Appendices

Appendix I. EC's Green Public Procurement Questionnaire: General questions (pilot methodology, 2008)

Appendix II. UK's Flexible Framework Matrix

Appendix III. UK's SOGE 2009 Assessment Methodology

Appendix IV. US E.O. 13423 Sustainable Practices Survey: Part I Green Purchasing (Fiscal Year 2008)

Appendix V. DoE's OMB Environmental Stewardship Scorecard (July 2009)

Appendix VI. DoE's OMB Scorecard on Sustainability/Energy (January 2012)

8. Glossary

The following terms are used in this guide:

- **Energy efficient Procurement (EEP).** Procurement which focuses on the energy-efficiency of products, services and works and aims to reduce energy consumption throughout their life-cycle.
- **Environmental benefits.** Is the reduction or mitigation of the environmental impacts that a product or services causes during its life-cycle.
- **Green Public Procurement (GPP).** Public procurement which takes into account the environmental impact of goods, services and works throughout their life-cycle. Other terms used to refer to GPP are: environmentally preferable purchasing, affirmative procurement or environmentally responsible procurement.
- **Lifecycle environmental impacts.** Impacts to the environment that occur during the life-cycle of a product or service from the extraction of materials for its manufacturing, its production, distribution, use, maintenance and disposal at the end of its useful life.
- **Lifecycle Costing (LCC).** A method of calculating the total cost of owning and disposing of an asset. This may include a monetary value assigned to environmental externalities such as greenhouse gas emissions, which is also sometimes known as whole-life costing (WLC).

- **Public administration or authority**, refers to the diversity of public organizations or bodies that perform administrative functions to satisfy the general interests, whether at national, regional or local level (it includes the Central Government, public companies and regional and city councils among other organizations).
- **Sustainable Public Procurement (SPP)**. Public procurement which takes into account the environmental, economic and social impacts of goods, services and works throughout their life-cycle.
- **Tenders and tendering process**. Tenders are the documents (usually divided into administrative and technical) where public organizations set the conditions for the goods, services and works they desire to contract through competition. The tendering process is also referred to as invitation to tenders, request for proposals or call for bids. It is the process by which public agencies generate competition between bidders in order to obtain the best value for money to award supplies and/or service contracts.

9. Further references

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