Going Green: Best Practices for Sustainable Procurement

OECD

GOING GREEN

BEST PRACTICES FOR SUSTAINABLE PROCUREMENT

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GOING GREEN: BEST PRACTICES FOR SUSTAINABLE PROCUREMENT

The OECD has launched a new agenda on public procurement reform to support countries in creating an overarching approach to procurement that enables efficiency, fosters growth and accomplishes their strategic goals. As part of this agenda, the OECD replaced the 2008 *Recommendation of the Council on Enhancing Integrity in Public Procurement*[1] by the Recommendation of the Council on Public Procurement [C(2015)2 and C/M(2015)4, Item 28] , aiming to encourage a balanced approach to the use of procurement as a smart governance tool to achieve economy, efficiency and secondary policy objectives. Green public procurement (GPP), i.e. public purchasing of products and services which are less environmentally damaging[2] when taking into account their whole life cycle,[3] is increasingly used by countries to achieve such policy objectives in the area of environmental protection.

The compendium is a contribution of the Public Governance Committee to the OECD Green Growth Strategy. It is aligned with G20 priorities and the Compendium of Good Practices for Integrity in Public Procurement prepared by the OECD and endorsed by the G20 Anti-corruption Working Group in Rome on 9-10 June 2014. The compendium is part of the 2013-14 Programme of Work and Budget of the Public Governance Committee[4], contributing in particular to the analysis of lessons learnt by countries in using public procurement as a strategic lever to support government objectives, in this case environmental policy objectives.

Countries have reported to the OECD that they face obstacles to successfully implementing GPP, including in particular:

- the perception that green products and services may be more expensive than conventional ones;
- public officials' lack of technical knowledge on integrating environmental standards in the procurement process and
- the absence of monitoring mechanisms to evaluate if GPP achieves its goals.[5]

However, countries increasingly recognise that GPP can be a major driver for innovation, providing industry with incentives for developing environment-friendly works, products and services,

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1. OECD (2008), *OECD Recommendation of the Council on Enhancing Integrity in Public Procurement*, C(2008)105, OECD, Paris, available at: http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=131&Lang=en&Book=False.

2. OECD (2002), *OECD Recommendation of the Council on Improving the Environmental Performance of Public Procurement*, C(2002)3, OECD, Paris, available at: http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=46&InstrumentPID=43&Lang=en&Book=False.

3. Green public procurement is defined in the EU as "a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured", European Commission (2008), Communication "Public procurement for a better environment", European Union, Brussels, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0400:FIN:EN:PDF.

4. OECD (2012), "Programme of Work and Budget of the Public Governance Committee", GOV/PGC(2012)3/REV2, OECD, Paris.

5. See: www.oecd.org/gov/ethics/procurement-green-procurement.htm.

particularly in sectors where public purchasers represent a large share of the market, such as construction, health services or public transport.[6]

Countries highlighted a particular challenge in the monitoring report on the implementation of the 2008 *Recommendation of the Council on Enhancing Integrity in Public Procurement*: the risk of overloading procurement with policy objectives such as environmental protection, in addition to the primary objective of public procurement to deliver necessary public goods and services in a timely, economical and efficient manner that allows for fair competition.[7] Countries pointed out the risk of disrupting the efficiency of buying processes where procurement is used to support socio-economic goals without a prior analysis that assesses short- and long-term costs and benefits and verifies whether procurement is indeed the most effective tool to achieve policy objectives, compared to other tools like regulations or taxation. Therefore, when governments use public procurement to support goals like environmental protection, there should be an evaluation to ensure that this is efficient and in order to draw lessons for future policy development.[8]

To assist countries in their efforts to implement GPP and address challenges, the 2012 report by the Public Governance Committee to the Council on the implementation of the 2008 Recommendation on Enhancing Integrity in Public Procurement called for the development of a "*compendium of good practices on how to integrate environmental considerations in public procurement in a transparent and cost-effective manner*".[9]

The analytical framework for collecting the GPP case studies was set in a discussion paper on "Mapping out good practices for green public procurement"[10] developed by the OECD in 2013. The framework is based on the following six dimensions for successful GPP implementation:

1. Setting a GPP legal and policy framework to assist buying entities in incorporating GPP in their procurement procedures.

The case studies inform the discussions on the usefulness of a clear GPP framework with understandable definitions, targets and priorities in helping public entities achieve their goals. Different national approaches converge in that comprehensive and well-aligned guidance is instrumental in reaching GPP objectives.

2. Planning GPP, including understanding market capacity and available technical solutions as well as assessing GPP costs and benefits.

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6. European Union (2011), *Buying Green! A Handbook on Green Procurement*, 2nd Edition, European Union, Brussels, available at: http://ec.europa.eu/environment/gpp/buying_handbook_en.htm.

7. "The main objective of public procurement systems is to deliver value for money in the use of public funds whilst adhering to the fundamental principles that guide government actions, in particular transparency and non-discrimination" (OECD, 2013, *Implementing the OECD Principles for Integrity in Public Procurement: Progress Since 2008*, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201385-en).

8. *Idem.*

9. OECD (2012), "Report by the Public Governance Committee on the implementation of the *Recommendation of the Council on Enhancing Integrity In Public Procurement*", C(2012)98, OECD, Paris; see also OECD (2013), *Implementing the OECD Principles for Integrity in Public Procurement: Progress Since 2008*, OECD Public Governance Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264201385-en.

10. OECD (2013), "Mapping out good practices for green public procurement", GOV/PGC/ETH(2013)3, OECD, Paris, available at: www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=GOV/PGC/ETH(2013)3&docLanguage=En.

The case studies show that consulting with stakeholders and suppliers is crucial to assess available green solutions and gauge supply capacity. Countries provided valuable guidance on ways of engaging with the supply market as well as on how authorities may use life-cycle costs evaluation in their cost-benefit analysis.

3. Introducing environmental standards in the technical specifications, procurement selection and award criteria, as well as in contract performance clauses.

The case studies highlight the extent to which performance-based contracting and payment provide incentives for innovative green solutions. Credible standards determining what products or services count as green, such as, for example, eco-labels, are core conditions to reach environmental goals. In the course of consultation for this report, stakeholders have also pointed out the importance of conducting paperless procurement procedures and thus contribute to environmental goals.

4. Professionalising GPP and increasing know-how and skills.

Countries are unanimous in that GPP requires specialised knowledge and skilled multidisciplinary teams. The case studies showcase a range of professionalisation tools like manuals, training and guidance, which help build the capacity of the public sector to use procurement strategically.

5. Raising awareness on GPP solutions and their benefits with buyers, businesses and the civil society.

A focused effort on getting the right messages across to government procurement officials and the general public can have a significant impact on the success of GPP. Case studies show concrete results of GPP communication strategies, including encouraging businesses to develop green solutions and increasing citizens' trust in the achievements of green policies.

6. Monitoring the results of GPP and providing a feedback loop into policy and regulation.

The case studies not only provide concrete examples of measuring and monitoring GPP results but also show that monitoring serves to consolidate the benefits of GPP and provide valuable feedback for policy makers.

Senior public procurement experts from OECD and key partner countries validated the analytical framework. The case studies on GPP good practices were selected and sent by OECD and key partner countries and validated during 2013 and 2014 by, mainly through the meetings of the Leading Practitioners on Public Procurement of 11-12 February 2013, 7-8 November 2013 and 18 June 2014.[11] The United Nations Environmental Programme (UNEP) was a valuable partner throughout this process. To promote the collection and dissemination of information, the OECD and UNEP led a joint expert group on promoting best GPP practices.[12] The group is incorporated in the international 10 Year Framework of Programmes (10YFP) Sustainable Public Procurement (SPP) Programme. Led by the (UNEP), the 10YFP SPP Programme convenes a network of over 70 partners representing governments, non-governmental organisations (NGOs), consultancies, businesses, international organisations and experts from over 30 countries, has two objectives: i) build the case for SPP/GPP; and ii) support the implementation of SPP on the ground in order to promote sustainable consumption and production and support greener economies.

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[11]. See: www.oecd.org/corruption/ethics/procurement-knowledge-sharing.htm.

[12]. See: www.oecd.org/gov/ethics/procurement-green-procurement.htm.

The first version of this compendium was reviewed at the meeting of the joint OECD-UNEP expert group on 6 November 2013, carried out under the leadership of the Leading Practitioners on Public Procurement.[13] An updated version was presented in the meeting of Leading Practitioners in Public Procurement on 18 June 2014.[14] This final version compiles all of the GPP case studies and incorporates the valuable comments made by countries, including good practices and challenges in implementing GPP in a national or sub-national context.

This document presents the case studies across the six dimensions of GPP implementation on the basis of one of their core features. However, most are multidimensional and all are complementary, forming together a comprehensive view of what may constitute good approaches to successful GPP. The case studies are published by the OECD on a dedicated webpage http://www.oecd.org/gov/ethics/best-practices-for-green-procurement.htm, where the final version of this compendium will be made public as soon as approved. Lessons learnt in preparing this compendium fed into the development of the Recommendation of the Council on Public Procurement [C(2015)2 and C/M(2015)4, Item 28] and will support its implementation.

[13]. OECD (2013), "Case studies on green public procurement best practices", GOV/PGC/ETH(2013)10, OECD, Paris, available at: www.oecd.org/gov/ethics/nov7-8-agenda-summary.pdf.

[14]. OECD (2014), "Going green: Best practices for green procurement", GOV/PGC/ETH(2014)1, OECD, Paris.

DIMENSION 1. GREEN PUBLIC PROCUREMENT LEGAL AND POLICY FRAMEWORK

A solid GPP framework, including regulation and policy guidance, can be a powerful tool in advancing the purchase of green products and removing obstacles to GPP. Regulatory frameworks rely in variety of tools, from guidelines to schemes to increase 'market-pull', incentivising the development of a green solution.

The case studies build a convincing case for clear and well-aligned frameworks. For example, the Korean Act on Encouragement of Purchase of Green Products adopted to harmonise GPP policies was instrumental to foster the rapid growth of the green public market. Likewise, the principles and targets set by the Austrian Railways Infrastructure Corporation helped the successful implementation of GPP.

KOREA[15]

Context and objectives

Korea's green public procurement was first introduced in tandem with the Korea Eco-label under the Act on Development and Support of Environmental Technology of 1994. State agencies were recommended to preferentially purchase products awarded the Korea Eco-label. However, it remained inactive due to the limited number of eco-labelled products and the lack of a monitoring system.

Green public procurement took a more concrete form when the Ministry of Environment introduced the Act on Encouragement of Purchase of Green Products in 2005 (hereinafter the Act of 2005). At the beginning of each year, state organisations – i.e. central and local governments and public organisations – are obliged by the Act of 2005 to submit an implementation plan on green purchases of the year and the performance records of the previous year to the Ministry of Environment.

A series of consultations with the line ministries, public organisations, experts and the industry were conducted to agree upon the essence of the Act of 2005. It was concluded that green public procurement be implemented in connection with the eco-labelling – i.e. Korea Eco-label and Good Recycled Mark – in order to minimise the administrative costs required to set the green procurement standards by each institute.

The adoption of the Act of 2005 has been instrumental in stimulating the development of eco-labelled products in both quantity and quality by leveraging the public demand. The total public expenditure in green purchases has more than tripled, from KRW 254.9 billion in 2004 to KRW 787 billion in 2005, with a further increase to KRW 1 727 billion in 2012. In addition, the number of products certified by the Korea Eco-label increased by 3.8 between 2004 and 2012.

Implementation

The government does not set quantitative targets related to green public procurement, but each state agency must set its own voluntary target (e.g. estimated amount of green purchases and

[15]. Case study submitted by the Korean Environmental Industry and Technology Institute (KEITI).

percentage of green purchases in relation to the total purchases of the year) and report it to the Ministry of Environment. The Ministry of Environment expects the green public market to grow by 1.5 times over the three years between 2012 and 2015.

The products and services applicable for green public procurement are defined by the Act of 2005 as: *i)* certified or meeting the underlying criteria set by the Korea Eco-label; *ii)* certified or meeting the criteria of the quality certificate for recycled products (Good Recycled Mark); *iii)* complying with other environmental criteria set by the Ministry of Environment following consultation with the heads of the relevant ministries.

According to the Act of 2005, state agencies should purchase green products and services for which the eco-label criteria exist. In 2012, there were about 870 umbrella organisations comprising about 30 000 subsidiary organisations subject to the Act of 2005. Green procurement can be made in two ways. Each organisation can directly purchase green products and services. If the total amount of purchase exceeds a certain threshold, the purchase is commissioned by the Korea Public Procurement Service (PPS), the central public procurement agency. Otherwise, each organisation can require contractors to purchase green products in delivering their services (e.g. construction, maintenance, repair and operation services) by including special conditions or green specifications in the contract. The product groups incorporate various product categories, ranging from electronic appliances, office supplies and furniture to construction materials, etc.

The Korea Environmental Industry and Technology Institute (KEITI), affiliated with the Ministry of Environment, is operating the overall GPP system and the Korea Eco-label. The KEITI is in charge of collating green procurement implementation plans from the state agencies and monitoring the results. Furthermore, a variety of policies are also being exercised to supplement the GPP as follows:

- produce an annual guideline to inform procurers of the green procurement and monitoring procedure
- conduct trainings for procurers regularly and on demand
- publish the case studies and hold workshops to feature best practices
- give national awards and incentives to state agencies with good performance.

Impact and monitoring

In order to keep track of the progress of green public procurement, three indicators are monitored by the KEITI: *i)* the number of public organisations that submit an implementation plan and performance records; *ii)* the total amount of annual green procurement in economic value and units; *iii)* green standards and specifications of service and construction contracts.

In order to collate data from the umbrella organisations, in 2005 the KEITI established an online platform, the Green Products Information System (GPIS), to make the monitoring and reporting process easier and more convenient. Linked with the PPS' electronic procurement system, the records of the green purchases procured through the PPS are automatically transferred to the GPIS. In addition, the records of the green purchases made individually by the organisations are added up if the respective organisations keep track of purchase data and upload them on the GPIS.

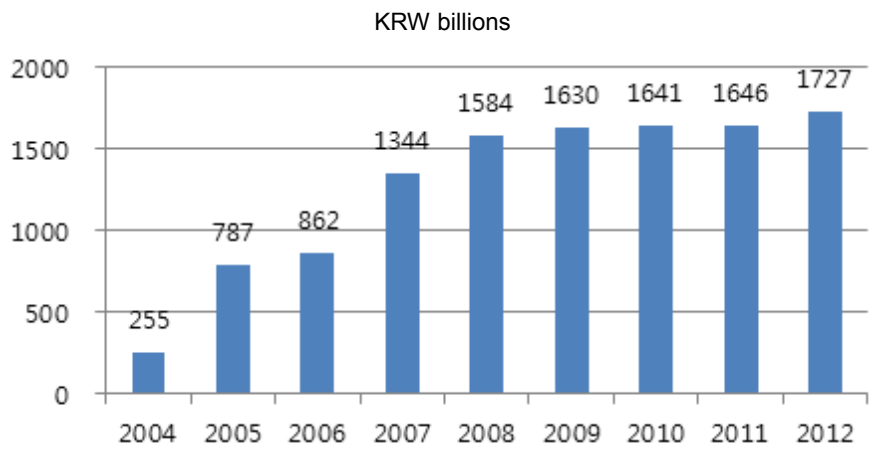
In total, about 60% of the national green procurement data is automatically reported via the GPIS, which greatly reduces the administrative burdens of both procurers and the KEITI in monitoring and

compiling the results. An institutional arrangement between the key stakeholders – such as PPS (the central procurement agency), the Ministry of Environment and the KEITI – was instrumental in setting up an integrated e-monitoring system.

The compiled green public procurement data by institution is uploaded on the website of the Ministry of Environment and the GPIS so that the public can easily access and compare the results. In addition, once the data is disclosed, the results are usually covered by the major media in Korea, which encourages competition among public organisations. In 2013, 96.4% of state agencies submitted their implementation plans and records and 97.7% of the organisations reported their performance records.

The total amount of green public purchases rose dramatically during the first few years following the adoption of the Act of 2005 and continues to grow steadily. In addition, the economic, environmental and social impacts of green public procurement are annually calculated by the KEITI in order to communicate the benefits to the public. To date, the estimated reduction of CO_2 equivalent emissions is 3.1 million tonnes, which can be translated into KRW 54.5 billion of economic savings. Social benefits are calculated in terms of 12 143 new jobs.

Figure 1. Trends in total amount of green public procurement in Korea



Source: KEITI.

Challenges and risks

Green public purchases only account for 5-6% of the total domestic procurement executed by the Korean Public Procurement Service. This is partly due to the relatively high prices of certain green products, such as furniture and construction materials. In addition, complaints on the quality of some green products are another barrier hampering market uptake of green products.

In Korea, there are several fragmented regulations on public procurement. Therefore, "green" procurement may not be a priority for some procurers or organisations in the face of a number of other criteria (e.g. energy efficient, socially responsible) that are competing with the "green" criteria. Furthermore, given that those criteria are imposed by different ministries on public organisations without co-ordination, the procurers shoulder the burden of reporting the records to the different ministries.

Key lessons learnt

Green public procurement in Korea has benefited from the already established green criteria of the Korea Eco-label and Green Recycled Mark. By linking these two policies, administrative costs to set the green procurement standards have been limited by each institute, thereby inducing the rapid growth of the green public market. It was after the government's clear signal to scale up the GPP that green products became competitive and diversified in the market. This approach can be strategically replicated in other countries considering the adoption of both eco-labelling and GPP simultaneously.

Green public procurement should go hand in hand with eco-innovation policies aimed at stimulating the market. By nurturing the green market, the product groups covered by the GPP can be expanded, while the quality and price competitiveness of green products can be ensured. In this regard, the Ministry of Environment establishes a Master Plan for Encouraging Purchase of Green Products every five years, elaborating a variety of policies aimed at promoting green production, distribution and consumption.

Green public procurement in Korea should be harmonised with other procurement regulations and criteria so as to minimise confusion and burdens of procurers. In the long run, the scope of green procurement should be expanded to incorporate both "ecologically efficient" and "socially inclusive" procurement, thereby becoming sustainable public procurement.

AUSTRIA[16]

Context

In 2008, the management board of ÖBB Infrastruktur AG (ÖBB Infra), the Austrian state-owned railways infrastructure company, decided to implement an environmental management system (certified according to ISO 14001) as a major pillar for the sustainable development of the company. A co-ordinator was nominated in July 2009 to deal with sustainability on a corporate scale, notably to develop guidance on sustainable procurement, as procurement was identified as one of the key areas related to the sustainability performance of the company. Given that ÖBB Infra's annual investment expenditure amounts up to EUR 2 billion (approximately 1% of Austrian gross domestic product), procurement is deemed as an important lever for the development of sustainable economic operations throughout the enterprise, so as to reduce the consumption of energy and resources. A guidance note on sustainable procurement was published in 2011.

Objectives

The sustainable procurement strategy aims at raising procurement officers' awareness for the integration of socio-economic criteria into the procurement process with a step by step approach in order to contribute to the following tasks:

- reducing the consumption of resources, utilities and energy
- avoiding waste and pollutant emissions
- increasing quality
- protecting biodiversity

[16]. Case study submitted by the Austrian Federal Chancellery.

- reducing internal and external environmental costs (e.g. costs for disposal or transport)
- increasing the transparency and plausibility of costs
- fostering innovation
- fair working conditions and income
- creating "green jobs"
- winning suppliers as strategic partners.

The strategy builds on the availability of information about sustainability criteria and internal guidance on specific opportunities as well as marketing the idea among stakeholders.

Implementation process

In early 2009 a working group was established to analyse the potential of sustainable procurement for the company, which led to setting sustainable procurement as a permanent target within the environmental management system.

With the support of external partners (*Institut für Bauököologie* and *Beschaffungsservice Austria*, the Austrian Institute for Building Biology and Procurement Service), the work focused on the integration of socio-economic aspects into the procurement of consumable goods and infrastructure projects and resulted in a guidance note, which was published in 2011.

The guidance note contains a short description of the general background of sustainable procurement concepts and the reasons for them, sums up initiatives and strategies in the field, points at the legal requirements and most importantly lists existing national and international eco-labels and their specific relevance for ÖBB Infra (and other infrastructure businesses) with an evaluation scheme. Criteria underlying the labels are explained and made transparent. The guidance note concludes with two practical examples concerning rail infrastructure construction, to provide a more concrete picture of how sustainable procurement could be realised.

In 2011 the management board adopted a decision with the following content:

- ÖBB-Infra AG commits itself to the principles of sustainable procurement
- procurement staff is instructed to integrate these principles into the procurement procedures
- check and if needed adapt the internal regulations concerning contracting and procurement
- approve the guidance note on sustainable procurement as a supporting document for procurement staff (integration into the management system).

A workshop was organised with external experts for procurement officers. Sustainable procurement is now an integral part of internal training programmes (for example "rail – ecology" seminars) and practical exercises serve to gain practical experience, especially in the field of construction materials and tension weights.

Impact and monitoring

Awareness for sustainability aspects has increased, together with the specific knowledge of participants, notably the procurement officers. Practical information is easily available. Sustainability is also set as a procurement principle for purchasing and materials management in the guidelines of the Austrian state-owned Railways Holding company.

Specific monitoring measures were planned for 2012 with a focus on the use of materials (concrete) and weights, for which no fixed performance parameters or standards exist.

Challenges and risks

A common phenomenon is the lack of resources in terms of staff to thoroughly monitor and evaluate the measures taken. In the field of construction materials, the establishment of technical standards is particularly complex and requires the adaptation of contract specifications. This increases the workload for procurement officers. It is therefore necessary to make positive effects visible through continuous dialogue and share best practices.

It is also important to develop standardised methods to calculate the total costs of ownership, as they are often neglected in practice.

Key lessons learnt

The success of a project requires the involvement and constant information of all essential persons at all stages. For this particular project, co-operation with recognised organisations (the Austrian Institute for Building Biology and Procurement Service) and suppliers was especially helpful.

One of the key findings is that as long as external costs and the costs-by-cause principle are not integrated into economic assessments on an obligatory basis, procurement by the lowest costs principle will dominate in practice. In this regard, precise legal requirements could be effective to promote "green" objectives and ensure that sustainable procurement is a standard rather than an exceptional procurement method.

Practice also shows that it is easier and more effective to integrate socio-economic criteria early in the procurement procedure, in the description of the subject of the contract and technical specifications.

The National Action Plan for Sustainable Public Procurement (which is not binding for ÖBB Infra) is a substantial step forward. Similar guidelines for sectors not included in this action plan are needed. Incentives like tax schemes for sustainable procurement would also promote green solutions.

For further information see:
www.oebb.at/infrastruktur/de/5_0_fuer_Generationen/5_2_Verantwortung_Umwelt/index.jsp.

DIMENSION 2. UNDERSTANDING MARKET CAPACITY AND ASSESSING COSTS AND BENEFITS

GPP attempts to increase the demand of green products in order to shift the market towards sustainability. However, the ability to support long-term uptake of green solutions can be disrupted by a number of factors, like a lack of information on green products, low buyers' interest and the absence of incentives for suppliers. Understanding the pros and cons of switching conventional purchases to green ones is paramount for the successful implementation of GPP.

The case studies highlight methods for increasing GPP through thorough evaluation of the cost and benefits of sustainable purchases and the engagement of the market in the tendering process. The life-cycle costing (LCC) approach to promote the mass purchase of energy-efficient, compact fluorescent lamps by Indian Railways was accompanied by an awareness campaign to demonstrate their economic benefits despite their high upfront cost. The Italian purchasing body Consip was successful in stimulating research, development and innovation for green products through market consultation and involvement of suppliers in the development of feasibility studies and procurement strategies.

INDIA[17]

Context and background

The total volume of public procurement in India is estimated to constitute about 30% of gross domestic product (GDP). There is no law that governs public procurement in India. The General Financial Rules issued by the Ministry of Finance lay down the basic principles of efficiency, economy, fairness and equitability and the promotion of competition in public procurement. The current guidelines do not mandate public authorities to include environmental and social criteria in public procurement. However, awareness about sustainability is growing. The use of public procurement as a tool to influence market trends in favour of environmentally and socially responsible products and services is a relatively new concept in India.

The Ministry of Railways, which administers Indian Railways, the national railroad carrier, is one of the central ministries in India. The procurement of goods, works and services in Indian Railways is governed by the General Financial Rules, codes, manuals and departmental guidelines. The Indian Railways Vision 2020 document states its intention to conserve energy by achieving 15% energy efficiency and to use a low-carbon, energy-efficient approach.

Many employees working for Indian Railways reside in a railways colony. Most of these households use energy inefficient incandescent lamps (ICLs) for their lighting needs, thus increasing peak electricity demand in the evening. The introduction of energy-efficient lighting solutions in these households involves many challenges, such as low consumer awareness of energy-efficient products,

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17. Case study submitted by Sanjay Kumar, Deputy Chief Materials Manager, Northern Railway, Government of India.

the quality of existing products on the market, poor availability of green products in rural markets, and most of all, the high initial cost of compact fluorescent lamps (CFLs) on the Indian market.

Objectives

In keeping with the goals of Vision 2020, Indian Railways took a unique initiative in 2008 to reduce the peak lighting loads in Indian Railways' residential quarters by replacing ICLs with energy-efficient CFLs. The project team used life-cycle costing (LCC) as a tool to demonstrate the potential benefits of using CFLs over ICLs for lighting needs even though the upfront purchase price of a CFL is approximately five or six times that of an ICL in India. The idea was to encourage the involvement of stakeholders in the project implementation phase so that they could experience the benefits of adopting greener products and services themselves. The resulting energy savings achieved through this project will reduce the total power demand and lead to a reduction of greenhouse gas emissions.

The secondary objective of the project was to demonstrate the use of the Clean Development Mechanism (CDM) under the Kyoto Protocol to finance an energy-efficiency project in an emerging economy. It leveraged money earned through the sale of certified emission reductions (CERs) generated during the project to distribute a maximum of 4 CFLs to 400 000 households across Indian Railways.

Table 1. Comparison of life-cycle costing for compact fluorescent lamps and incandescent lamps

Wattage of incandescent lamps	Wattage of compact fluorescent lamps of equivalent lumen	Consumption of electricity in burning incandescent lamps for 6 000 hours = wattage x hours/1 000 KWH	Consumption of electricity in burning compact fluorescent lamps for 6 000 hours = wattage x hours/1 000 KWH	Savings in electricity over life cycle of compact fluorescent lamps, i.e. burning for 6 000 hours. = (3-4)	Cost of electricity per KWH (in INR)	Savings on electricity bill over life cycle of compact fluorescent lamps = 5*6	Initial cost of each incandescent lamp (in INR)	Initial cost of compact fluorescent lamp of equivalent lumen (in INR)	Initial cost of incandescent lamp for burning 6 000 hours (in INR)	**Net savings per compact fluorescent lamp over life cycle (in INR) = 7-9+10**
1	2	3	4	5	6	7	8	9	10	**11**
100	20	600	120	480	5	2 400	15	130	90	**2 360**
100	23	600	138	462	5	2 310	15	130	90	**2 270**
60	14	360	84	276	5	1 380	11	90	66	**1 356**

Assumptions:

Life of compact fluorescent lamp – 6 000 hours

Life of incandescent lamp – 1 000 hours

Source: Indian Railways.

Implementation

The project was conceived and administered at the ministry level and was implemented by divisional units across country. The tender conditions included the requirement of high-quality CFLs as per Indian Standard IS: 15111 of reputed make with 10 000 burning hours. Further, they specified that the winner of the contract would recover the cost of the CFLs supplied to Indian Railways through

the sale of CERs by registering it with the United Nations Framework Convention on Climate Change (UNFCCC) as a Clean Development Mechanism project. A globally advertised tender was launched in June 2008. The Project Implementation Deed dated 30 October 2009 was signed between CQC Malaysia Limited and Indian Railways.

Under the agreement, CQC was responsible for procuring high-quality CFLs as per the tender specifications and supplying CFLs to designated points as per advice from the divisional heads. CQC was to recover the cost of the CFLs through trading CERs. As per the agreement, 3% of the CERs were to be transferred to Indian Railways. Further, CQC was responsible for undertaking the process to acquire Clean Development Mechanism status, from the development of the project design document, obtaining host country approval, validation and registration of the project and project monitoring, to verification and certification with the UNFCCC. The Ministry of Railways, as the project beneficiary, was responsible for the distribution of CFLs in Indian Railways' housing colonies on a replacement basis, recordkeeping, storage of the CFLs and disposal at the end of their life as well as the safekeeping of released ICLs until verification.

The project team identified the stakeholders as Indian Railways employees residing in residential quarters, Philips India (the supplier of lamps) staff, Indian Railways employees involved in the project and local NGOs. CQC conducted training for supervisory staff involved in the distribution of the CFLs. The consumers residing in households were adequately briefed on the project during stakeholders meetings conducted at numerous different locations. They were also told that they needed to install the CFLs in areas of maximum usage like the kitchen, drawing rooms and common utility areas where average lighting is a minimum of 3.5 hours per day, in order to achieve the maximum benefit.

The project activity started on 10 July 2009 with the signing of the master purchasing agreement between CQC and Philips India. The distribution of 1.41 million CFLs across India was completed in December 2009. The project was registered with the UNFCCC as a Clean Development Mechanism project in November 2010 after obtaining host country approval from the Ministry of Forest and Environment and validation by the UNFCCC's appointed Designated Operational Entity (DOE).

Impacts and monitoring

The project has been closely monitored since its beginning. Spot checks were conducted to verify that the CFLs were actually installed in households within two weeks of their distribution. Project co-ordinators were responsible for visiting at least 25% of the households participating in the project. Det Norske Veritas (DNV) independently validated the project for meeting all of the relevant UNFCCC requirements for the Clean Development Mechanism and all of the relevant host country criteria.

The project contributes to sustainable development using an energy-efficient technology which would otherwise not have such a large market penetration in India.

Economic benefits: The project resulted in direct energy savings of 112 500 MWh per annum and is expected to generate 486 130 units of CERs equivalent including a 3% share to Indian Railways.

Social benefits: More than 400 000 households (400 831) have directly benefitted from this project as they received free CFLs that will provide them with sustained savings over the years in terms of energy bills. Further, disposal or recycling of the ICLs and CFLs will require an informal/formal recycling industry, which will create additional employment and generate additional income to the recyclers.

Environmental benefits: Replacing ICLs with CFLs has reduced energy consumption by approximately 75 KWh per CFL per annum and thereby carbon emissions from upstream fossil fuel power generation. It resulted in a reduction of approximately 90 000 tonnes of CO_2 emissions (CER equivalent) per year. Clearly, the use of CFLs will reduce the production of glass as well as the utilisation of energy in ICL bulb production, among others.

In addition, one of the key benefits of this project is exemplified in the fact that India faces a chronic energy deficit. The country is straining its resources to build more fossil fuel plants to meet the ever-growing demand for electricity. The savings from this project will help improve the power supply for agricultural, domestic, industrial and commercial users in India. Most of all, the project raised awareness among more than 400 000 households about the importance of conserving energy.

Challenges and risks

The project had two components. First, justifying the procurement of CFLs, at a substantially higher initial cost, based on life-cycle costing instead of simply the initial economic cost. Second, financing the project using the Clean Development Mechanism through the sale of carbon emission reductions generated during the project. The conceptualisation and development of the bid document itself was a huge task for the project team, as both of these components needed to be merged together. At the same time, the project design needed to secure the investment risk of a private player performing the contract over the period of the project's life cycle.

Supplying CFLs free of cost to households does not guarantee that consumers will then buy CFLs in the future. An awareness campaign was therefore necessary to demonstrate to stakeholders the benefits of adopting CFLs even if there is a very high initial cost. The team organised various stakeholder meetings across India to highlight the savings potential of CFLs over their life cycle and monthly electricity bill savings generated by using CFLs. This concept proved very useful to inform households of the benefits of adopting CFLs over ICLs. If stakeholders are not fully convinced of the potential for savings, they may revert back to using ICLs after the end of the first CFL's life supplied by Indian Railways.

The Clean Development Mechanism project has transaction costs and registering such a project with the UNFCCC takes 12-24 months. The process is very complex, requiring co-ordination with several agencies and stakeholders throughout the life of the project. Further, the development of the project design document, obtaining host country approval, project validation and registration, project monitoring, verification and certification with the UNFCCC requires a lot of documentation and technical expertise. The team, not expert in handling a project of this complexity, awarded the project's design and implementation to professionals through open bidding, limiting its own role to regulatory compliance.

The project was originally planned to distribute 2.6 million CFLs to Indian Railways households. However, during the actual distribution of the CFLs, many houses were found vacant, locked and abandoned. As a consequence, only 1.41 million CFLs could be distributed. This did not affect the economic viability of the project, but substantial variation between a projected quantity and actual quantity could, in other cases, have this effect.

The project was financed from the sale of CERs in the international carbon market, which fluctuates. This project was a success, as in 2010 the CER market was on the upswing and CQC was able to sell the CERs earned during this project at a good price. With the deepening recession in Europe, which has led to the crash of the international carbon trading market, such projects are at a heightened risk.

Key lessons learnt

Sustainable public procurement (SPP) is a demand-side policy intervention to reduce the consumption of resources. The consumer is central to any discussion on SPP. Therefore, the implementation of SPP, in practice, requires not only laws and guidelines but also a change in

consumers' attitude towards the sustainable consumption of products and services. This project has been successful largely because consumers understood the benefits of using CFL and adopted the project wholeheartedly.

Governments can change consumers' consumption behaviour and orientate them towards greener products and services. This requires spreading information about the benefits of green products and services, and therefore, involving stakeholders is a key step for success.

Life-cycle costing (LCC), which refers to the total cost over the life of an asset and can include costs before, during and after the usage of an asset, is an important tool for the selection of green products and services to provide value for money. At the same time, LCC has limitations due to the following reasons:

- Procurement professionals do not always have the technical knowledge to capture all costs themselves and have to depend on external sector experts.

- LCC must take into consideration all of the associated costs. However, it is often not possible to realistically establish the LCC of products and services due to non-availability of data for the use phase.

- In the case of competing products, procurement professionals depend on data provided by vendors for working out operation and maintenance costs. Accuracy of data must be closely checked.

- It is time consuming.

- It does not, *per se*, take into account the impacts of products and services on the environment and society.

Therefore, developing LCC technical expertise is crucial for its successful implementation. LCC should be used as tender evaluation criterion for products and services for which there is a considerable degree of confidence of capturing all of their current and future costs.

The project was conceptualised and designed at central level but was implemented through decentralised networks of offices across India. This exemplifies the importance of institutional structures in implementing such a project in the field.

ITALY[18]

Context

Consip is the Italian central purchasing body, 100% owned by the Ministry of Economy and Finance (MEF). Energy is one of the product/service categories that Consip provides to public administrations. Through research, Consip's energy and research and development units realised that there was room for improving the procurement of heating services as it absorbs 41% of the national energy expenditure (about EUR 3.4 billion annually) and accounts for approximately 5% of the Italian energy market. The expected target was to achieve economical savings of 5-10% and an equivalent energy savings.

[18]. Case study submitted by Consip SpA, the Italian central purchasing body.

Objectives

In order to combine cost savings and incentives for innovation in public procurement through performance standards, Consip launched a framework contract on "Integrated Energy Management Services" for heating services including improved energy efficiency, consumption reduction and CO_2 emissions avoidance. Pre-procurement market consultation was carried out using online questionnaires addressed to businesses and the main trade associations in Italy. This initiative shows how research, development and innovation can be stimulated through a performance-based contract for a large number of administrations.

Implementation

Consip undertook a market analysis based on a mix of historical data and information deriving from the answers provided by the suppliers to questionnaires published on Consip's website and to the public announcements of the company's schedule and scope of forthcoming procurement initiatives.

The pre-procurement market consultation was one of the most important parts of the procurement process and was carried out using online questionnaires for suppliers. Several meetings took place with the main trade associations and with all the suppliers that had won in previous relevant tenders to discuss the critical aspects that emerged during the execution of the previous relevant contracts. Thus, suppliers were involved before the decision of tendering strategy and were offered the opportunity to present their views, so that the best strategy could be chosen by Consip.

Consip's tender was a framework contract open to all public administrations so it was not possible to define exactly the buildings to be heated and their technical/physical features. Therefore, the tendering process was developed starting from a business case on a specific public building extrapolated to the entire value of the tender and number of forecasted buildings.

Impact and monitoring

The tendering process was an open procedure, split into 12 geographical lots, awarded to 5 different suppliers, on the basis of the most economically advantageous tender (MEAT), whereby 70% was allocated to price and 30% to quality.

The main feature of this performance contract was a settled temperature (i.e. 20°C) to be preserved inside buildings (public offices, schools, prisons, universities, etc.) for five years.

The main services included in the contract were:

- fuel supply
- operation and maintenance (O&M) of the heating facilities
- remote control
- outsourced legal responsibilities
- outsourced technical and administrative issues
- regulatory and technological upgrading.

Improvement of energy efficiency consumption and consequently pollution reduction: The supplier was required to ensure a minimum level of reduction for primary energy consumption of the whole "building/heating plant" system, measured in tonnes of oil equivalent (TOE). The supplier was also required to provide evidence of the results obtained, certified by the AEEG (Italian Regulatory Authority for Electricity and Gas) which operates and maintains heating facilities, including by remote control.

Challenges and risks

In order to reduce energy consumption, at a national level, Consip adopted a strategy based on energy performance contracts. The basic idea is that the supplier of the energy service should be motivated and encouraged to optimise energy consumption and resource management to improve his/her profitability.

Green considerations were introduced (benchmarked against international best practice) in the following elements of the tender:

- Technical specifications:

  - settled temperature (e.g. 20°C) to be preserved inside buildings (public offices, schools, prisons, universities, etc.) during the average Italian heating season (i.e. 8 hours for 4 months)

  - installation of electronic meters and constant monitoring of the buildings' indoor temperatures

  - online monitoring activities (using eMeters) and online assistance

  - assessment of the optimal level of consumption for heating and energy services

  - energy audit performed for every building.

  The supplier is compensated only at the end of the service delivery, having achieved the predetermined levels of performance.

- Award criteria:

  - technical report (for each building receiving the energy services) including a specific study on the interaction between the building users and its energy system

  - publication of the environmental assessment and/or social budget and/or sustainability report

  - infrared photography report for each building receiving the energy services.

The award criteria were aimed at encouraging suppliers to reduce primary energy consumption and the associated CO_2 emissions of the entire building/heating plant system by measures such as substitution of hot water heating, insulation, renewable thermal sources, etc. All the suppliers involved were able to comply with the technical criteria requested.

A 27% cost savings for public administrations was achieved involving approximately 6 000 buildings. Contracts executed had a total (estimated) financial value of EUR 800 million. There was enhanced competition on technical features included in the tender.

Key lessons learnt

The principle environmental impacts are related to CO_2 emissions caused by energy consumption. In order to reduce these impacts, the contract included a performance clause requiring a minimum amount of energy to be saved (375 TOE). Actual energy saved (13 800 TOE) was higher, resulting in the avoidance of 40 800 tonnes of CO_2 emissions. The procurement process ensured two additional results:

- In the short term, suppliers are encouraged to reduce the energy consumption of buildings.
- In the long term, at the end of the contract, the public administration owns the equipment installed by the suppliers (for example, the boiler).

If all Italian public authorities used Consip's framework contracts, the cumulative effect would result in approximately EUR 100 million of savings.

The success of this framework contract has helped Italian public authorities to lead by example in energy savings *vis-à-vis* citizens and the private sector, complying with their procurement obligations and with Directive 2006/32/EC on energy end-use efficiency and energy services.

In the new edition of this framework contract, energy savings will be monitored both by Consip and the public administrations that occupy the buildings, with potentially applicable penalties. The main changes expected are:

- the remuneration of the suppliers, which will take into account both the physical and architectural features of the buildings (for example, type of windows, insulation)
- the variable duration of contracts, in order to increase the pay-back period for the supplier (from five to seven years)
- an increase in the minimum level of reductions requested (in TOE)
- the multiple services offered by the supplier (for example, energy certification).

DIMENSION 3. INTRODUCING ENVIRONMENTAL STANDARDS IN PROCUREMENT

Countries' experiences demonstrate that without credible standards determining what products or services count as green it may be difficult to implement GPP. EU studies show that the uptake of GPP strongly correlates to the existence or absence of an eco-label scheme and that eco-labels play an important role in implementing GPP solutions. Using standards can ease the decision-making process in public procurement and contribute to a harmonised approach to GPP.

Lists of eco-labelled products provided by the Chinese authorities mandated to be given priority by the public entities, helped implement GPP. Functional, performance-based requirements enable the market to arrive at alternative and innovative solutions, as experiences in Austria, Denmark, Estonia and the Netherlands show. Sweden, which has a long experience in strategically using public procurement to reach environmental and societal goals, used well-defined GPP tender criteria as a key step in its GPP strategy.

People's Republic of China[19]

Context

On 24 October 2006, the Ministry of Finance (MOF) and the former State Environmental Protection Administration (now the Ministry of Environmental Protection, MEP) jointly issued Recommendations on the Implementation of Environmental Labelling Products in Government Procurement and the first government procurement "List for Environmental Labelling Products", which included 14 categories of products meeting environmental standards. These two documents mark the launch of the Chinese Governmental Green Procurement (GGP). They define government procurement, product categories, processes and regulations and provide support for carrying out government procurement on Environmental Labelling Products.

The government procurement "List for Environmental Labelling Products" is jointly managed by the MOF and the MEP. All products on the list have been granted Environmental Labelling certified by certification bodies, also taking other factors into consideration, such as environmental performance, technology levels and the market capacity. The "List for Environmental Labelling Products" is published through certain channels, in particular by the Ministry of Finance (MOF) at www.mof.gov.cn, the Ministry of Environmental Protection (MEP) at www.mep.gov.cn, the Centre of China Government Procurement at www.ccgp.gov.cn and the China Green Procurement Net at www.cgpn.org. Lists can be downloaded by the public and any purchasing entity.

Chinese GGP documents require all levels of state bodies, institutions and organisations to give priority to purchasing Environmental Labelling products and prohibit them from purchasing any products which harm the environment or human health. Products with similar performance, technology and service attributes but less environmental impact should be preferred over other products. If a purchasing agency does not meet the above requirement, this will be made public by

[19]. Case study submitted by the China Environmental United Certification Centre, People's Republic of China.

responsible departments in accordance with relevant laws, rules and regulations and financial sectors can refuse to pay. This requirement came into effect on 1 January 2007 in the budget departments at the central and provincial level, then implemented across other levels of government.

Objectives

- Actively promote the construction of an environmentally friendly society through Environmental Labelling products in government procurement.

- Implement a green policy for government procurement to improve environmental quality.

Implementation

During the seven years following the implementation of the Chinese GPP programme, 11 government procurement "Lists for Environmental Labelling Products" have been issued. Product categories have increased from 14 to 66; the number of participating companies has grown from 81 to 426; and the number of models of products has increased from 800 to 37 953.

Examples of the list's product categories include: computer equipment and software, printers, display devices, duplicators, multifunction printers (MFP), passenger cars (sedans), buses, household appliances, faxes and digital communications equipment, television equipment, furniture, copy paper (including recycled copy paper), cartridges (including renewable cartridges), wood-based panels, secondary processing materials, sheets, cement concrete products, fibre-reinforced cement products, lightweight construction materials and products, building ceramics, building waterproofing roll material and products, heat insulation, man-made mineral material and products, functional architectural coatings, wall coating, waterproof coating, other architectural coatings, doors, windows, coating (excluding architectural coatings), sealing fillers, plastic products.

Impact and monitoring

The financial budgets and expenditure on GPP have been increasing annually. Statistics from the MOF show that in 2009, expenditure on government procurement of products with Environmental Labelling reached RMB 14.49 billion, which accounted for 74% of products purchased by the government through a competitive procedure. An updated statistic indicated that in 2011, government expenditure on products with Environmental Labelling reached RMB 73.98 billion, amounting to 60% of goods purchased by the government through a competitive procedure. Public procurement of goods with the Energy Efficiency Labelling reached RMB 91.06 billion, accounting for 82% of products purchased by the government through open competition.

The experience of China shows that Environmental Labelling is an effective tool for carrying out GPP. China's "Lists for Environmental Labelling Products" actively promotes the development of environmental awareness.

China does not have a full-fledged monitoring system.

Challenges and risks

Although the Chinese government gives green procurement priority, it lacks specific, comprehensive regulations to directly support it. There are certain legal bases such as the Government Procurement Law, the Cleaner Production Promotion Law and the Circular Economy Promotion Law as well as relevant policies such as the Decision on Implementing the Scientific Concept of

Development and Stepping up Environmental Protection, several Opinions of the State Council on Speeding up the Development of Circular Economy, the Notice of the State Council on Printing and Distributing the Comprehensive Work Scheme of Energy Conservation and Reducing the Discharge of Pollutants, the Decision on Speeding up the Cultivation and Development of Strategic Emerging Industries which have existed for a few years. They all advocate resource conservation and environmental protection and encourage purchasing and using products with Environmental Labelling and Energy Efficiency Labelling, products with water conservation certification and green food. However, China lacks specific consolidated legislation to develop green public procurement.

GPP is part of China's 12th Five-year Plan on National Economic and Social Development, the framework document for the medium- and long-term planning of China's economic and social development. This will promote the development of the Chinese government's green procurement.

It is necessary to improve the environmental awareness of procurement agencies and purchasers, as evidence shows that purchasing agencies with more environmental awareness achieve better GPP results.

The lack of monitoring and evaluation mechanisms hinders the effectiveness of GPP. The main obstacles to building GPP monitoring and evaluation mechanisms are the decentralised management of GPP and the ensuing difficulty of accessing purchasing data.

As the world's largest developing country, the Chinese government's spending increases every year and impacts the environment as well as economic development. The implementation of GPP plays an important role in building a resource-conserving and environmentally friendly society.

Key lessons learnt

- Environmental Labelling is an effective tool for carrying out GPP.
- Relevant laws and regulations provide support for GPP.
- The establishment and implementation of a monitoring system will support the development of GPP.
- The eco-labelled products list is an effective tool for implementing GPP.
- Environmental awareness raising of purchasers is one of the driving forces for the development of GPP.

ESTONIA[20]

Context and background

The Estonian Road Administration (ERM) is a government agency operating in the administrative area of the Ministry of Economic Affairs and Communications. It is responsible for the implementation of transport policy, that is, infrastructure, traffic and public transport.

20. Case study submitted by the Ministry of Finance of the Republic of Estonia and researched together with ICLEI (International Council for Local Environmental Initiatives) – Local Governments for Sustainability.

The ERM carried out a procurement process in October 2010 under the Green Investment Scheme ("Promoting the Use of Public Transport"), which is funded from the agreement of the sale and purchase of the CO_2 emissions quota between Estonia and Spain. The agreement was awarded in accordance with Kyoto protocol Article 17 and provided that the Estonian government invest the proceeds arising from the sale of the CO_2 quota into areas where CO_2 emission reductions can be achieved. The aim was to introduce new environmentally friendly buses which will help to popularise the use of public transport and reduce CO_2 emissions caused by the transport sector.

Criteria used

In terms of "green" criteria, the tender specifications included the following:

Subject of the contract

The purpose of the public procurement is to buy new cost-effective and environmentally friendly buses, suitable for running county and regular urban services (category M3 vehicles).

Award criteria

The award criteria were weighted as follows: 55% value of tender (i.e. lowest price); 24% for a combination of warranty, bus engine smoke opacity and repair and maintenance work; and 21% for other technical properties of the buses, including:

- Points were awarded if the engines of the offered buses complied with the emission limits applicable to EURO V enhanced environmentally friendly vehicles (EEV) as specified in Directive 2005/55/EC. The tenderer had to prove compliance with this requirement by submitting an engine type-approval certificate according to Directive 2005/55/EC.

- Points were awarded if the tender was accompanied by a confirmation from the manufacturer of the engines of the offered buses specifying that the engine may be used without modification with diesel fuel, complying with the standard EVS-EN 590:2009+NA:2009 (the Estonian equivalent of the corresponding European standard). Diesel fuel may contain up to 7% of fatty acid methyl esters (FAME) described in standard EN 14214.

- Points were awarded if urban buses were equipped with dual-zone (driver's cab and passenger compartment) air conditioning equipment which enables automated regulation of the interior temperature.

In order to avoid unequal treatment of tenderers and minimise the risk of disputes, the contracting authority decided not to include criteria on fuel consumption and CO_2 emissions of the offered buses. This was because for category M3 vehicles no compulsory testing procedure had been established to measure fuel consumption and CO_2 emissions that the contracting authority could rely on. Evaluating such criteria based on testing results provided by the tenderers or the manufacturers of buses would not have provided an adequate overview of the differences in fuel consumption and CO_2 emissions between the different buses offered. This deficiency was likely to have resulted in unequal treatment of tenderers and lead to disputes.

Results

All the bids received offered vehicles with engines that met the EEV emissions standard – which is more stringent than the legally required EURO V, despite this being the award criterion. This meant

that the tendering criteria motivated tenderers to offer greener vehicles than required. Most tenders also offered technical enhancements, for which additional evaluation points were awarded.

In the tendering procedure, 28 persons registered as interested parties and 6 tenders were submitted. The tender was awarded to a Czech company and had a value of EUR 15.7 million (excluding VAT) for the delivery of 110 new buses with long warranty periods (5 years).

Environmental impacts

It was important to popularise public transport as a more environmentally friendly choice of transport. The main purpose of this action was to limit the growth in the number of car owners and to attract more passengers by offering them more comfortable and modern public transport services.

According to the contract between Estonia and Spain, the ERM is obliged to monitor the efficiency factor of the project until 2018. The efficiency factor is measured in tonnes of CO_2 emissions prevented due to the project. The methodology used to calculate the efficiency factor takes into consideration the amount of fuel that has been consumed by the new buses compared to the amount consumed by the old buses. Consideration is also given to the change in the number of public transport users and is based on the assumption that a certain proportion of new passengers have shifted to public transport, thus stopped using their personal vehicles. The estimated total amount of CO_2 emissions saved has been calculated at 912 tonnes.

Lessons learnt

The most significant problem which emerged during the course of the procurement process arose from the fact that evaluating the tenders based on the fuel consumption and CO_2 emissions of the buses proved to be impossible. The Clean Vehicles Directive (2009/33/EC) states that contracting authorities should take into account the lifetime energy and environmental values of the vehicles and also defines a corresponding accounting methodology. The directive also stipulates that evaluation of fuel consumption and CO_2 emissions shall be based on a standardised test defined in Community type approval legislation (CTAL). For vehicles not covered by standardised Community test procedures, comparability between different offers is ensured by using widely recognised test procedures, the results of tests by the authority or information supplied by the manufacturer.

At the time of the procurement process there had not been any established standardised test procedures under the CTAL to evaluate the fuel consumption and CO_2 emissions of category M3 whole vehicles (buses). Also, there were no widely recognised test procedures which could be used for the evaluation of tenders. Conducting appropriate tests by the contracting authority was not feasible and relying on data provided by the tenders of bus manufacturers would have been associated with the risk of unequal treatment of tenderers and lack of transparency in evaluating tenders. Therefore, the contracting authority was unable to evaluate these environmental criteria which were highly relevant to the project's objective.

In the interest of effective and transparent green public procurement processes involving the purchase of vehicles, it is essential to complement the CTAL and establish mandatory test procedures for fuel consumption and CO_2 emissions measurements for all vehicle categories.

NETHERLANDS[21]

Context and background

In 2010, the Dutch House of Commons ruled that the Dutch public authorities must implement 100% sustainable procurement as of 2015. In response to this, *Rijkswaterstaat* (the Department of Public Works of the Ministry of Infrastructure and the Environment) developed a methodology for infrastructure projects whereby the functional specification of the tender together with the quality input from the client ensure an innovative and high-quality solution.

Objectives

Rijkswaterstaat (RWS) strives to commission procurement projects based as far as possible on functional, performance-based specifications of the required infrastructure so that the market has the optimum freedom to arrive at effective, alternative and innovative solutions. The tenderer is also asked to respond to specific quality criteria. The RWS uses the most economically advantageous tender (MEAT) methodology.

Choice of the MEAT procedure means that the RWS selects tenders on the basis of a combination of price and quality. Quality includes, for instance:

- Public-oriented approach ("less hindrance")
- sustainability
- project management
- design
- risk management.

Implementation

To assess tender submissions, the RWS ensures that quality aspects can be monetised. To this end, the RWS assigns a value to specific quality aspects and the way in which these quality attributes are assessed at the invitation to tender stage. Tenderers can calculate precisely how much the quality value they have submitted is worth. The more effort the bidder makes to improve the quality of the bid, the higher the monetised value that will be deducted from his actual offer price. The tenderer with the lowest total "price" wins the tender. The financial cost to the contracting authority is still the same, but by monetising the efforts made to improve the quality and deducting them from the quoted prices as part of the assessment, tenderers with the best quality offers have a higher chance of winning the tender.

By using the methodology of performance-based tendering and the MEAT, the market can work in a targeted way towards better quality, more innovative solutions with greater value. This tendering methodology thus helps to stimulate and utilise the market's innovative and creative capacities.

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[21]. Case study submitted by *Rijkswaterstaat*, Ministry of Infrastructure and the Environment, Netherlands.

During procurement based on the MEAT, the RWS very carefully draws up the criteria for the assessment of the quality aspects for a specific project and explains them in a "tendering and assessment" document or a background document. This includes the objectives of the RWS, the criteria on which the quality aspects are assessed and the maximum value (expressed as a maximum price) it assigns to these criteria.

Procurement using the MEAT follows three steps:

1. Establishing the quality aspects, drawing up criteria based on the opportunities and risks of the project and establishing the maximum MEAT amount.

2. Actual tendering, by drawing up documents, assessing submissions and communicating the results to the tenderers.

3. Monitoring during the execution phase of the added quality value provided.

The MEAT criteria with which the RWS assesses the quality of submissions, and that are drawn up for each tender, must meet a number of requirements:

- provide added value to the client
- create competition between tenderers
- be easy to understand for tenderers
- show differences in quality
- make clear whether and how added value is assessed.

Specific sustainability criteria

The RWS has decided to focus on two criteria when assessing the sustainability attributes of offers, work processes and associated products: CO_2 emissions and environmental impact. Two instruments have therefore been developed: the CO_2 performance ladder and "DuboCalc" respectively.

The CO_2 performance ladder is a certification system with which a tenderer can show the measures to be taken to limit CO_2 emissions within the company and in projects, as well as elsewhere in the supply chain. DuboCalc is a life-cycle analysis (LCA) based tool which calculates the sustainability value of a specific design based on the materials to be used. Bidders use DuboCalc to compare different design options for their submissions. The DuboCalc score of the preferred design is submitted with the tender price.

To ensure sustainable procurement, the RWS carries out the tendering procedures as follows:

- For maintenance contracts, energy consumption is included where possible as part of the submission price, in order to create a direct stimulus for energy efficiency. For the same reason, design, build, maintain and finance contracts also include energy consumption as part of the submission price.

- In some works contracts, specific technical solutions for energy savings and sustainability are obligatory. For instance, in tunnels LED lighting is always required. Another example is that only sustainable timber is allowed.

- A tenderer can submit a CO_2 performance ladder certificate with their tender submission. The certificate obliges the tenderer to comply with a certain CO_2 reduction target according to its method of execution and working processes. Holders of the certificate have their submission price reduced by a value proportional to the effort made to reduce CO_2 emissions. The certificate of the CO_2 performance ladder can be provided as evidence at the tender submission stage, but this is not compulsory as long as the certificate is provided within one year of signing the contract.

- The bidder is encouraged to offer innovative and sustainable design options as the RWS uses performance rather than compliance specifications. Sustainability is further enhanced by using the MEAT tendering procedure in which DuboCalc is used as an assessment tool.

CO_2 performance ladder

Contractors can apply for a CO_2 performance ladder certificate. In order to comply, contractors need to take steps towards reducing their carbon footprint. The first step (or "rung" on the ladder) is to measure the company's CO_2 emissions. In further steps, CO_2 emissions of their supply chain is also measured, and more importantly goals are set towards reducing emissions. The higher levels on the CO_2 ladder include steps towards CO_2 reduction in the supply chain.

The CO_2 performance ladder is used in the tendering procedure as follows: The bidder indicates at which of the five rungs (ambition levels) of the CO_2 performance ladder he intends to carry out the work; the higher the effort to reduce CO_2 emissions, the higher the rung. A commitment to a higher rung results in a greater deduction from the submission price, which increases the chance of winning the contract. Each CO_2 ambition level corresponds to a different percentage reduction of the submission price. The final amount assessed by the RWS using the CO_2 performance ladder is a deduction of 1% per rung of the submission price. The highest level is rung 5, so the maximum deduction is 5%.

DuboCalc

To quantify the sustainability of material use, the RWS has developed a software tool that calculates the environmental impact of construction materials. This calculation is based on an LCA of the material. The software is called the Sustainable Building Calculator, or "DuboCalc". This tool can be used in tenders for works if the design phase is included in the tender. Dubocalc was developed as part of an overall trend towards performance-based tendering assessing the overall environmental impact of constructions rather than prescribing details.

With DuboCalc all embedded environmental impacts of material use can be calculated, from raw material extraction and production up to and including demolition and recycling (the entire life cycle). DuboCalc also calculates the energy consumed by infrastructure works during the use phase.

For a DuboCalc calculation of infrastructure works, the programme requires input of the amounts of materials used for a particular design. Using LCA data from a built-in database, it calculates 11 environmental impact parameters. The software is based on an independent (national) dataset containing certified LCA information for each material.

DuboCalc calculates the value of these effects via the so-called "shadow price method" to arrive at a single figure, the Environmental Cost Indicator value (ECI value). The shadow price method is based on the costs of preventing emissions from arising. The ECI value indicates the environmental impact of a particular design for civil engineering works. A lower value indicates a lower environmental impact. Designs that differ significantly from each other in terms of material use also differ in terms of environmental quality. DuboCalc enables designers to calculate ECI values of alternative designs to arrive at an optimally sustainable design.

The ECI value is used in the tendering procedure as follows: The contracting authority provides the tenderer with all the functional requirements and the latest version of the DuboCalc programme. The tenderer designs the infrastructure and calculates the price and the ECI value. The ECI value is transformed into a monetary value according to a formula that is prescribed by the tenderer (the ECI value and monetary value are inversely related and there is a minimum and a maximum). These two prices are offered to the contracting authority. The contracting authority selects the tenderer with the lowest price and ECI value combined to undertake the work.

Impact and monitoring

The RWS is putting a great deal of effort into embedding sustainability into procurement procedures. To ensure that the procedure is effective, the calculated environmental quality of a tender must have enough impact on the final (virtual) price to make a difference. As a consequence, the percentage of award criteria reserved for environmental quality (calculated with DuboCalc) has to be large enough compared to other criteria and the total value of all quality criteria (compared to price) has to be substantial. In practice, the maximum environmental value added is often 10-20% of the awarded tender.

The level of CO_2 emissions is one of the (in total 11) parameters of the LCA calculation that contributes to the ECI value. This value is the amount of CO_2 emitted as a result of the use of building materials (production, transport, etc.). The potential reduction of CO_2 emissions can easily be calculated by subtracting the ECI value of the proposed design from the reference design. This is directly proportional to the reduction in energy use.

When the contract is awarded, the offered level of ambition of the CO_2 performance ladder is part of the contract and should be implemented as part of the execution of the project. The energy saving targets and measures belonging to that level of ambition are chosen by the tenderer. This is also the case for the ECI value of the works to be carried out.

Challenges and enforcement

The contractor must demonstrate that the proposed ECI value is achieved in the execution of the contract. When the actual quality does not comply with the offer then a sanction follows that is 1.5 times the calculated price for quality value, e.g. if the contractor was awarded a "virtual" EUR 5 million reduction on its quoted price for its proposed environmental efforts as part of the bid assessment and failed to achieve results, the sanction would mean that the contracting authority would have to pay the contractor EUR 7.5 million less than the submitted quote price.

Also, if after an agreed period of time the rung of the CO_2 performance ladder is not achieved, a sanction follows that is one and a half times the advantage granted at the time of submission.

More information about the CO_2 performance ladder can be found on the website of the Foundation for Climate-Friendly Procurement and Business (SKAO): www.skao.nl/index.php?ID=45.

An explanation of the DuboCalc methodology is available on YouTube at: www.youtube.com/watch?v=cAaL4FfBQNc and www.youtube.com/watch?v=LJY9QzxlW2w.

Key lessons learnt

Software tools like Dubocalc (which is specifically developed for the Netherlands) could be developed by other countries taking into consideration their own environmental calculations and impacts. Comparable tools are developed within the Eranetroad programme: www.eranetroad.org with the support of the CEDR (Conference of European Directors of Roads, www.cedr.fr/home).

Getting accurate and reliable data to feed into the software tool and calculate the environmental impact can be challenging. The Netherlands use a national database so that the data are validated and general.

All tools need to be based on appropriate standards, like the ISO standards.

The RWS' use of MEAT methodology and of instruments like the CO_2 performance ladder and DuboCalc ensures that tenderers try to use an inexpensive and environmentally friendly design. If tenderers have little or no design freedom, and are virtually indistinguishable from one other in terms of sustainability and environmental quality, there is little point in using the MEAT methodology. Therefore, before including environmental quality as a distinguishing factor in the tender process, the RWS initially always investigates whether sustainability or environmental quality will be sufficiently distinctive when proposals are submitted.

AUSTRIA[22]

Context

At the beginning of 2010 the Austrian road financing agency (ASFINAG), the Austrian Touring Club and the Technical University of Vienna established a working group to find ways to encourage construction firms in the area of road reconstruction while traffic is maintained, to be creative and present alternative solutions when they participate in open procurement procedures. Starting points were the necessity to shorten construction periods, enhance the safety of drivers and reduce the impact on the environment. The working group worked on the assumption that bidders have a stronger motivation to submit alternative offers in a procurement procedure if they get partial remuneration for it.

The project is part of the compliance management system of ASFINAG.

Objectives

The essential tasks of the working group were the development of recommendations concerning the choice of procedure and the creation of a framework for general and concrete measures to achieve:

- The establishment of an incentive system for submitting alternative offers, which grants partial remuneration for economically sound alternative offers, even when these are not selected.
- The development of additional award criteria for the reduction of the construction period, the availability of road sections, the safety for road users and the impact on the environment.

[22]. Case study submitted by the Austrian Federal Chancellery.

- The establishment of an additional phase for optimising the project between the award of the contract and the actual execution of the works.

- The development of a bonus system for construction firms, which optimises the design/planning of the project, in order to transfer a share of the economic benefits generated by their design.

- Based on these conditions, the establishment of practical measures to promote the creativity of bidders for the reconstruction of the "Kaisermühlen" tunnel in Vienna.

Implementation process

Between February and December 2011 the working group developed a four-pillar model. Since the beginning of 2012, a project team (1.5 full-time equivalents) formed by experts from different departments of the company, like engineering and procurement management, has been working on the first pilot project, a tunnel reconstruction on a city highway. The project value is approximately EUR 80 million annually.

The first pillar is an incentive system based on the assumption that bidders are more willing to develop alternatives during the competition phase if the additional calculation costs are partly covered. Thus, the calculation costs of the two cheapest suitable alternative offers (one per bidder) which required additional calculations are remunerated according to a model calculation scheme. The model calculation also allows exceptional remuneration (with a capped amount) of especially innovative alternative offers.

The second pillar concerns the establishment of award criteria, which display the availability of traffic zones, the safety of road users and the impact on the close environment. The criteria are based on the assumption that the combination of the targets of the contracting authority (satisfaction of the clients, quality, economically sound results) with those of the clients (availability and safety) and those of the bidders (rentability and safety of employees) should optimally contribute to achieving the criteria. The weighting of the criteria follows a model calculation scheme (matrix) and a recommendation to integrate different stakeholder representatives (from public authorities, traffic associations and business associations) into the bid evaluation board.

The bonus system for design optimising is the third pillar and aims at improving the economic efficiency of the design/planning of the project during the preparation of the execution phase or the construction phase under the condition that the quality is equal to the originally awarded contract. The system is based on the hypothesis that if economic efficiency is a common target of the contracting authority and the contractor, construction firms will be motivated to work in this direction. The contractor is therefore obliged to technically optimise the execution of the works while respecting the economic interest of the contracting authority. The contracting authority has, however, to transfer 50% of the savings achieved through the optimised planning in comparison to the original offer.

Value engineering (additional project improvement phase) constitutes the fourth pillar. Whereas the third pillar focuses on fine-tuning the design and planning of a project, the additional project improvement phase aims at optimising the planning of working routines and methods on the construction site, including scaffoldings, transport of construction materials, etc., while maintaining the quality and agreed volume of work. There is no remuneration scheme foreseen for this phase, it serves to benefit from the time between the award of the contract and the actual start of the construction works.

Impact and monitoring

So far, there are no figures or preliminary experiences available, because the first project (A 23 highway Inzersdorf) of this new model is in the planning phase.

Challenges and risks

Introducing new aspects into procurement procedures is often met initially with resistance from the part of the concerned businesses. It is therefore important to present the benefits of the new model to businesses to encourage the submission of innovative alternative offers. As past figures show, procurement procedures where alternative offers are admissible bear a higher risk of complaints, because it is difficult to define minimum requirements for the comparability with the official tender.

Another difficulty is achieving economic optimisation (value engineering) by accepting alternative offers while guaranteeing the technical equivalence of the suggested alternative solutions with the originally required level of quality.

Key lessons learnt

Economic necessity and unsatisfying experiences in practice (construction firms are reluctant to submit alternative offers in open procurement procedures) create the need to find innovative solutions, which require active participation of the concerned businesses and stakeholders.

It is important to respect the legal constraints and the principles of transparency and non-discrimination. Projects are carried out within the compliance management system, which requires close co-operation with all responsible departments.

DENMARK[23]

Context

The Danish Hedensted Municipality, which used to cool its computer servers using regular ventilation, moved to a new solution using a technology through which it can re-use the heat generated by the servers. The heating system collects the excess heat from servers and re-uses it for heating and hot water through the existing heating system of a building.

Objectives

The objective was to invest in solutions that save CO_2 and create financial savings.

Impact and monitoring

The system is both environmentally friendly and economically viable. Heating costs are reduced when the excess heat is recycled. Also, less CO_2 is emitted as other sources of heat and refrigeration are limited. Moreover, the solution is based on natural refrigerants that do not pollute the environment.

Hedensted Municipality calculated that it saves approximately DKK 73 000 annually in cooling and heating expenses. With a purchasing and assembly price of DKK 400 000, the system has a payback period of approximately 5.5 years.

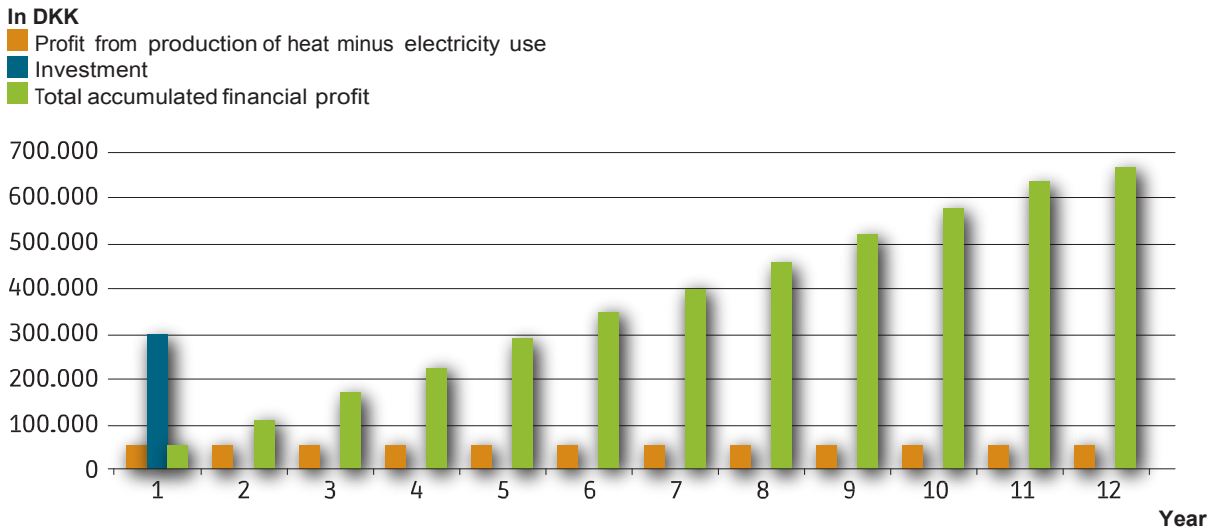
[23]. Case study submitted by the Ministry of the Environment, Denmark.

Roughly 700 kWh is generated from the servers every day. This corresponds to the daily electricity consumption of 24 households and it satisfies 50% of the City Hall's heating need during the winter months. When the outdoor temperature increases, the system provides up to 75% of the City Hall's heating. Overall, Hedensted Municipality saves approximately 10 000 litres of oil a year which corresponds to an annual saving of 28 tonnes of CO_2. Also, the income from heat recycling is greater than the cost of the total electricity consumption of the system.

Key lessons learnt

Hedensted Municipality used functional performance-based criteria instead of describing traditional cooling systems in the tender documents. This made it possible for the market to find an innovative solution to save money and reduce CO_2 emissions and resource consumption. New solutions created new jobs and generated savings (Figure 2).

Figure 2. Profits under Hedensted Municipality's new heating and cooling system



Source: Ministry of the Environment, Denmark.

SWEDEN[24]

Context

Sweden has a long experience in environmental protection. In Sweden, national, regional and local governments have significant state power and can be hot spots for using public procurement to reach ambitious environmental goals.

Objectives

The main Swedish government objective is to increase the amount of well-defined GPP criteria in both governmental framework agreements and in county council and local authority procurements. This has been done through a publicly available tool for GPP. Thanks to this tool, contracting authorities do not have to spend time and money to develop their own specific GPP criteria or maintain a high level of competence and knowledge regarding environmental and sustainability performance of various product groups.

[24]. Case study submitted by the Swedish Competition Authority.

Implementation process

In 1995, the Swedish Environmental Protection Agency estimated that a majority of public procurements included environmental requirements. However, few requirements led to actual improvements of the environmental performance. In order to improve this and extend the market for sustainably produced goods and services, the Swedish government adopted a number of actions; one of which was to establish the Committee for Ecological Sustainable Procurement (1998-2001). This committee was given a broad assignment to promote GPP in Sweden and to influence the European Union to include green goals in the EU procurement directives. The main output of this committee was the national tool for GPP which contained GPP criteria for commonly procured goods and services. In 2003, the Swedish government decided to grant the management of this tool to the Swedish Environmental Management Council (SEMCo). The development and management of the GPP tool has been financed by the Swedish government since then.

In 2007, Sweden adopted an action plan to formalise the efforts to use public procurement as a green policy tool. The action plan contained goals for:

- an increased share of public procurements that take environmental and sustainability aspects into account
- greener framework agreements
- an increased number of local authorities, county councils and governmental authorities that procure using environmental criteria.

As green or environmentally preferable procurement only relate to one of the three pillars of sustainability, SEMCo decided to add the social dimension into the national GPP tool. This was mainly done by adding criteria that took into account the International Labour Organization's core conventions and the United Nations' human rights criteria to the already existing GPP criteria. SEMCo re-named its tool the Sustainable Public Procurement (SPP) tool; see www.msr.se.[25] This tool is available online and is organised as a database wizard where procurers can choose among sustainability criteria for various goods, services and work contracts. Criteria are set at three different ambition levels. The tool includes background information, verification notes, life-cycle cost calculations (LCC) for different energy-using products, training material, etc. The new strengthened public procurement support that is the responsibility of the Swedish Competition Authority is focused on all aspects of sustainability.

In addition, the Swedish web-based tool for contract management "*Uppföljningsportalen*" was developed by SEMCo and the Swedish Association of Local Authorities and Regions; see www.uppfoljningsportalen.se. The tool allows contracting authorities and suppliers to verify that social requirements introduced in procurements are fulfilled. Contracting authorities and suppliers receive special login passwords in order to post information concerning their agreements. The information provided is part of the internal contractual follow-up and not public. Only audit reports are publicly available. The responsibility of the tool was transferred to the Swedish Competition Authority on 1 July 2014.

In 2013, the Swedish government launched an initiative aimed to strengthen public procurement as well as raise the profile of green and sustainable public procurement. The initiative consists of two

[25]. The website will be available until 31 December 2014. From 1 January 2015, please visit www.kkv.se.

parts: financial and organisational. From 2015, considerable additional funding will be allocated to the governmental support to public procurement, including GPP. The second part of the initiative is organisational. All actions and information services supporting procuring authorities have been merged under one organisation, the Swedish Competition Authority, since 1 July 2014. As a result, the responsibilities and activities linked to green and sustainable public procurement have been transferred from the Swedish Environmental Management Council (SEMCo) to the Swedish Competition Authority.

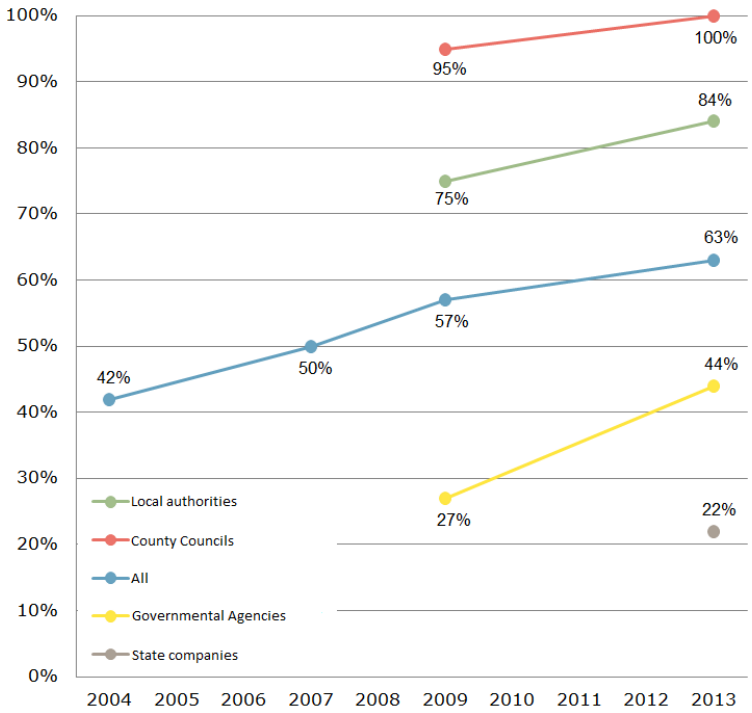
Implementing authorities and stakeholders

Local authorities, county councils, governmental agencies and publicly owned companies all use the national SPP tool. It is open and free of charge. Private purchasers and NGOs are also welcome to use the GPP criteria and other material available on SEMCo's official website (available from 1 January 2015 on the official website of the Swedish Competition Authority). As a general rule, GPP is voluntary in Sweden. The Swedish Procurement Act states that contracting authorities should take environmental and social considerations into account in connection with public procurements, if the nature of the procurement enables this. Only certain governmental procurements are obliged to be carried out in accordance with specific environmental requirements, e.g. the procurement of government vehicles.

Impact and monitoring

The Swedish Environmental Protection Agency (EPA) has monitored the implementation of GPP in Sweden. Questionnaires have been sent out periodically to the public sector and tender documents have been analysed. In 2004, the EPA began conducting surveys of the number of public contracts that, according to the procuring authority, include GPP criteria. Use of SEMCo's procurement criteria has steadily increased (Figure 3). Only the use of GPP criteria in tender documents has been monitored; there is no study quantifying the environmental benefit from GPP/SPP.

Figure 3. Data collected from Swedish EPA studies conducted in 2004, 2007, 2009 and 2013



Source: Swedish Competition Authority.

Challenges and risks

Up to now, there has been more emphasis on the procurement procedures than on the pre-procurement phase and the auditing and evaluation of procurement contracts. Notwithstanding, sustainable procurement is very much about taking strategic decisions in order to meet all public sector needs in a sustainable way. This requires extensive planning, thorough needs assessment and careful preparations in the pre-procurement phase. Contract management, auditing and evaluation are equally important to check whether requirements are fulfilled by suppliers and the delivered goods and services meet the contract criteria. Many contracting authorities lack the human resources and/or competence and knowledge to perform those very important tasks, which can allow environmental/sustainability policies to go unfulfilled, national environmental goals to be missed and unfair competition. This, in turn, might discourage suppliers from developing sustainable goods and services in the future.

Another challenge is measuring actual environmental/sustainability benefits resulting from the application of GPP criteria. Setting criteria without the possibility of auditing and evaluating quantifiable environmental/sustainable benefits might be useless and even harmful for competition.

Key lessons learnt

- More assistance to contracting authorities in the pre-procurement phase is required, as well as careful contract management, auditing and evaluation in order to support suppliers, create confidence in the system and ensure that they learn from their mistakes.

- There is need for quantitative indicators to follow up on GPP/SPP nationally in order to measure the benefits of set criteria.

- In order for a useful, stringent and practical GPP/SPP system to be developed, the appointment of a responsible competent authority equipped with sufficient resources is important.

- Until now, the focus has been on supporting the public sector in shifting towards green procurement. In order to succeed in sustainable procurement, there is a need to raise awareness and competence among suppliers and their supply chains so as to meet public sector sustainability requirements. This will help small and medium-sized enterprises (SMEs) to enter the public market, enhance companies' local and global competitiveness and promote short- and long-term competition.

DIMENSION 4. PROFESSIONALISING GPP

Countries have reported that GPP knowledge, training and advice of the procurement workforce are important elements of successfully using procurement to achieve environmental benefits. Actions are taken at national and sub-national levels to build capacity and improve skills.

The case studies highlight successful approaches to the professionalisation of GPP. Belgium established comprehensive channels for dialogue between the government, companies and purchasing units, which contributed to the constant improvement of the national GPP policy. The Slovak Republic put in place a wide education effort that builds upon the existing GPP national action plan, while the city of Vienna has set up multidisciplinary teams to implement the ambitious ecologically sound procurement programme of the city of Vienna, *Öko Kauf Wien*.

BELGIUM[26]

Context

Since the 1999-2003 parliament, the Belgian government has attached great importance to issues of sustainable development, appointing a Secretary of State to oversee this area as well as creating the Public Service for Sustainable Development Planning (PODDO). In 2014, the PODDO was replaced by the Federal Institute for Sustainable Development (FIDO). Its core business has, however, remained the same. The Secretary of State realised that the Belgian federal authorities could not roll out a sustainable public procurement policy without a web-based user's guide outlining the technical sustainability criteria to be included in specifications for the purchase of supplies and services. An initial version of the guide, called the *Sustainable Procurement Guide*, went online before the end of the 1999-2003 parliament. In addition, channels for on-going dialogue were established between the government, enterprises and purchasing units.

Each federal ministerial department was instructed by Royal Decree to set up a sustainable development cell. A consultation network known as the Interdepartmental Commission on Sustainable Development (CIDD) was constituted to oversee these sustainable development cells.

On 16 May 2002, the Procurement Advice and Policy (CPA) Cell was established. Its management plan included sustainable procurement strategic objectives, along with operational goals and projects. In parallel, the Central Procurement Body for Federal Services (CMS) was established, with a management plan calling for special attention to sustainable procurement.

In addition, a consultation network was launched in September 2002. Items on the agendas of its meetings frequently concern sustainable procurement issues. The network's membership comprises a representative from each Federal Public Service (*Service Public Fédéral*, SPF) and each Public Planning Service (*Service Public de Programmation*, SPP), a representative from each semi-public social body, a member of the Building Authority and a representative of the Inspectorate of Finance.

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26. Case study submitted by Federal Public Service (SPF) Personnel and Organisation, Cellule marchés publics, Belgium.

All of these bodies contribute to ensuring dialogue and formulating a federal policy for sustainable procurement.

Objectives

The objectives of the project are to:

- continuously pursue an affirmative, positive and evolving sustainable procurement policy
- consider how federal purchasing units can apply environmental criteria more widely in all public procurement of supplies and services
- consider how federal purchasing units can apply social criteria in certain instances of public procurement of supplies and services
- consider how ethical criteria, in particular the core International Labour Organization's conventions, can be incorporated into federal government procurement of supplies and services, with a specific goal to monitor that these core conventions are complied with from A to Z.

Implementation

The following authorities are involved in the implementation of environmental, social and ethical criteria:

- Federal Institute for Sustainable Development – FIDO (knowledge centre)
- Procurement Advice and Policy Cell – CPA (purchasing policy)
- Central Procurement Body for Federal Services – CMS (trendsetter)
- Interdepartmental Commission on Sustainable Development – CIDD; sustainable development cells; and the consultation network (channels of dialogue and communication)
- various federal government purchasing units (each of which contributes to the implementation of federal sustainable procurement policy)
- companies supply information.

Procurement procedures comply with the general rules laid down in the European Treaty and European Directives, i.e. it must be ascertained whether objectives can be achieved by means of an open or restricted procedure, and if this is not possible, a negotiated procedure must be used.

To draft specifications, a major preliminary market survey is carried out to assess how sustainability clauses will affect competition and the final price.

The FIDO continuously updates the *Sustainable Procurement Guide* and advises on the correct interpretation of technical specifications and other clauses contained within it. Furthermore, the FIDO conducts studies on issues such as life-cycle costing. The FIDO had 11 staff in 2014.

The CPA Cell encourages federal purchasing units to incorporate sustainability clauses into contract specifications, via the consultation network. It also advises on the incorporation of

sustainability clauses into contract specifications, not only through its templates (which can be consulted at www.publicprocurement.be) but also through customised advice.

The sustainable development cells assist buyers in incorporating sustainability clauses into contract specifications.

The CPA Cell works hand-in-hand with the CMS to incorporate sustainability clauses into the CMS' contract specifications and sends feedback from the federal purchasing units, noted by the consultation network, to the FIDO. The sustainable development cells also convey their experience to the FIDO (via the CIDD).

To ensure good results, the *Sustainable Procurement Guide* must: *i)* be kept constantly up to date; *ii)* strictly match the characteristics of the sector concerned, without losing sight of competition and price considerations. Furthermore, the FIDO has understood that it is important for purchasing units to be able to use sustainable procurement methodologies in the communities (Flemish- and French-speaking) and regions (Flemish, Walloon, Brussels-Capital and German-speaking), as well as in provinces and municipal councils. Consequently, the FIDO has set up a standing working party with members from the communities, regions, provinces and municipal councils, to avoid taking one-sided decisions. The *Sustainable Procurement Guide* is therefore updated in collaboration with the other Belgian public bodies.

Also, a methodology has been developed on the basis of good practices of public bodies outside the Belgian federal government to reach out to businesses. When compiling or updating technical specifications for products and services belonging to a certain industrial sector, the working party contacts the professional organisation that represents the sector but not individual sector companies. The professional organisation mobilises the companies which it believes are the best placed to help establish technical specifications that match the capabilities of suppliers in the industrial sector in question. This working method has helped establish realistic specifications that allow good levels of competition. This process is used for all sectors.

Impact and monitoring

The CPA, via feedback from the consultation network, and the FIDO, via feedback from the CIDD, have noted that the technical specifications featured in the *Sustainable Procurement Guide* are increasingly being used by the federal purchasing units as well as by the purchasing units of other Belgian public bodies, thanks to their reliability. The consultation network and the CIDD are in charge of monitoring.

Challenges and risks

Industrial sectors in Belgium are constantly seeking to improve their products, as technical specifications in the *Sustainable Procurement Guide* may become outdated. The challenge is therefore to inform the FIDO in a timely manner of all developments in products and services in the various industrial sectors.

Three actions can help attain this objective:

- First, the CPA Cell should endeavour to take note of all comments put forward by members of the consultation network that might suggest irregularities in the *Sustainable Procurement Guide*. As the FIDO also has a representative in this network, it is aware of any anomaly.

- Second, the FIDO should encourage the CIDD to report any irregularity concerning the *Sustainable Procurement Guide*. Thus, the sustainable development cells also play an important role in this process.

- Lastly, the FIDO should encourage the professional organisations that helped draft the technical specifications and have a sense of "ownership" towards these specifications to report any developments that might require a review of the technical specifications in the *Sustainable Procurement Guide*. Professional organisations may also co-operate with the process, since they implemented a communications campaign with their members at the time that their members were first mobilised. As a result, they can report any developments in their sector to ensure that they retain their credibility *vis-à-vis* their members.

Key lessons learnt

The following lessons have been learnt from the incorporation of technical specifications into the *Sustainable Procurement Guide*:

- all interested parties must work together
- high-level support (in this case from the Belgian federal government) is essential
- companies need to be convinced that active collaboration is in their best interests
- communication channels with all parties and stakeholders must be active at all times
- results obtained must constantly be reviewed and challenged
- there should be no complacency and striving to achieve better results should be an on-going objective.

SLOVAK REPUBLIC[27]

The "National Action Plan on Green Public Procurement in the Slovak Republic for years 2011 to 2015" (NAP GPP II) was prepared by the Ministry of Environment of the Slovak Republic and approved by the government on 18 January 2012. Its goal is to reach 65% of green public procurement in all tendering procedures at the central government level and 50% at the local level by 2015.

In order to fulfil the objectives laid out in the NAP GPP, the Ministry of Environment co-operates with an expert agency, the Slovak Environmental Agency's Centre of Waste and Environmental Management (SEA COHEM).

The first NAP GPP in the Slovak Republic was approved in 2007, when the foundations for GPP were laid and documents and procedures were adopted. The focus for 2012-15 is on educating public authorities, purchasers and suppliers.

Objectives

In order to achieve the strategic goals of the NAP GPP II, it is necessary to involve public organisations, as well as municipalities, in the educational process. Their involvement can be

[27]. Case study submitted by the Ministry of Environment of the Slovak Republic.

increased by an active approach towards the implementation of educational activities for contracting authorities, including dissemination of technical information on GPP and related issues (such as eco-labelling, environmental management systems, energy labelling, green offices) to the widest possible group of stakeholders. The target group for educational activities are contracting authorities of central administration bodies and their subordinated organisations, at the level of regional governments and local authorities.

The framework is set in Government Resolution nr. 22/2012, which approves the NAP GPP II, and Government Resolution nr. 1091/2007, which approves the Strategy of Voluntary Environmental Policy Instruments.

Actions under the NAP GPP II aim to increase contracting authorities' awareness of the possibilities of applying environmental criteria in procurement, to regulate the environmental performance of publicly funded organisations and to increase the level of implementation of GPP in the Slovak Republic, thereby contributing to the protection of the environment. Actions also link to the eco-labelling of products, the European Community Eco-Management and Audit Scheme (EMAS), sustainable consumption and production. Stakeholders include the Ministry of Environment of the Slovak Republic, public administration, local governments and organisations, and the European Commission.

Between March and October 2012, training sessions in eight regional capitals were organised by the SEA's Center of Landscaping, Environmental Improvement and Education. Lecturers from the Ministry of Environment and the SEA COHEM gave lectures on the NAP GPP in the Slovak Republic for 2011-15; the benefits of green public procurement; environmental characteristics; and methodological guidance for completing the questionnaire for monitoring and assessing the level of GPP in the Slovak Republic. The seminars included practical exercises on using environmental characteristics in procurement.

The trainings were attended by a total of 166 participants in 2012 and are part of an on-going education campaign.

Impact and monitoring

The realisation of this education project was a success. The evaluation of the NAP GPP I stated that although GPP is a voluntary instrument of environmental policy, it plays a key role in efforts for a resource-efficient economy. Using GPP, public authorities can provide industry with incentives for developing environmentally friendly technologies and products. In sectors where contracting authorities have a large market share (like in public transport and construction, health and education), their decisions have a significant impact. Thus, using their purchasing power to choose environmentally friendly products, services and works can significantly contribute to sustainable consumption and production. To achieve these objectives, it is necessary that all stakeholders are informed of the actions to be taken to support GPP.

Based on the monitoring and evaluation of GPP in the Slovak Republic, which took place by distributing 450 questionnaires to respondents including contracting authorities of the central government, regional authorities and cities, the following results were measured:

- the proportion of green procurement in the total number of procurement contracts rose from 2.1% in 2011 to 5.0% in 2012, i.e. by 2.9 percentage points

- the proportion of the value of green contracts in the total value of procurement contracts declined by 21.6 percentage points

- The data demonstrate that GPP rose in number, but declined in value, which could be due to the economic recession.

Challenges and risks

The project was also carried out in 2013, following a few small adjustments, as only part of the contracting authorities and entities had been trained in 2012. Workshops will continue to be organised in regional towns free of cost for participants. The items presented are continuously updated, so that participants receive up-to-date information that will help them to implement GPP.

Key lessons learnt

Education is a successful way of supporting institutions/offices that want to deepen their competence in GPP because it provides practical guidance and answers to basic questions, like:

- Why use GPP?
- What are the guiding principles and methods of application of GPP?
- How can GPP be implemented?

AUSTRIA[28]

Context

Public procurement expenditure of the city of Vienna amounts to EUR 5 billion annually, of which approximately 50% is spent on supplies and 50% on works and services. The Vienna ÖkoKauf programme was set up in 1998 to use this large purchasing volume to support the procurement of ecologically sound products and services and contribute to climate protection.

ÖkoKauf is a leading programme within the framework of the first climate protection strategy of the city of Vienna ("*KliPWien*"). It aims at focusing Vienna city administration procurement towards climate protection aspects while respecting legal requirements and achieving value for money. In 2009, the programme was extended until 2020 to enforce the reduction of emissions of the administration of the city of Vienna.

Objectives

The main target of ÖkoKauf is to identify potential ecological performance aspects of products and services purchased by the city of Vienna and its services and develop eco-friendly procurement requirements, to feed into the technical specifications of such products and services. Apart from the ecological assessment, economic efficiency (value for money) as well as maintenance and improvement of the usability of the goods and services are taken into account.

High priority is given to immediate feasibility and legal compliance. ÖkoKauf focuses more on standards for defining the subject matter of the contract ("what is purchased") and less on award

[28]. Case study submitted by the Austrian Federal Chancellery.

criteria or contract performance clauses. The key tools of ÖkoKauf are tender documents, catalogues of criteria and other procurement-related requirements.

Apart from achieving technically measurable results, ÖkoKauf also aims at raising the awareness of the city's employees, private households and businesses towards buying ecologically sound goods and services. It publishes its results on a publicly accessible website.

Implementation

Within the administration of the city of Vienna, ÖkoKauf is an organisation-wide programme encompassing all the services of the city. It is operated in the city construction directorate by a programme leader and two deputies with the support of a steering team, which takes all the relevant decisions. The work is organised in 26 thematically different working groups attended by 200 employees from all divisions of the city's administration. Additionally, two committees were established for legal aspects and public relations and two assistant units for budgetary advice and international activities. Each working group and the leaders of the committees and units are members of the steering team. In addition to existing organisational resources (staff and facilities), ÖkoKauf receives an annual budget of EUR 300 000, which is mainly spent on external support, e.g. studies, research and experiments. ÖkoKauf regularly organises and participates in relevant conferences.

Work is carried out in the aforementioned working groups. They develop, evaluate and update ecological criteria that describe the goods and services to be purchased in the following categories: paper and printing, electric and electronic devices, construction and facility management, vehicles, food, events, disinfection and cleaning agents, textiles, furniture, lighting, etc. The results are cross-checked with the legal compliance committee and then published. The publication is accompanied by public relation activities to promote the use of the criteria on a broad basis inside and outside of the city's administration.

Since 2003, all services of the city of Vienna are obliged, per ordinance of the director general of the administrative services, to take the results of ÖkoKauf into account. Thus, the responsible procurement officer integrates the relevant texts from ÖkoKauf into the tender documents and makes sure that the ecological requirements become part of the contract.

Impact and monitoring

Since its establishment in 1998, ÖkoKauf has developed around 130 successful results for the goods and services under it. Estimates show that the city of Vienna achieves annual savings of EUR 17 million and 30 000 tonnes of CO_2 emissions with the support of ÖkoKauf.

So far, only few of the results have been subject to individual evaluation, due to their technical complexity and lack of resources. The following examples show concrete results:

- Use of recycled office and hygienic paper preserves resources and reduces environmental impact in terms of waste water and energy consumption.
- The production of organic food emits less CO_2 in comparison to products from conventional agriculture. Through the procurement of organic food using ÖkoKauf criteria, the city of Vienna avoids up to 20 000 tons of CO_2 emissions annually.
- Switching to energy-efficient office and household devices, lighting, electronic equipment, etc. saves energy and reduces CO_2 emissions.

- Simple changes of processes can considerably influence environmental impact. For example, cleaning staff received a special training on the use of microfiber, which resulted in an essential decrease in the consumption of cleaning agents.

- In the construction area there is a variety of methods and materials that can reduce harmful emissions, energy consumption and increase the life of the buildings. "Wiener Wohnen", a city-owned undertaking for housing manages and maintains around 220 000 flats using such methods.

Another impact can be observed in the market: in some areas, products and services which did not comply with ÖkoKauf requirements have completely disappeared from the market.

So far, ÖkoKauf does not have a full-fledged monitoring system. It is a self-regulated process through the continuous work of the 26 different working groups, using feedback from practice for self-improvement.

Challenges and risks

When ÖkoKauf was set up in 1998, the main challenge was to raise awareness of the importance and feasibility of ecologically sound procurement at the level of policy and decision makers, who can influence the availability of resources for the project, in terms of staff and budget, and its continuity. The political support of the City Councillor for Environment helped to initiate the project and overcome the belief that ecologically sound, or organic, products and services are more expensive than conventional offers. It was possible to refute this prejudice in many areas, with the exception of the procurement of organic food, which led to an increase in costs.

One of the challenges is the professionalisation of the current system in terms of monitoring, verifying and mainstreaming results. ÖkoKauf functions as a self-regulated system through feedback to the working groups and the continuity of their work. As the respective employees do not work full-time for the project, horizontal administration of the results (monitoring application, measuring impacts, etc.) is not strong. To maintain and enhance high standards, ÖkoKauf would benefit from establishing a permanent evaluation and administration system, which improves the monitoring of the results in terms of environmental impact and economic efficiency.

Key lessons learnt

In addition to the high-level political support, two of the initial decisions were key factors for successfully implementing the ÖkoKauf project:

- focusing the work on the development of standards to define and describe ecologically sound products and services instead of defining qualification and award criteria and contract clauses helped to achieve buy-in by procurement staff and the uptake of solutions

- the establishment of the legal committee boosted the acceptance of the results of the project, as legal compliance plays an important role in procurement practice.

Tangible results, in particular economically measurable advantages, sell by themselves. It is also important to constantly consolidate results and professionalise the project in terms of expertise and organisational adaptation to avoid outdated standards and blockages.

For further information see: www.oekokauf.wien.at.

DIMENSION 5. RAISING AWARENESS

A focused effort on getting the right messages across to government procurement officials as well as to the public can have a significant impact on the success of GPP.

Dedicated webpages, stakeholder dialogue, public events and conferences are successful communication efforts to promote GPP. The case studies of Austria, Hungary and Portugal show how raising awareness helped create an environmentally friendly attitude and promote green solutions.

HUNGARY[29]

Context

The Public Procurement Supply Directorate (PPSD) is an autonomous central purchasing body. The rules on the centralised public purchasing system operated by the PPSD are set out in Government Decree 168/2004 (V. 25.), hereinafter referred to as Gov. Decree. The PPSD may conduct procedures for the following specific products (or services):

- communication services and tools
- IT systems and services
- office technology and services
- office furniture
- stationary products and paper
- vehicles
- fuels
- travel arrangements
- electronic public procurement services – electronic auction service.

A centralised public procurement procedure is conducted by the PPSD particularly for organisations defined in the Gov. Decree: ministries, the Prime Minister's Office, organisations with a national competence and other bodies with their own chapter of the Central Budget Act (CBA), budgetary organs managing social security funds having a national jurisdiction, organisations and persons having authorisations as defined in chapters of the CBA and budgetary organs under the control of the aforementioned bodies (with the exception of some organisations set out in the related

[29]. Case study submitted by the Public Procurement Authority of Hungary.

regulation like national security services and foreign representations). Other organisations may voluntarily join the central purchasing system.

The PPSD applies green criteria in centralised public procurement procedures and, where possible, increases the number of environmentally friendly products. The PPSD applies environmental requirements in its procedures and contracts in many ways: in defining the subject matter, in the technical specifications, in the award criteria or in the contract terms.

Objectives

- Increase the use of green criteria in public procurement procedures.
- Ensure appropriate variety and good prices in cases of environmentally friendly products.
- Increase the proportion of environmentally friendly products purchased by the PPSD (currently 10% for paper products).
- Promote environmental thinking and a change of attitude by means of communication.

Implementation

In 2013, the PPSD planned to publish six procedures including environmental criteria (one for paper and stationary, four for IT and one for fuel procurement), the aggregated value of which is HUF 129.5 billion (paper and stationary: HUF 5.5 billion; IT: HUF 118 billion; fuel: HUF 6 billion). The terms of the contracts will be for 24 and 48 months.

The green criteria to be applied in the procedures are:

- Paper and stationary products:
  - environmentally friendly products (envelopes, folders and other paper products for office purposes)
  - environmental management standard (ISO 14001)
  - technical specifications: environmental labels (FSC, NordicSwan, Blue Angel), eco-labels, recycling.
- IT:
  - EU standards
  - energy consumption (standby and switched off mode)
  - noise level
  - waste management (delivery, recycling, extermination)
  - remanufactured products.
- Fuel:
  - EU standards and environmental/sustainability criteria
  - alternative fuels (biodiesel, bioethanol).

The PPSD publishes information on its website (www.kozbeszerzes.gov.hu) regarding the types of available products and their environmentally friendly features. Contracts and all other documents related to centralised public procurement procedures are also available on this website in pdf format or in databases. The PPSD also conducts presentations and briefings on available green products.

Impact assessment

The PPSD has not yet conducted an impact assessment procedure.

Challenges and risks

- Establish an environmentally conscious work environment.
- Achieve an attitude change in the public administration.
- Comply with EU and national public procurement rules.

Key lessons learnt

- The public procurement market, including the centralised public procurement market, is a strategic tool for creating an environmentally friendly attitude and promoting environmentally friendly products.
- In order to achieve the targets, it is important that environmental requirements work together with economic interests (cost efficiency, favourable tender prices).
- It is vital to take into consideration the products' effects on each other (for instance, the compatibility of the printer and the paper or the fuel and the motor vehicle).
- It is important to define the methods aiming to promote groups of products.
- Raising awareness on available green products is an essential factor of success.

PORTUGAL[30]

Context

eSPap, the Portuguese Public Administration Shared Services Authority, is the managing entity of the National System for Public Procurement (SNCP) and is tasked to help increase the efficiency of the Portuguese public administration.

The main goals of eSPap are:

- economic: increasing savings in public procurement and contributing to sound and stable public finances by making better use of taxpayers' money
- environmental (green public procurement): gradually incorporating environmental requirements in public tender selection and awarding criteria.

[30]. Case study submitted by eSPap, Public Administration Shared Services Authority, Portugal.

Currently, eSPap runs 16 framework agreements covering the following categories of goods and services: mobile communications, hardware, paper and stationary, printing and copying, software, cars and motorcycles, fuel and liquefied gas, energy, cleaning services and goods, security and surveillance services, travel and accommodation, landline communications (voice and data), meals (catering), e-tendering tools, office furniture, electric vehicles.

These framework agreements allowed eSPap to achieve EUR 155 million of savings for the period 2009-12, with 269 qualified suppliers, for a total of EUR 1 billion annual public expenditure.

Regarding the implementation of green public procurement, eSPap was an active member in the implementation of the National Strategy on Green Public Procurement (2008-10) established by the Resolution of the Council of Ministers n.º 65/2007 (RCM) of 7 May, which includes a range of priority goods and services, as follows: design and construction of public works, including lighting and appliances; transport, including equipment and transport services; energy; office equipment, including computer equipment, communications, printing and copying, computers, printers, copiers, faxes, multifunction devices; office supplies (including paper); hygiene and cleaning; management and maintenance of equipment and public infrastructure.

Eight framework agreements in the priority categories have green criteria, representing 50% of the total of framework agreements set up by eSPap.

Objectives

The main goals of the GPP for 2009 were for 30% of the pre-awarded procedures to include environmental criteria and for 30% of the value of public procurement procedures to include environmental awarding criteria. For 2010, this percentage was increased to 50%.

Implementation

In order to achieve these objectives, the ministerial purchasing units committed themselves with a Declaration of Commitment.

Impact and monitoring

Based on the contracting entities report, in 2009 over 41% of procedures and more than 61% of the total value of purchases of goods and services that fall into priority categories defined in the RCM 65/2007 incorporated environmental criteria or requirements, therefore surpassing the objective.

In 2010, over 56% of procedures and more than 60% of the total value of purchases of goods and services that fall into priority categories defined in the RCM 65/2007 incorporated environmental criteria or requirements.

Table 2. Impact and monitoring, Portugal, green procurement 2009-10

Priority goods and services	Ecological criteria	Nº of procedures		Value (EUR)	
		2009	2010	2009	2010
Paper	Yes	457	2 647	3 907 165.56	9 258 643.17
	No	317	8 677	200 478.87	1 042 717.41
Office equipment	Yes	486	294	7 522 181.47	9 795 607.99
	No	585	651	6 200 060.40	3 032 202.40
Stationery	Yes	962	31 593	10 468 895.27	16 163 101.88
	No	1 959	10 523	4 242 490.57	6 684 355.72
Energy	Yes	21	9	2 696 838.93	370 287.84
	No	3	71	4 511 040.13	7 080 267.92
Cleaning services and products	Yes	476	1 386	6 289 400.30	12 049 384.72
	No	546	5 600	742 984.46	10 897 870.91
Construction	Yes	9	104	383 621.12	12 301 196.31
	No	113	457	3 136 368.82	9 972 208.81
Transport	Yes	1 018	144	3 571 787.91	8 673 877.00
	No	1 358	1 463	2 586 682.07	5 404 928.08
Total		**8 310**	**63 619**	**56 459 995.88**	**112.726.650.17**
% of procedures with ecological criteria		41.26%	56.87%	61.71%	62.87%
Goal 2009		> 30%	> 50%	> 30%	> 50%

Source: eSPap.

Challenges

The selection of the priority categories of goods and services is a critical aspect when establishing a national GPP strategy. Portugal followed EU good practices in this respect.[31]

Monitoring is based on the contracting authorities' declarations/reports which contain information about the procedures that are launched with GPP criteria, where the "green proposals" are awarded extra points. However, reports do not assess whether the winning bid is the "greenest". In order to improve the monitoring of the New National Strategy on Green Public Procurement (2013-16), eSPap is considering to introduce information collection on a web portal dedicated to the public contracts (www.base.gov.pt/base2), including pre-award and post-award information, to assess both the percentage of procedures with GPP criteria as well as the percentage of "green" contracts. Well-structured monitoring mechanisms are essential to evaluate the strategy's impact.

Success factors and actions forward

GPP is a priority in Portuguese public procurement. As mentioned, 50% of the existing framework agreements include green criteria. Contracting authorities are required to include green criteria in most call-offs following established criteria and guidance from the EU. Also, the Declaration of Commitment signed by each ministerial purchasing unit helped in the successful implementation of the strategy.

In order to increase stakeholders' awareness on public procurement, a communication plan was set up, as part of the 2008-10 strategy. There were several events, including an international event in July 2010 with the participation of the European Commission and a road show in seven different cities

[31]. See also http://ec.europa.eu/environment/gpp/pdf/handbook.pdf; http://ec.europa.eu/environment/gpp/gpp_criteria_en.htm; and http://susproc.jrc.ec.europa.eu/product_bureau/projects.html.

across the country to promote the Portuguese public procurement system, SNCP, and the GPP strategy. The communication strategy was essential in enhancing understanding of GPP.

In addition, eSPap and the Portuguese Environment Agency APA developed specific sections on their websites to raise awareness on GPP issues.

For the 2013-16 period, eSPap with the Portuguese Environment Agency APA prepared a new National Strategy on Green Public Procurement, with the objective to improve monitoring mechanisms, increase the range of priority goods and services, and increase the number of buyers, including local government and state-owned companies in addition to the current 1 800 SNCP entities. This strategy was presented and approved by the Portuguese government.

AUSTRIA[32]

Context

In 2006, the city of Vienna started a comprehensive strategic process titled "Vienna thinks future" to support developing a knowledge-based society, as attracting knowledge and intellectual resources were seen as key factors to position Vienna as a competitive business location. The Viennese strategy for research, technology and innovation (RTI Strategy) was published in 2007 and identifies five relevant fields of action, one of which is to make Vienna a "greenhouse" for research and innovation. Given the volume of public purchases in Vienna, procurement was chosen as a strategic tool to stimulate innovation.

The public procurement-related objectives in the context of the RTI Strategy were assigned to "ZIT Zentrum für Innovation und Technologie GmbH" (the Centre for Innovation and Technology, an agency owned by the Business Agency "Wirtschaftsagentur Wien" of the city of Vienna), accompanied by funding guidelines. The ZIT established an expert working group on public procurement and innovation which developed the "WienWin" initiative in 2009.

Objectives

WienWin aims to position Vienna as a business location by using its purchasing power, through promoting the development of innovative products and services and supporting innovative businesses. Procuring authorities are meant to function as pioneer users and create a lead market for innovation.

WienWin sets up a framework for systematic exchange of information between public purchasers in Vienna, innovative companies and the ZIT.

The project provides public purchasers in Vienna with an overview of innovations available in the market. To encourage a public procurement culture which promotes innovation, know-how is built up through continuous dialogue and quality input.

Implementation process

The WienWin initiative consists of four main tools:

1. Internet platform

[32]. Case study submitted by the Austrian Federal Chancellery.

A website (www.wienwin.at) was set up to collect examples of innovation in Vienna. WienWin.at presents only products and services that were either developed with funds from a regional, national or European funding institution or where the level of innovation has been subject to evaluation by an expert jury. Innovations are presented in a uniform way.

2. City talk and individual dialogue

In individual discussions with members of the administration of the city of Vienna (including enterprises that are owned or managed by the city), the ZIT experts survey innovation in the city and provide information on solutions from Viennese companies. If there is an interest, businesses are invited to present their innovations personally in city talks, where opportunities are offered for both potential users to check the innovative solutions as well as for innovative companies to convince users of the benefits of their solutions. Procurement procedures after city talks should comply with public procurement legal requirements.

3. Making WienWin situations visible

If an innovation developed by a Viennese undertaking is taken up by the city of Vienna, the ZIT proceeds to science and media communication to show where and how the innovation is used. It issues reports to present the respective businesses so as to motivate others to invest in innovation.

4. Concepts for innovation-oriented procurement

WienWin primarily aims at offering procurement managers a market overview of available innovations, but also focuses on life-cycle costs and their calculation, incentive systems for procurement of innovation, pre-commercial procurement and development of innovative city technologies.

WienWin is handled by the ZIT, which employs 26 people. Since March 2011, WienWin is co-financed by EU regional funds and has an annual budget of approximately EUR 440 000 and 5 employees (3.5 full-time equivalents). They analyse fields of application of innovations, develop standardised presentation models for innovations and organise workshops. WienWin services around 450 purchasers of the Vienna city administration.

Impact and monitoring

WienWin aims to achieve impact in the following areas:

- Public services are tailored to local requirements.
- The public sector helps local SMEs. SMEs are motivated to invest in research, development and innovation, aiming to enter the public sector market.
- The use of technology-based innovations for public services has an impact on the image of a city and attracts innovation.
- Co-operation between the city and local business increases local “ownership”.

So far WienWin has organised 121 dialogues with decision makers of the city administration and businesses to identify areas that require innovative solutions and planned joint follow-up actions. Undertakings presented innovative products and solutions to potential users in 18 city talks.

WienWin.at currently covers more than 200 innovative solutions in 12 different areas (e.g. construction, education, tourism, health, environment, etc.).

In 24 cases, WienWin achieved co-operation between the Vienna city administration and innovative undertakings.

Challenges and risks

There is a gap in innovation policy between research push and market pull and thus it is difficult to market innovative solutions. To bridge this gap, various funding schemes are provided at international, national and regional level to strengthen research. An increasing number of expert groups recommend complementing public funding for research and innovation by new measures to strengthen the market pull for innovation.

To evaluate the impact of the WienWin measures taken so far, a continuous monitoring process has been set up. Studies are foreseen to check obstacles and good practices for the public procurement of innovation.

Key lessons learnt

WienWin is one of the pioneer activities fostering innovation through public procurement in practice. WienWin helps to bridge the gap between public promotion and the funding of innovative projects on the one side and public procurement on the other. Awareness for cultural differences in these fields of public administration is a key condition for success.

For further information see: www.wienwin.at.

DIMENSION 6. MONITORING GPP

Countries agree that monitoring the results of GPP is indispensable to confirm whether GPP policies work, develop strategies and adapt goals. Several countries record the outcomes of GPP practices and gather data on the achievement of GPP targets.

Successful examples include Canada, which relies on annual reports of forecasted and actual progress on green procurement, and the United States, which uses scorecards to monitor whether agencies meet their goals in accordance with the activities and milestones identified in their annual plans. The Italian central purchasing body Consip and the Austrian government measure GPP impacts to promote its use, while the French central purchasing body UGAP relies on a sophisticated coding system to measure GPP for its clients.

CANADA[33]

Context

The Canadian Policy on Green Procurement was developed in 2006 in response to the following issues highlighted by the Commissioner of the Environment and Sustainable Development:

- central direction on green procurement is missing
- there is no federal green procurement policy or strategy
- the government is not using green procurement as a tool to achieve sustainable development objectives
- key federal documents do not address the responsibilities of buyers and suppliers as they relate to green procurement
- there is no basis for assessing progress on green procurement.

As part of the government's on-going commitment to improve the environment and the quality of life of its citizens, the Policy on Green Procurement seeks to reduce the environmental impacts of government operations and promote environmental goals by integrating environmental considerations in procurement.

Objectives

It is expected that the Policy on Green Procurement will:

[33]. Case study submitted by the Treasury Board of Canada Secretariat in co-operation with Public Works and Government Services Canada.

- demonstrate environmental leadership and influence industry and citizens to use environmentally preferable goods, services and processes

- stimulate innovation and market development of, and demand for, environmentally preferred goods and services, making them available and mainstreaming them for other sectors of society

- support emerging environmental technologies

- benefit the environment by contributing to environmental objectives

- result in more environmentally responsible planning, acquisition, use and disposal practices in the federal government

- support a healthier working environment for employees and citizens through the purchase of environmentally preferable goods and services.

Immediate outcomes of the policy include:

- increased consistency and transparency in green procurement reporting requirements for all government departments

- increased availability of appropriate information and tools for use by all government departments to implement the Policy on Green Procurement.

Implementation process

The implementation strategy for the Policy on Green Procurement is based on the following principles:

- integration of environmental performance considerations in existing procurement processes, policies, procedures, tools and instruments using life-cycle analysis in the context of achieving value for money

- monitoring and reporting (e.g. through reports on plans and priorities and departmental performance reports) to support continuous improvement in the integration of environmental performance in procurement, including through the Federal Sustainable Development Strategy

- a co-ordinated government-wide approach to optimise information-sharing, consistency and performance measurement.

Implementation activities are focused on three key areas:

- inclusion of environmental specifications and evaluation criteria in centrally managed procurement administered by Public Works and Government Services Canada

- development and sharing of green procurement information and tools, such as guidelines and training, to support all departments and agencies

- systemic integration of environmental performance in the procurement decision-making processes of all departments, including establishing departmental green procurement targets that are aligned with government priorities.

Implementing authorities

Development and implementation support of the policy has been led by Public Works and Government Services Canada in collaboration with Environment Canada, Natural Resources Canada and the Treasury Board of Canada Secretariat.

Within Public Works and Government Services Canada, support of policy implementation is divided between the Office of Greening Government Operations (OGGO) and the Acquisitions Branch. The OGGO leads the overall management and support of government-wide policy implementation, including inter-departmental engagement. The OGGO also develops tools such as training material and guidance and leads the development and implementation of the government-wide planning and reporting mechanism for the greening of government operations. The Acquisitions Branch supports the achievement of the policy objectives by integrating environmental performance considerations into its centrally managed federal procurement instruments, policies, procedures and business tools, including supplier communication tools.

The deputy heads of all departments and agencies as defined within the meaning of Section 2 of the Financial Administration Act are required to ensure that the objectives of green procurement are realised in their organisations.

Stakeholders

Stakeholders include the federal government of Canada's employees (such as procurement and materiel management staff) and suppliers.

Government of Canada departments carrying additional responsibilities are Public Works and Government Services Canada, Environment Canada, Natural Resources Canada and the Treasury Board of Canada Secretariat.

Consultations on the policy design and implementation were undertaken through an inter-departmental task group on green procurement and bilateral meetings with a number of federal organisations.

Public Works and Government Services Canada conducts consultations with centralised procurement officers, client department procurement officers and suppliers throughout the process of including environmental specifications and evaluation criteria in centrally managed procurement.

Progress

Significant progress has been made in implementing the Policy on Green Procurement.

Fundamental policy machinery is in place, including:

- a governance structure
- an implementation plan

- guidance and tools
- free online training available to employees of the government of Canada from the Canada School of Public Service (course C215).

The government of Canada establishes government-wide procurement instruments for commonly procured goods and services. Departments purchase from these procurement instruments. Green procurement is integrated into the development process of these instruments through the use of green procurement plans. Green procurement plans are developed in collaboration with procurement experts for the given commodity and client departments and they:

- outline key environmental impacts for a given commodity
- indicate the procurement actions that can be taken to mitigate these impacts
- gather information on the progress of implementing the Policy on Green Procurement for a given commodity.

Suppliers are actively engaged in this process to assess their readiness to respond to environmental performance criteria, through consultations with industry, surveys and requests for information. This information is communicated in the Green Procurement Plan and taken into consideration. Environmental performance considerations are phased into the instruments such that each renewal contains increasingly stringent criteria. The Green Procurement Plan includes a scorecard that outlines the criteria currently being used, the criteria included in the current renewal and the criteria anticipated for the next renewal. This information is communicated to suppliers, allowing them time to prepare for the next renewal, thus maintaining supplier competition.

Information technology (IT) hardware is an example of a commodity where many environmental criteria have been included in the Standing Offer using this process, including:

- All desktop and notebook systems as well as monitors are certified through the Electronic Product Environment Assessment Tool (EPEAT Silver level).
- Desktop systems and monitors are EnergyStar 4.0 certified.
- Monitors are TCO'03.
- Desktop systems include high-efficiency power supplies (80plus).
- All manufacturers represented on the Standing Offer are members of good repute of a recognised entity specifically established to address end-of-life electronics recycling and re-use in Canada.
- Desktop Category 1.0D and 1.0A Green PCs have reduced materials (with a smaller case and integrated components) and lower power consumption. For further examples, see the Green Goods and Services List.

Where no centralised procurement instrument exists, the environmental considerations used for similar goods and services can be used in other procurement activities. The guidance and tools found on the websites of the Office of Greening Government Operations and the Acquisitions Branch Green Procurement should also be consulted.

Impact and monitoring

All departments and agencies are required to report their forecasted and actual progress on green procurement annually through publically available parliamentary reports (the Report on Plans and Priorities [RPP] and Departmental Performance Report [DPR], respectively.) Beginning in 2008/09, the Treasury Board Secretariat Guidance provided specific instructions to all departments and agencies on how to report their progress on green procurement in their annual RPP and DPR.

An evaluation framework and government-wide performance measures were developed in order to monitor the policy implementation as well as assess its effectiveness after five years of being implemented. Public Works and Government Services Canada is currently conducting an evaluation of the policy in order to assess its relevance and performance.

Monitoring of the inclusion of environmental specifications and evaluation criteria in centrally managed procurement administered by Public Works and Government Services Canada is ongoing.

The Policy on Green Procurement is founded on the principle of value for money, taking into consideration factors such as quality, performance, price, environmental performance and availability. The Policy on Green Procurement also requires the integration of environmental performance considerations into the life-cycle costs of goods, services and construction, as opposed to focusing only on the up-front acquisition costs. Using a life-cycle approach to examine costs associated with a commodity allows considering costs associated with operating, maintaining and disposing of the good.

For example, the procurement tool for purchasing computers (Computer Acquisitions Guide) contains two columns for pricing: price and evaluated price. The “price” column is the actual cost of the base system. The “evaluated price” column is only used for evaluation purposes. It is this score that allows the site to rank the system according to life-cycle costs. All of the systems on the Standing Offer are given a rank based on a weighted average of their price, performance, hardware features, total cost of ownership (TCO) features, environmental features and usability. The life-cycle approach to costs allows users to see what the best-value computer is and helps them understand that the lowest base price computer may not always be the best-value computer.

Challenges and risks

The main challenges faced included:

- maintaining procurement competition while advancing greening
- balancing environmental and other procurement objectives
- high volume and variety of purchasing and people involved
- the need for horizontal collaboration and strong engagement.

These challenges were foreseen based on previous experience implementing socio-economic objectives in the government of Canada’s procurement process. They were managed as follows:

- Competition is maintained by using a phased-in approach for the inclusion of environmental performance considerations using a process that engages both suppliers and clients.

- Environmental objectives are balanced with other procurement objectives by applying a value-for-money approach, increasing the awareness of environmental issues as well as the maturity of the market.

- The high volume and variety of purchasing and people involved is managed by prioritising implementation activities according to spend, environmental impact and ease of implementation. For instance, prioritising the integration of environmental considerations into centrally managed procurement instruments.

- One organisation (Public Works and Government Services Canada) has been tasked with horizontal collaboration and engagement across the government of Canada.

Key lessons learnt

Key learning aspects included:

- A centre of expertise (i.e. Public Works and Government Services Canada) that can provide:
  - a foundation of training and governance
  - detailed guidance and operational tools
  - systemic integration in centralised procurement.
- Partner organisations (i.e. Office of Greening Government Operations and Acquisitions Branch) that separate policy implementation roles and responsibilities into policy machinery and operational implementation.
- Leveraging of the Federal Sustainable Development Strategy targets (i.e. integrating them into upcoming standard processes).
- Using a principles-based approach to keep pace with advances in technology and ensure that reductions in environmental impact are measured over the life cycle of a good or service.
- Using a phased approach to maintain competition and seek continual improvement.

ITALY[34]

Context

In November 2011 Consip SpA, the Italian central purchasing body owned by the Ministry of Economy and Finance, set the terms for a Framework Agreement on Desktop Outsourcing for 70 000 workstations. This was a public contract for the management of IT platforms, leasing of hardware (desktop and notebook PCs, printers, multifunction devices), software licenses and virtualisation services.

The Framework Agreement on Desktop Outsourcing is a multi-supplier framework agreement with several economic operators where minimum requirements are set but some terms of the contract have to be established in the second (call-off) stage. Public bodies using this framework agreement can

[34]. Case study submitted by Consip SpA, the Italian central purchasing body.

add award criteria as well as other technical specifications to specify the level of services they wish to obtain, provided that minimum requirements are kept.

Consip run market analysis on products and services through online questionnaires and face-to-face recorded meetings with suppliers.

Objectives

The main feature of this framework agreement is the focus on energy efficiency and the rationalisation of IT infrastructure, a reduction of staffing costs and routine maintenance (upgrades and repairs of PC systems and servers). These requirements are met by purchasing an integrated service rather than by purchasing a product.

Suppliers must offer the following services:

- a system for the digital management of documents (avoiding the use of paper, printers and related consumables, cost of renting archives)
- management of electronic waste
- customer service to evaluate the quality of services.

Implementation process

A multi-supplier framework agreement is a useful tool since it:

- provides public buyers with a high level of autonomy and flexibility
- makes several brands available
- is able to meet heterogeneous preferences by providing different solutions.

The tender process was managed through Consip's e-procurement platform. Prices and minimum requirements set by Consip are valid for the duration of the framework agreement, which facilitates repeated purchases and subsequent upgrades from public authorities that use the framework agreement. Green requirements are part of the contract.

Table 3. Example of PC desktop life-cycle costing

PC desktop savings (Lotto1 Convenzione Desktop 11)		
	1 PC 42% ETEC	**1 PC Energy Star**
Consumption (kWh/year)	169.4	271
Consumption (EUR/year)	23.72	37.94
Consumption (EUR/5 years)	119	190
Savings (EUR)	14.22	
Savings (EUR/5 years)	71	
CO_2 avoided (Kg/year)	53	

Notes: We have compared 1 PC labelled as Energy Star 5.0 and 1 PC more efficient (42% of the maximum Etec Energy Star). We have considered the cost for energy supply of EUR 0.14/kWh, 0.52 CO_2 conversion factor and a life cycle of 5 years per PC.

Source: Consip SpA.

Table 4. Replacement of 1 PC desktop with 1 portable computer (LCC)

Desktop	**1 PC 64% ETEC**
Consumption (kWh/year)	169.4
Consumption (EUR/year)	23.72
Consumption (EUR/5 years)	119
Portable computer	**1 PC 72% ETEC**
Consumption (kWh/year)	27.5
Consumption (EUR/year)	3.85
Consumption (EUR/5 years)	19
Savings (EUR/year)	19.87
Savings (EUR/5 years)	99.35

Source: Consip SpA.

Impact and monitoring

- Thanks to the purchase of energy efficient Energy Star certified desktops, this framework agreement can generate savings of EUR 2.5 million, or the equivalent of 9 000 tonnes of CO_2 emissions avoided.

- The rational use of print and copy services can contribute to savings of EUR 9 million.

- Thanks to processes dematerialisation, every order performed above the EU threshold through Consip's e-procurement platform has allowed for unitary savings of EUR 42 000.

- The use of "duplex printing" could generate net savings ranging between 19-50% in life-cycle costing (LCC).

The suppliers are willing to offer green products so as to minimise support and maintenance costs which are included in the framework agreement.

The framework agreement was used by the Italian Ministry for Infrastructure and Transport, which purchased IT services for 10 500 of its workstations and by the Italian Ministry of Economy and Finance, which purchased IT services accounting for 3 500 of its workstations.

Table 5. Use of the framework agreements in IT for government

120 workstations	HP 1 120 WG	HP 2 60 WG + 1MF	HP 3 12 WG + 1 MF	HP 4 2 MF	*WG (work-group)* *MF (multifunction)*
Leasing (1 year)	4 200	2 918	1 238	1 636	*Leasing costs deriving from AQ desktop outsourcing*
Energy consumption 1 year)	2 400	1 245	285	90	*Elaborated by Consip using Energy Star data*
Paper consumption (1 year)	3 000	3 000	3 000	3 000	*Hp: 5 000 sheets x person x year* *Cost of a ream: EUR 2.50*
LCC (1 year)	9 600	7 163	4 523	4 726	*Leasing + energy + paper*
LCC (3 years)	28 800	21 489	13 569	14 178	*LCC for 120 workplaces*
LCC FA desktop outsourcing	15 041 400	10 779 087	6 161 727	6 516 774	*LCC for 70 000 workplaces*
LCC (1 year) with double sided printing mode	8 100	5 663	3 023	3 226	*Paper consumption has been cut by 50%*
LCC (3 years) with double sided printing mode	24 300	16 989	9 069	9 678	
Net savings from double sided printing mode	4 500	4 500	4 500	4 500	
Savings in %	19%	26%	50%	46%	

Source: Consip S.p.A.

Challenges and risks

One of the challenges is meeting the different needs of the public buyers while achieving rationalisation of the equipment and high levels of quality.

Another challenge is moving to a public procurement culture of buying more services and fewer goods.

Key lessons learnt

Buying IT services rather than goods was a key factor of success. The provision of IT services allows for greater flexibility, financial and environmental efficiency and meeting the real needs of the public buyer. The service includes technical support, maintenance and replacement of spare parts for the equipment and a certain service performance level. This provides suppliers with a strong incentive to supply top products in terms of energy performance, durability and quality, with less CO_2 emissions, less material use, no waste of electronic equipment (since the products are not owned by public authorities but only leased) and increasing the level of efficiency for end users.

For further information see: www.consip.it.

UNITED STATES[35]

Context and background

All United States federal government agencies use the Federal Procurement Data System (FPDS) to report on public procurements greater than USD 25 000. The 25 largest agencies are mandated to report and self-monitor quarterly, on which they are assessed semi-annually by an Office of Management and Budget (OMB) scorecard; another 20-30 small agencies voluntarily comply and report.

The US federal government occupies nearly 500 000 buildings, operates more than 600 000 vehicles, employs more than 1.8 million civilians and purchases more than USD 500 billion per year in goods and services. For procurements, the US government has established mandates for socio-economic goals such as purchasing from small businesses; firms that employ blind, deaf or otherwise handicapped individuals (Ability One); companies owned by Native Americans, women and other diverse or socially disadvantaged groups; and green purchasing/sustainable acquisition.

Objectives

This case study focuses on the environmental acquisition efforts. Green purchasing/sustainable acquisition in the US federal government dates to 1976, with passage of the first law establishing a preference programme for recycled products – those made with recovered materials. There are statutory mandates from Congress, various Executive Order mandates (signed by the President of the United States) and implementation guidance to help agencies understand and meet the wide array of green purchasing mandates. The federal programme now covers recycled content products, energy- and water-efficient products, bio-based products, environmentally preferable products, alternative fuel vehicles and reduction of toxic and hazardous materials. The federal government has been emphasising sustainable acquisition or green procurement monitoring and reporting since the early 1990s and reports to Congress every two years on the results. The FPDS continues to be refined and improved as a tool to help agencies accurately report compliance with the sustainable acquisition mandates.

All of the sustainability mandates have also been incorporated into the Federal Acquisition Regulation (FAR) which covers all procurement requirements for federal purchases. For micro-purchases that fall below the FPDS reporting threshold, FAR coverage still mandates sustainable acquisition compliance.

Three agencies have the lead in designating products and providing purchasing recommendations to the other agencies: the US Environmental Protection Agency, the US Department of Energy and the US Department of Agriculture. These three agencies have designated environmental criteria for more than 300 product categories; see www.sftool.gov/greenprocurement for the full list and the criteria.

Agencies purchase products through procurement platforms such as GSA (General Services Administration) Advantage or the Defence Logistics Agency's E-mall. In addition, agencies issue their own contracts or orders against established contracts such as GSA's multiple award schedule contracts. Agencies can specify which green products they want to purchase and define what it means for these products to be "green" in scopes of work or by the inclusion of clauses or by reference to environmental programmes. Required contract clauses are located in the FAR.

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[35]. Case study submitted by the Environmental Protection Agency, United States.

Implementation

Compliance with the sustainable acquisition goals and mandates ultimately contribute to the overall success of the US government's goal to reduce greenhouse gas (GHG) emissions, contribute to energy- and water-efficiency goals, reduce the government's petroleum use, and create and support markets for recovered and bio-based materials. The goals of Executive Order 13514 are:

- By 2020, the federal government will reduce Scope 1 & 2 Greenhouse Gas emissions (GHG) by 28% as compared to its 2008 baseline.
- By 2020, the federal government will reduce identified Scope 3 GHG by 13% as compared to its 2008 baseline.
- By 2015, the federal government will reduce its energy intensity in goal-subject facilities by 30% as compared to its 2003 baseline.
- By 2020, the federal government will reduce its potable water intensity by 26% as compared to its 2007 baseline.
- By 2015, the federal government will reduce its fleet petroleum use by 20% as compared to its 2005 baseline.

More specifically, Executive Order 13514 Section 2(h) reinforces compliance with all of the sustainable acquisition standards and mandates that "…the head of each (federal) agency shall: …ensure that 95 percent of new contract actions…are energy-efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, bio-based, environmentally preferable (e.g. Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives…." (signed by President Obama on 9 October 2010).

Currently, sustainable acquisition requirements apply to products, including products supplied or used as part of services contracts. They are defined as being relevant to the following purchase categories:

- electricity
- design and/or construction
- operations and maintenance
- janitorial products/services
- office supplies
- furniture
- cafeteria ware/services
- fleet management
- hospitality: uniforms/bedding/linens

- meetings and conference services
- IT equipment.

The product category-specific mandates/criteria are available in a searchable tool at: http://sftool.gov/GreenProcurement. Referenced standards include:

- recycled content (1976): www.epa.gov/cpg/products.htm
- Energy Star/efficient (1993): www.energystar.gov and www.eere.energy.gov/femp/procurement
- non-ozone depleting substances (1998): www.epa.gov/ozone/snap/general/index.html
- bio-based/bio-preferred (2002): www.biopreferred.gov
- toxic and hazardous chemicals (2007) (in the future may link to the EPA DfE Safer Chemicals Ingredients List): www.epa.gov/dfe/saferingredients.htm
- water efficient (2007) (in the future may link to the EPA Watersense Program): www.epa.gov/watersense
- environmentally preferable (1993): www.epa.gov/epp; www.epa.gov/epeat
- high-performance, green buildings (2007): www.wbdg.org/references/fhpsb_new.php
- other: www.eere.energy.gov/EE/transportation.html.

From 20 November 2013 to 25 April 2014, the EPA received public comments on draft Guidelines for Assessing Private Sector Standards and Eco-labels. When implemented, the US EPA envisions that conforming private sector standards would be utilised more consistently by federal agencies, augmenting the above list of primarily government standards and eco-labels to help meet the goals of EO 13514 section 2(h). Such an approach would be consistent with the National Technology Transfer and Advancement Act and Office of Management and Budget Circular A-119, which directs federal agencies to use private sector consensus standards instead of government-unique standards in procurement and regulations, unless otherwise impracticable. For more information, see: www.epa.gov/epp/draftGuidelines.

Impacts and monitoring

US federal agency compliance is monitored through a variety of mechanisms. In addition to the FPDS data system where all procurement information is tracked, agencies are expected to submit an annual
Strategic Sustainability Performance Plan (see www.whitehouse.gov/administration/eop/ceq/sustainability/plans), which identifies specific actions and goals they plan to achieve in the coming year. In addition, key milestones and activities are tracked and assessed through semi-annual scorecards (see www.whitehouse.gov/administration/eop/ceq/sustainability/omb-scorecards%20%20).

These scorecards are used by OMB and the Council on Environmental Quality (CEQ) to monitor whether individual agencies are staying on track toward achieving the overarching government-wide goals and how much progress agencies are making to achieve the activities and milestones identified

in their annual plans or as prescribed by OMB and the CEQ for all agencies. In providing input on sustainable acquisition for the scorecard assessments, agencies are asked to conduct quarterly reviews of at least 5% of the acquisitions awarded in that period and report on compliance with the sustainable acquisition goals. If agencies fall below the 95% compliance rate, they are supposed to identify corrective actions that they will take during the following six-month period to address the barriers or underlying conditions for non-compliance.

Challenges and risks

During the last assessment period, many agencies focused on improving the quality of sustainable acquisition data submitted to the FPDS. Although agencies are including the requirements and contract clauses necessary to purchase the designated green products, they may not be accurately reflecting their sustainable acquisition purchases in the FPDS. In addition, agencies will identify particular areas of emphasis, for example review of all recent design and construction contracts, for requirements and compliance with applicable requirements. Agencies are also beginning to baseline their performance for individual requirements, such as for bio-based products or EPEAT-registered electronics. Currently, the United States is using the FPDS data as a backup for checking compliance but once the quality of data improves, it may become the main reporting tool for biannual assessments through the public scorecard process.

There are a number of incentives beyond the public scorecards to promote implementation. Since the 1990s, presidential awards have been given to federal agency teams and individuals that exemplify leadership in sustainable procurement (see: www.whitehouse.gov/greengov/presidential-awards).

Human and economic resources

Senior sustainability officers within individual agencies determine their own needs and are expected to provide staffing for their agency-level sustainable acquisition programmes.

Summary of results

See: http://sustainability.performance.gov.

Key lessons learnt

The US federal government does not have a single, unified green purchasing law or unified procurement system. Because there are hundreds of thousands of buying points across multiple agencies, without one unified law or purchasing system, it is very difficult for US federal government agencies to obtain accurate information and track which green products they purchase. In addition, because many items are purchased as part of services contracts and product-level data are not usually tracked under these contracts, tracking and reporting is difficult.

The US federal government is developing new and improved ways to integrate green products into acquisition systems. Some agencies have found innovative ways to lead. For example, in addition to reporting per EO 13514 goals and mandates, the Department of Energy's (DOE) GreenBuy Program provides DOE sites with additional recognition for reporting on purchases of specific "Priority Products." The DOE developed a list of priority products, which includes 40 products in 7 categories, in order to identify products that go beyond minimum compliance and embody leadership-level sustainability attributes. The priority products list provides the DOE sites with optional stretch goals they can use to help focus their sustainable acquisition efforts. Sites can tailor this list to meet their specific circumstances, allowing them to select categories and products of most

value at the local level. Facilities may report additional green products and are encouraged to nominate new candidates for the list. This list also assists sites in engaging with the suppliers and informing contract language and related reviews. The recognition programme provides significant incentives to report on a voluntary basis for a smaller number of products in order to reward effective procurement programmes.

AUSTRIA[36]

Context

In July 2010 the Austrian federal government adopted a horizontal action plan for sustainable procurement ("*naBe-Aktionsplan*") and started its implementation. The plan:

- points out the importance of changing production and consumption schemes towards sustainable activities
- shows the public sector's opportunities to influence this process
- offers practical orientation for public purchasers to design their procurement procedures in this respect.

Objectives

Given that Austria's annual procurement expenditure covers approximately 17% of GDP, the public sector can contribute to sustainable economic development by the strategic use of public procurement. In this context, the efficient and economical use of natural resources is one of the most important conditions.

Implementation process

The action plan contains ecological criteria for 16 specific procurement categories. They must be used by the Federal Procurement Agency (Bundesbeschaffung GmbH, BBG), the public sector's largest central purchasing body in Austria, per instruction of the Ministry of Finance.

The BBG tries to actively contribute to the target to reduce greenhouse emissions (GHG), which are generated by the public sector's energy consumption, by purchasing electricity from renewable resources. The share of renewable energy sources in the demanded product mix increased from 40% in 2005 to 100% in 2010; the share of certified green electricity increased from 0% in 2005 to 3% in 2010.

Impact and monitoring

In this context, monitoring plays an essential role. The Federal Ministry for the Environment in co-operation with the BBG mandated the Austrian Environment Agency to analyse the impact of using ecologically sound procurement criteria for energy on GHG emissions during 2005 and 2010. The study was focused on energy procurement based on the action plan of the Austrian federal ministries and their services by using a computer assisted model (GEMIS-Austria).

[36]. Case study submitted by the Austrian Federal Chancellery.

The calculation of GHG emissions on the basis of the mentioned product mix shows that GHG emissions caused by the electricity consumption of the respective public services decreased although electricity consumption generally rose by 92% between 2005 and 2010.

Challenges and risks

The project serves as a model for purchasing electricity, which is verified by the calculation methodology applied in the mentioned study of the Austrian Environment Agency.

There is potential for the future, e.g. in building facilities, which are able to provide certified green electricity. Based on research a specific scenario "*Zertifizierter Ökostrom bis 2015*" (certified electricity until 2015) estimates the available potential as continuously increasing.

The BBG has the option to increase the procurement of green electricity from 3% in 2010 to 11% in 2015. To enforce this potential, the Ministry for Environment has to make the benefits visible to the other federal ministries.

Increasing the procurement of certified (with eco-labels) green electricity can lead to the development of facilities for renewable energy sources in the long run, because new or modernised facilities are a requirement for green electricity. This should lead to further reduction of greenhouse emissions.

Key lessons learnt

The consumption of electricity is forecasted to increase in the short term. The transposition of measures to stabilise and reduce electricity consumption should therefore be a priority in addition to increasing electricity from renewable sources. Legal and economic conditions are essential factors for developing facilities for green electricity able to provide sufficient quantities.

The BBG's initiatives in the field of sustainable procurement in co-operation with the Ministry for Environment have contributed to raising awareness in the federal ministries and their services for efficient and economical use of resources. The first important steps were taken through the procurement of electricity, which were analysed in a study.

Increased demand of certified green electricity can be promoted by the Ministry for Environment. The stabilisation and reduction of electricity consumption of the public sector is the most effective measure to sustainably reduce greenhouse gas emissions and can therefore be seen as a common task.

For further information, see: www.nachhaltigebeschaffung.at.

FRANCE[37]

Background

The Union des groupements d'achats publics (UGAP, Union of Public Purchasing Groups) is a central purchasing body which buys products and services under the French *Code des marchés publics* (Public Procurement Code), which is based on EU public procurement Directive 2004/18/EC. The UGAP then sells these products and services to the government and government agencies, regional

[37]. Case study submitted by the French central purchasing body UGAP (Union des groupements d'achats publics).

authorities and hospitals. Its purchasing categories include vehicles, IT, furniture and equipment, medical supplies, maintenance and technical services and facility management services.

As a public agency, the UGAP first included sustainable development in its tenders in 2003 and strengthened it when the *Code des marchés publics* was revised in 2006. The UGAP is in charge of helping buyers integrate environmental and social criteria and clauses into their procedures.

Purpose

As UGAP customers (i.e. the public entities that buy its products) need to know how much of their UGAP purchasing is sustainable, the UGAP needs to able to provide them with this information. As there are different possible levels of detail, the information provided needs to be broken down. Customers with their own green purchasing policies will be able to aggregate the information provided by the UGAP relative to their orders and measure how green their purchases are.

Implementation and process

Setting up an information reporting system first required the development of a system to codify sustainable development factors integrated in purchases.

The coding system uses three letters:

- Letter (1) indicates the buyer's requirements as set out in the specifications, for example social integration clauses; contract exclusively reserved for certain sectors; environmental technical specifications.

- Letter (2) indicates the type of evaluation (environmental, social or sustainable) on which the subject scored more than 80%. It also indicates failure to reach 80%, and, if applicable, that no evaluation was carried out.

- Letter (3) indicates additional information on the product: eco-label, green logo, production at a site having an environmental and health and safety management system, green product, e.g. electric car or energy performance certificate.

The first two letters relate to market information; the third provides information about each item in the order.

After the coding system was created, it was presented to the buyers for feedback, to rally support for the project and to explain how to codify orders. To simplify this process, a key was produced for the code characters. The system for creating orders does not allow buyers to complete a new order unless they fill in the sustainable development fields. The buyers must therefore have daily information updates for their database entries. At the end of this first step, the database was fully coded.

After the completion of coding, the UGAP defined the purchasing categories:

- Sustainable purchases: Goods and services that incorporate significant social and environmental factors.

- Somewhat sustainable purchases: This category includes goods and services with social or environmental factors. These can meet two of the three codes.

- Purchases that include sustainable content: This category covers goods and services that have one of the three possible codes.

- Purchases without significant sustainable content: Goods and services in this category have no environmental or social content that is sufficiently significant to be considered as meeting any sustainability objectives.

- Non-coded purchases: Goods and services such as software, for which it is impossible to include sustainability content or goods and services which have been incorrectly coded.

Using these five UGAP categories, purchases can be ranked by degree of sustainability. The reporting document gives an order value in euros and the number of items for each category.

Users can apply filters for more precise searches. The first filter corresponds to the type of customer (ministry, hospital, etc.) and the second to purchasing (product and service) categories.

This tool also presents more precise figures on the second page. For each combination of three characters there is an order volume in euros, the number of orders and a definition of the codified content.

Key lessons learnt

The UGAP is currently rolling this reporting tool. The next improvements to the system will be the automatic generation of data by customer registration number. The UGAP plans to expand the tool to generate information on purchases per different kinds of companies: micro-businesses, SMEs, mid-caps and large companies.

Going Green: Best Practices for Sustainable Procurement

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