



European  
Commission

# GPP

## Green Public Procurement

*A collection of good practices*

Environment



## Important notice

This good practice collection is an indicative document of the Commission services and cannot be considered binding to this institution in any way. The examples are based on information provided by the respective public authority.

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More information on Green Public Procurement is available on the Internet (<http://europa.eu/environment/gpp/>).

Cataloguing data can be found at the end of this publication.

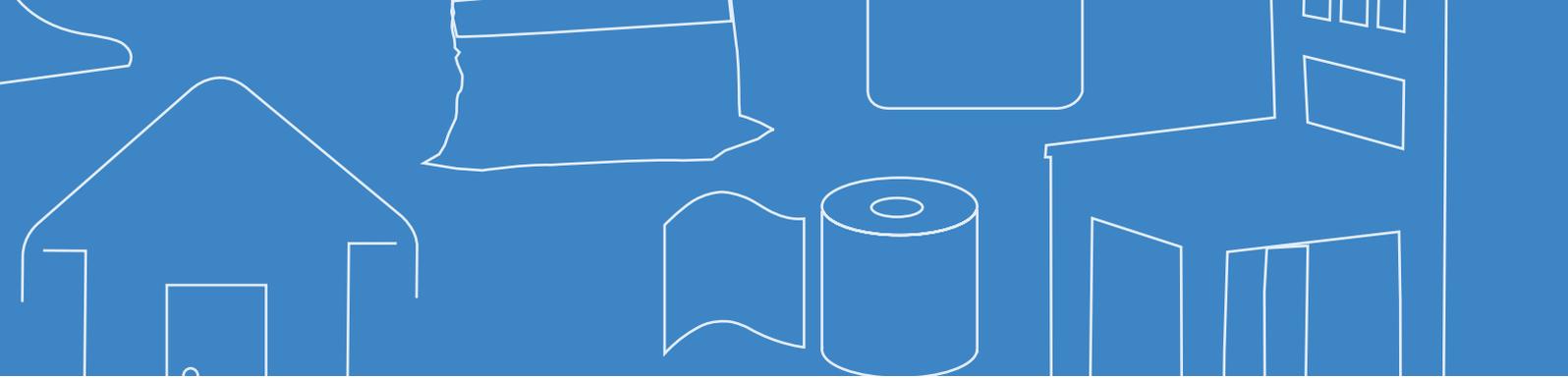
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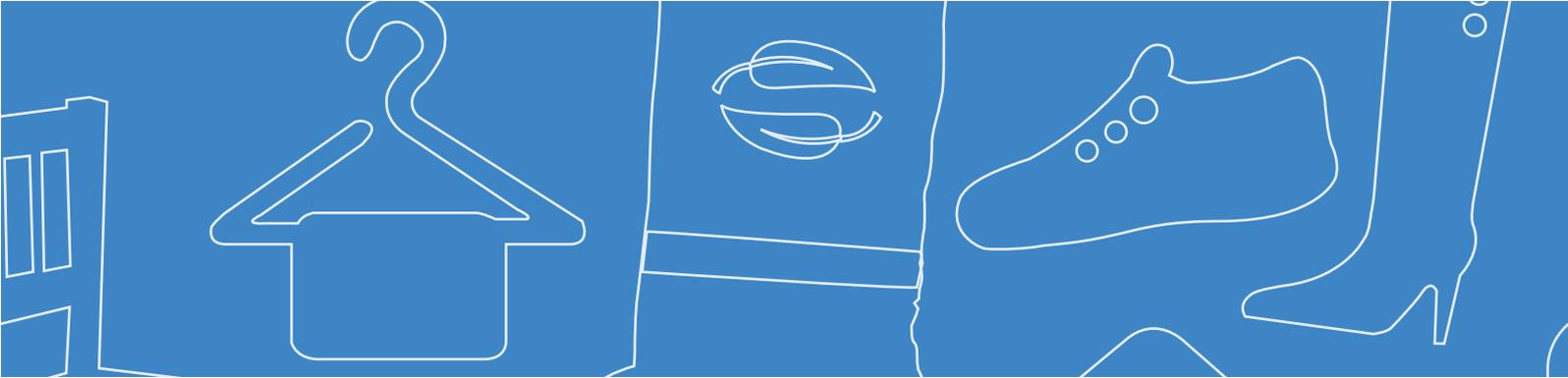
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## Introduction

Green Public Procurement (GPP) is 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. GPP is a voluntary instrument, which means that Member States and public authorities can determine the extent to which they implement it.

Public authorities are major consumers in Europe, spending approximately 2 trillion Euros annually, equivalent to approximately 19% of the EU's gross domestic product. By using their purchasing power to choose goods and services with lower impacts on the environment, they can make an important contribution to sustainable consumption and production.

Since January 2010, the European Commission has published on its website a series of examples of the implementation of GPP throughout different Member States. These examples shall illustrate how European public authorities have successfully launched 'green' tenders, and provide guidance for others who wish to do the same. This brochure includes a collection of some of the most interesting examples collected over the years.

The brochure is available on the European Commission website on GPP, which contains further practical information, useful links and contact information for contracting authorities who want to make their purchases greener (<http://europa.eu.int/comm/environment/gpp/>).

Further contact information can be found at the end of this publication.



## Foreword

Europe's public authorities are major consumers. By using their purchasing power to choose environmentally friendly goods, services and works, they make sure that tax payers' money is used effectively to ensure direct environmental benefits and reduce negative environmental impacts with the same (or better) quality, functionality or value for money as the conventional choice. By promoting sustainable consumption and production they can also create many indirect environmental benefits. For example it is often difficult, especially for smaller companies, to get innovative sustainable products and services with higher environmental performance onto the market. This can be because of higher initial purchase costs that will only be offset by longer term benefits, because of lack of a critical mass of demand to make production viable, or simply due to lack of awareness of such alternatives and their benefits. Green public procurement can be a powerful tool to overcome such obstacles, providing a strong stimulus for eco-innovation, helping our efforts to make the EU a more resource-efficient economy and acting as a market driver for our eco-industries.

Although the benefits of Green Public Procurement are great, it remains a voluntary instrument, and in order to boost its uptake we need to make sure that public procurement professionals are aware of those benefits and how best to achieve them. This best practice guide showcases the accomplishments achieved in this area by public authorities around Europe. The case studies provide illustrative and practical examples for the setting of procurement objectives, for the criteria used for the identification of greener products, and highlight the major results of and the lessons learned during the procurement processes.

I hope that the lessons and insights documented here will inspire and guide you in your daily work, bringing benefits to people, profits and the planet.



**Janez Potočnik**

European Commissioner for the Environment

# Green procurement in Badalona's schools

## Badalona City council SPAIN

The City Council of Badalona (the third largest city in Catalonia, Spain) has almost ten years of experience in implementing GPP. In 2009 a project was started to encourage GPP in public schools, with the support of Ecoinstitut Barcelona. The aim of the project was to spread GPP knowledge and best practices to all schools in the city.

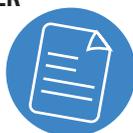
## ► Procurement objectives

Six schools were chosen to participate in a project aimed at analysing and developing best practice guidelines for the green procurement of five product groups: school materials, building maintenance, cleaning, food and IT products. In addition, the City Council procured a kit of green school materials available to the six participating schools on demand, also available for other interested schools if they are keen to find out more.

## ► Criteria used

By means of a questionnaire and personal interviews, procurement and consumption habits for each of the five product groups was analysed at each of the schools. Based on this information, detailed procurement and user guidance was developed for each of the five product groups, summarised as follows:

### PAPER



*Procurement:* 100% recycled and totally chlorine free for plain/copy paper; certified as sustainably harvested virgin fibres (e.g. FSC certified) for coloured paper.

*Usage:* Reduce consumption by reusing paper for notepads and double-sided copying, for example.

### IT PRODUCTS



*Procurement:* Recycled toner and inkjet cartridges; energy efficient equipment based on Energy Star criteria.

*Usage:* Reduce printing; energy saving by switching off monitors when they are temporarily not in use; obsolete equipment donated for recycling to NGOs working on social inclusion projects.

### FOOD & CATERING



*Procurement:* Purchase food produced through organic agriculture; adapt menus (less meat and more seasonal food).

*Usage:* Avoid use of plastic cutlery and plates; set up a school vegetable garden for educational and culinary purposes.

### CLEANING & WASTE



*Procurement:* Purchase environmentally friendly cleaning products, based on the EU GPP Toolkit and Procura+ Campaign criteria, following a test phase.

*Usage:* Set up a waste collection policy.

### BUILDING MAINTENANCE



*Procurement:* Include environmental criteria for contracting maintenance services (e.g. materials using less water and energy).

*Usage:* Targeting user behaviour (e.g. switching off lights when leaving rooms).

## ► Results

The information obtained from the procurement analysis led to the elaboration of six individual Action Plans on GPP. The Plans defined detailed measures that each authority (the Catalan Government, the Badalona City Council or the school) should implement. The analysis methodology and good practice experiences, from the six participating schools, were compiled in the Green School Procurement Practice Guide, available in Catalan. A Green Schools Network in Badalona is currently being set up, as a further result of this initiative, to monitor the usability of the guide in terms of issues, follow-up, challenges and achievements in order to revise it accordingly.

## ► Environmental impacts



### **PAPER**

In one of the schools, IES La Pineda, savings totalling 9,574 litres of water and 2,048 kWh in energy have been made annually through their purchase of 100% recycled paper (128,000 sheets of paper used per year).

### **TONER CARTRIDGES**

Most significant environmental impact is resource consumption during the production phase. Reuse and recycling of toner cartridges is of most importance in reducing environmental impacts.

### **FOOD**

The main environmental impacts are caused by farming methods used (use of pesticides and fertilisers causing water pollution, eutrophication, soil degradation, and loss of biodiversity and forestry) and in the consumption of meat products.

### **CLEANING PRODUCTS**

Avoiding products containing certain substances or ingredients (e.g. classified with certain risk phrases) will reduce bioaccumulation, air pollution, for instance.

## ► Lessons learned

One of the main difficulties found in the analysis was the dispersion of the decision-making actors. For the different product groups, the responsibilities of defining requirements, purchasing and maintenance/replacement were shared between the regional authority, the City Council and the school itself. Each of the stakeholders should be addressed in future actions, with specific responsibilities assigned to each. The direct involvement of the school community in the purchasing process is also considered vital for the effective implementation of these measures.

Contact details: Josep Montes, Badalona City Council, Email: [jmontes@badalona.cat](mailto:jmontes@badalona.cat)

# Kolding's procurement of climate-friendly lighting solutions

Kolding City Council  
DENMARK

*Kolding City Council has 8,000 employees and is the largest single business enterprise in the Region of Southern Denmark. Kolding's first GPP activities began in 1998 with the adoption of a municipal GPP policy. Today, GPP is integrated in the procurement of goods, services and construction - virtually 100% of tenders - ensuring compliance with environmental requirements, as well as applying environmental award criteria. Kolding is regarded as one of the local government pioneers in GPP internationally.*

## ► Procurement objectives

Led by the city's Environment Department, a call for tender was published at the end of January 2011 for the supply of highly energy efficient replacement light bulbs (such as light emitting diodes - LEDs). The tender was presented in cooperation with the Danish 12-City Purchasing Group. The 12-City Purchasing Group is comprised of the cities Esbjerg, Fredericia, Herning, Holstebro, Ikast-Brande, Kolding, Middelfart, Odense, Randers, Silkeborg, Svendborg, Sønderborg, Vejle and Århus.

Apart from fulfilling local lighting needs, the procurement action aims to encourage sustainable product innovation for energy efficient lighting technologies.

## ► Criteria used

Kolding published a call for tender for the supply of innovative, energy efficient LED replacement light bulbs, for indoor and outdoor use. To give smaller sized companies (or SMEs) the possibility to participate in the bidding process, the tender was divided into three sub-groups :

### LIGHTING



- Low voltage lights bulbs
- 230 Volt halogen light bulbs and pins
- 230 Volt light bulbs

The option for bidding for one or more of the three sub-groups is available.

## TECHNICAL SPECIFICATIONS

### Indoor lighting:

CRI (Colour Rendering Index)>80  
Colour temperature (Kelvin) 2700-3000  
General lighting-efficiency (lumen/watt)> 50  
Effect lighting -efficiency (lumen/watt)> 40  
Life-span (hours at L70)> 20000

### Outdoor lighting:

CRI (Colour Rendering Index)>75  
Colour temperature (Kelvin) 3000-4000  
General lighting-efficiency (lumen/watt)> 50  
Life-span (hours at L70)> 20000

## AWARD CRITERIA

- Life-cycle costs have been given a weighting of 55%. These are broken down by: purchase price (35%), lifetime (35%) and operating costs (30%)
- Energy-efficiency (lumen/watt) (25%)
- Light quality (CRI) (20%).

The technical characteristics were developed through a pre-procurement dialogue involving Kolding and a number of potential suppliers during mid-2010 in view of the upcoming tender. The approach was informed by the EU [SMART SPP](#) project, which Kolding is a partner in.

## ► Results

The deadline for responding to the call for tender is set for the end of February. The results of the tender will be available on the [SMART SPP website](#) when the process is completed.

## ► Environmental impacts



According to the [Energy Star website](#), LED lighting “has the potential to revolutionise the efficiency, appearance, and quality of lighting as we know it”, with the US Department of Energy estimating that rapid adoption of LED lighting in the US over the next 20 years could result in savings of about 265 billion USD. This is equivalent to avoiding 40 new power plants and reducing lighting demand by 33% (figures from 2007).

Specific calculations have not yet been made by Kolding City Council to quantify the environmental savings from the procurement action. The call for tender published, however, includes a pilot project for replacing light bulbs with LED in two public buildings in Kolding. Energy consumption will be calculated based on the results of the pilot project.

## ► Lessons learned

When seeking to fulfill purchasing needs with more innovative solutions, it can be very difficult to obtain a complete overview of what the market has to offer, particularly in terms of product performance. This is despite sounding out the market during the pre-purchase phase.

In preparation of the current call for tender, for example, Kolding prepared a list of the light bulbs they would aim to replace with LED technology, during the course of the contract period. The list was prepared with the support of the Danish Lighting Centre. nevertheless, the enquiries received from the market seem to indicate that replacing some of the current light bulbs during the contract period with more energy efficient solutions may present difficulties, as LED lighting does not always have a better energy efficiency measured in lumen/watt. This issue will require consideration when evaluating bids and life cycle costs will be taken into account.

For more information, please see [European GPP criteria](#) and [background report](#) for street lighting and traffic signals

# Italian public buildings save with energy services framework

## Integrated Energy Management Services (Consp-National Procurement Agency) ITALY

*Energy is a key sector for addressing environmental impacts and this is reflected by the GPP policies and methodologies adopted by Consip. The need for greening public procurement was identified when, after a market demand analysis performed by Consip in 2006, it was found that heating services accounted for 38% of the total energy consumption of the Italian public administration with costs of about 2.4 billion euro per year, including 1.4 billion for gas, 0.6 billion for diesel oil and 0.4 billion for heating services.*

## ► Procurement objectives

In order to combine cost savings and incentives for innovation in public procurement, Consip, the Italian central purchasing body, launched a framework contract on “[Integrated Energy Management Services](#)” (heating services including improvement of energy efficiency, consumption reduction and CO2 emissions avoidance). Pre-procurement market consultation was carried out using online questionnaires addressed to businesses and the main trade associations in Italy.

The tendering process was an open procedure with 12 lots awarded to five different suppliers; the framework was awarded on the basis of the most economically advantageous tender (MEAT), with 70% of marks allocated to price and 30% to quality.

## ► Criteria used

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

### TECHNICAL SPECIFICATIONS

#### ENERGY PERFORMANCE



- ▶ Settled temperature (for example, 20°C) to be preserved inside the buildings (public offices, schools, prisons, universities, etc.) during the average Italian heating season (that is, eight hours for four months);
- ▶ Installation of electronic meters and constant monitoring for indoor temperatures of the buildings;
- ▶ Online monitoring activities (using meters) and online assistance;
- ▶ Assessment of the optimal level of consumption for heating and energy services;
- ▶ Energy audit performed for every building.

### AWARD CRITERIA

- ▶ Technical report (for each building receiving energy services) including a specific study on the interaction between 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 quality of each of the above reports was assessed in order to determine the most advantageous offer for each lot.

### CONTRACT PERFORMANCE CLAUSES

The suppliers were 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 suppliers were also required to provide evidence of the results obtained; credibility was certified by the [AEEG](#) (Italian Regulatory Authority for Electricity and Gas) who operate and maintain heating facilities, including by remote control.

## ► Results

The award criteria were aimed at encouraging suppliers to reduce primary energy consumption and associated CO<sub>2</sub> 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. Main effects of the tendering process:

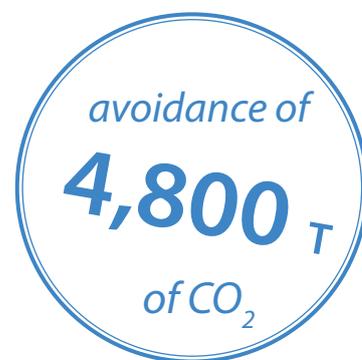
Main effects of the tendering process:



- Contracts executed had a total (estimated) financial value of 800 million euro;
- Enhanced competition on technical features included in the tender;
- Contract duration of five years.

## ► Environmental impacts

The principal environmental impacts are related to CO<sub>2</sub> emissions caused by energy consumption. In order to reduce these impacts, the contract included a performance clause requiring a minimum amount of energy saved (375 TOE). Actual energy saved under the framework (6,000 TOE) was higher than the minimum required.



The procurement process ensured two more results:

- In the short term, suppliers are encouraged to reduce 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, boilers).

If all Italian public authorities would use Consip's framework, the cumulative effect would be around 100 million euro worth of savings per annum.

## ► Lessons learned

For the renewal of the framework, energy savings will be monitored both by Consip and the public administrations which occupy the buildings, with penalties potentially applicable. The main changes expected are:

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

The success of this framework has helped Italian public authorities to play an exemplary role in energy savings, vis à vis citizens and the private sector, while complying with directive 2006/32/EC on energy end-use efficiency and energy services as well as their procurement obligations.

# Environmentally-friendly office IT equipment in Stockholm

Stockholm County Council  
SWEDEN

*Stockholm County Council has had a detailed environmental policy in place since the early 1990s.*

*The Council is currently implementing its fifth set of environmental policies entitled "Environment Step 5". The areas of focus are climate change and the reduction or elimination of hazardous substances in products purchased.*

## ► Procurement objectives

In 2010, Stockholm County Council introduced stringent new environmental requirements for purchasing computers. The new stipulations include low energy consumption, the use of recycled plastic in new products and eliminating lead, mercury and halogenated flame retardants from new computers.

The County Council owns about 40,000 desktop and laptop computers. It will be one of the first major Swedish enterprises to have mercury-free displays in both laptops and desktop computers.

## ► Criteria used

To prepare the tender, Stockholm County Council used its own set of GPP criteria - the [SMIL 2010 set \(Smart Purchasing for the County\)](#). These are in line with the common [EU GPP criteria](#) for office IT (information technology) equipment.

Sustainability criteria were included in various areas of the tendering procedure. Among others:

### TECHNICAL SPECIFICATIONS

#### IT PRODUCTS

- All equipment must meet the latest [Energy Star](#) standards for energy performance
- Computers are free of lead, mercury, PVC and halogenated flame retardants, and comply with the [RoHS Directive, 2002/95/EC](#)
- Computers must have a 20% better Typical Electricity Consumption (TEC) than the Energy Star criteria and contain at least 10% recycled plastics
- All monitors must comply with the latest environmental and usability criteria under the [TCO Development](#) certification scheme (TCO Displays 5) or equivalent



### SELECTION CRITERIA

Bidders were required to demonstrate their technical capacity to meet the requirements of regulations [SFS 2005:209](#) and [SFS 2008:834](#) on producer responsibility for batteries and packaging.

### AWARD CRITERIA

The contract was awarded on the basis of the "Most Economically Advantageous Tender" (MEAT). Costs were calculated based on the Total Cost of Ownership, including purchase price and energy costs over three years.

## ► Results

Some specific requirements proved more difficult to meet than others. For example, only a few suppliers were able to meet the requirement for the use of recycled plastic in the new computers. Only one was able to remove PVC from the computers' internal and external cables. All suppliers were able to meet the requirement to provide, on request, desktop computers without cables in order to reduce the amount of electronic waste associated with the contract. The supplier that won the contract met all the requirements. In addition to the numerous environmental benefits, Stockholm County Council will save hundreds of thousands of Euros in the coming years, due to improved energy efficiency and reduced equipment costs.

## ► Environmental impacts

The application of the latest Energy Star criteria (5.0) results in energy savings during the use phase over older, less efficient models. Computers meeting the TCO criteria 05 or above diminish energy consumption and limit the use of potentially harmful substances, such as lead, cadmium and mercury.



Stockholm County Council owns about 40,000 computers (about 25% of all the computers in the county), and is renewing it on a rolling basis. By the end of 2014, the County Council expects to have lessened the climate impact of its computers - including during their use phase - by 40%, reduced the weight of hazardous substances by eight million kilograms and cut the County Council's carbon dioxide emissions by two million kilograms.

## ► Lessons learned

As explained above, it proved difficult for suppliers to meet all of the sustainability requirements. This shows that some remain unprepared when faced with ambitious sustainability requests. However, while there is room for improvement, there is also potential for customer satisfaction as numerous suppliers were able to meet, not all, but many of the requirements. The winning supplier did succeed in fulfilling all of the requirements. As other suppliers are likely to take steps to meet the sustainability requirements indicated in the tender, Stockholm County Council would employ the same procedure again.

For more information, please see [European GPP criteria](#) and [technical background report](#) for Office IT equipment

# Efficient purchasing of laboratory supplies in Maynooth

National University of Ireland  
IRELAND

*NUI Maynooth considers sustainability as a core function within its procurement cycle. In 2006, the university successfully introduced sustainability into a tender competition for office supplies and consumables by offering green options on a wide range of office consumables to users.*

*The next step was to address the carbon footprint of the procurement cycle itself, rather than concentrating solely on the commodity. With a diverse product and service portfolio, the aggregation of tenders, supplies and deliveries was identified as offering potential to reduce the university's carbon footprint while delivering better value for money.*

## ► Procurement objectives

After an evaluation of the existing frameworks and consultation with stakeholders, the university realised that the tender processes for laboratory supplies could be aggregated. The existing situation involved a high volume of low-value transactions and multiple-drop deliveries on various days.

Users had traditionally placed requisitions and both expected and received next day delivery with an invoice directly related to each order. The challenge was to arrive at a specification that encompassed the operational requirements of the laboratories and research areas, while ensuring that statutory requirements for safety and quality were met. The overall requirement for quality goods at the right price in the right place remained a priority.

## ► Criteria used

As part of the aggregation strategy, a single tender was launched with multiple lots to cover laboratory consumables, chemicals, molecular reagents and laboratory supplies. The technical specifications addressed the main environmental impacts associated with the ordering, delivery and invoicing process.

### TECHNICAL SPECIFICATIONS

#### LABORATORY EQUIPMENT



- Candidates must undertake to make all catalogues available online to facilitate online purchasing. Such catalogues must be formatted to include the university's agreed core-list costs, discounts and cost breaks.
- Costs quoted should include the cost of delivery on a minimum of a once per week basis. Candidates should identify any cost that would apply for any additional deliveries – this cost should be per delivery and not per order. Delivery must be made to the business unit, room and building stipulated on the order form. Exact delivery schedules will be agreed with the successful candidate(s).
- Candidates must undertake to remove all used drums, containers, pallets and packaging associated with their products at each delivery point.
- Candidates must provide a consolidated invoice each month for each department or school. Invoices must identify the responsible business unit and each purchase order number for each item on the invoice.
- Candidates are invited to submit further proposals that will assist the university in reducing its carbon footprint, either by way of product usage/proposal or process improvement.

## ► Results

Evaluation of the tenders received showed an immediate reduction in cost from the consolidation of deliveries and invoices. The concept of reduced order and invoice documents resulted in considerable process savings. The delivery schedules dropped from up to 20 per day to less than 40 per week. The resulting reduction in traffic movement on campus and delivery traffic within buildings was noted with many favourable comments made by staff and students alike.

The reduction in the total number of orders, deliveries and invoices has been remarkable – despite an increase in the total volume of supplies being used by staff and students at the university. Annual orders dropped from 6,000 to 1,500, deliveries from 2,700 to 540 and invoices from 7,500 to 2,250 (see table below). All suppliers also participate in a recycling scheme for packaging and glassware.

## ► Environmental impacts

The precise impact of deliveries in terms of CO<sub>2</sub> and other emissions is difficult to ascertain, however, the dramatic reduction in the number of deliveries made and invoices issued can be seen from the below table comparing the situation before and after the tender.

	Requisitions		Orders		Invoices		Deliveries	
	<i>Weekly</i>	<i>Annual</i>	<i>Weekly</i>	<i>Annual</i>	<i>Weekly</i>	<i>Annual</i>	<i>Weekly</i>	<i>Annual</i>
<b>2008/2009</b>	200	6,000	200	6,000	250	7,500	90	2,700
<b>2009/2010</b>	300	9,000	50	1,500	75	2,250	18	540

## ► Lessons learned

Prior consultation with stakeholders assisted the smooth transition to a more efficient and lower-impact process. The buyers willingly moved to a system whereby orders were placed through a single point on a bi-weekly basis. The supplier base readily co-operated and helped with the idea of providing a single consolidated monthly invoice per business unit, rather than an invoice per purchase order.

The university aims to expand this process to other product categories (janitorial and catering consumables) as contracts come up for renewal.

# Clean streets in Barcelona

## Barcelona City Council SPAIN

*Barcelona signed the [Aalborg Charter](#) in 1994 and has been implementing sustainable public procurement since 2001. Along with urban transport, waste management has been identified as an area of particular importance for the city. Reduction of emissions and efficient use of resources are key objectives, along with ensuring a high standard of cleanliness for city streets. Service providers are expected to demonstrate commitment to these objectives and apply best available technology and continuous innovation.*

## ► Procurement objectives

In 2009 Barcelona City Council implemented its new contract for street cleaning and rubbish collection. The tender procedure introduced a number of requirements to enhance the quality and sustainability of the service. More frequent rubbish collection, environmentally-friendly vehicles, separate collection of organic waste and recycling containers which are accessible to all users were implemented under the contract, which is worth approximately €250 million per year. The contract runs until 2017.

## ► Criteria used

The contract was divided into four lots in order to facilitate participation by small and medium-sized enterprises in the tender procedure. Each lot corresponds to a geographic area of the city. The open tender procedure was used.

### TECHNICAL SPECIFICATIONS

#### SERVICE VEHICLES



- ▶ Service vehicles must comply with the requirements of the EURO 5 norm or equivalent, with the exception of specialised vehicles which must comply with the highest EURO norm available for that vehicle class
- ▶ vehicles which operate on non-contaminating combustible fuels and/or renewables, such as biofuels (bioethanol B-85, biodiesel or biogas), electric vehicles or hybrids, shall be included in the service proposal.
- ▶ Vehicles must comply with Directive 2000/14/EC on noise emissions.

#### WATER CONSUMPTION



- ▶ A system must be in place to rationalise the use of water by cleaning machinery and also at cleaning installations, particularly for high-pressure cleaning. Water used for all cleaning purposes shall come from alternative water sources and not from water fit for human consumption.

#### RECYCLING OF WASTE



- ▶ A waste management plan shall be applied to the waste from cleaning vehicles and machinery (oil, pneumatics, etc.) and the waste generated at the various installations

#### ENERGY USE



- ▶ The contractor is required to implement actions for reducing the energy consumed in the course of the contract, for example for lighting and heating at installations, and to use clean energy, for example from solar panels.

#### OTHER INPUTS

- ▶ All other products used to carry out the contract (uniforms, paper and wood, for example) shall fulfil the green criteria of Barcelona City Council's +Sustainable City Council Programme.

## AWARD CRITERIA

15 out of a total of 100 available marks were used to assess sustainability considerations within the tender. Of this, 5 marks were available for vehicles offering lower emissions than those set out in the technical specifications.

## CONTRACT PERFORMANCE CLAUSES

The contractor shall carry out training in environmental awareness for all staff involved in providing the service. The contractor shall provide a detailed training plan which explains the topics covered and hours dedicated, with a focus on continuous improvement.

## ► Results

A total of five companies submitted bids and each of the lots was awarded to a different contractor. Under the contract, the frequency of street cleaning in all areas has been increased from five to six times per week. Dedicated teams are also available in each area to respond to accidents or special events requiring more intensive cleaning. This has led to a noticeable improvement in the cleanliness of Barcelona's streets. Recycling receptacles are now more accessible to all users due to lower heights and the use of foot pedals to operate the opening mechanism. The four companies involved employ a workforce of 4,601 people, and the award of the new contract led directly to the creation of 283 new jobs.

## ► Environmental impacts

- ▷ Noise and emissions from the vehicles used have been dramatically reduced and 35% of the fleet now runs on biodiesel, 35% on gas and 30% are electric or hybrid vehicles.
- ▷ More than 90% of the water used in the service is ground water, due to increase to 100% over the duration of the contract.
- ▷ The number of recycling points available across the city will be increased by 37% over the contract period and organic waste collection extended to all areas.
- ▷ The increase in recycling and organic waste collection has allowed for the reduction in the number of ordinary rubbish receptacles. The target for 2012 is to collect 55% of all organic waste generated in the city – an increase from the 43% collected in 2010.

## ► Lessons learned

The Council is undertaking awareness campaigns throughout the city to educate citizens about correct disposal of waste, with an emphasis on the separation of organic matter. During the first year of the contract, almost half the households in Barcelona received information. Education and cooperation from citizens is considered vital for the quality of the service. Due to the introduction of an indoor smoking ban, more cigarette dampers are needed to prevent these from ending up on the streets – and these are now integrated into the receptacles.

# Centralised procurement of greener office supplies

## Public Procurement and Supply Directorate General HUNGARY

*The Public Procurement and Supply Directorate General conducts centralised public procurement procedures at national level for specific products and contracting authorities (e.g. national ministries). The Directorate has been able to generate savings by establishing framework agreements which are relatively large in volume and value, covering periods ranging from one to four years.*

*Around 1,000 public authorities in Hungary purchase through the Directorate, which in some cases is mandatory. The introduction of green criteria into the frameworks was seen as a major opportunity to reduce the environmental impact of public procurement in Hungary.*

## ► Procurement objectives

The Directorate has now been applying GPP criteria in public tenders for several years. Green criteria are used to define the subject matter and technical specifications, the selection and award criteria and the contract clauses. The Directorate informs public authorities about the products and their advantages through its [website](#), emphasising their environmental aspects.

Between 2010 and 2011, 12 centralised public procurement procedures were conducted where GPP criteria were applied. The total value of these contracts, which relate to information technology, office supplies, paper products, vehicles and fuel is HUF 87.6 billion (€286.9 million).

## ► Criteria used

One of the frameworks in which GPP criteria were applied relates to office paper and supplies. For the supply of office paper, it was mandatory to submit at least one green product. For other products, suppliers had the option to submit a green product, which would then be evaluated for inclusion in the framework.

### TECHNICAL SPECIFICATIONS

#### PAPER



- Tenderers must include an offer for the supply of office paper, envelopes and paper arch files made from 100% recycled fibres.
- The ecological criteria of the EU Ecolabel or other type I eco-labels directly related to paper production (and not the management practices of the factory) must be met. This includes the requirement that paper be elemental chlorine free (ECF) or totally chlorine free (TCF).

#### VERIFICATION

All products carrying the EU Ecolabel will be deemed to comply. Other Type I eco-labels will also be accepted, as will any other appropriate means of proof such as a technical dossier of the manufacturer or a test report from a recognised body.

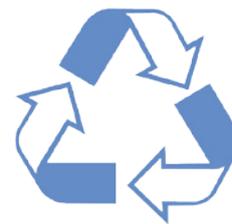
## ► Results

The estimated value of the framework agreement for office supplies is 4.4 billion HUF (€14.5 million) over 18 months. The framework entered into force on 31 January 2011, and public authorities have bought 980 million HUF (€3.2 million) worth of products since then. Nearly 16% of this total expenditure was on green products. Including green products has not affected the procedures directly or increased administrative burdens. It also did not narrow the competition, because there are many green products available on the market already.

When setting the requirements, the Directorate considered the market availability of the products, to ensure that suppliers would be able to include these in their tenders. In addition to paper, suppliers submitted offers of green alternatives for a range of products such as pens, post-its and glues. These are now included in the framework and can be ordered by public authorities.

## ► Environmental impacts

The production of virgin paper fibres can contribute to the global shrinking of forested areas and the associated loss of biodiversity, as not all forests are managed in a legal and sustainable manner. The purchase of 100% recycled paper addresses these impacts by reducing the volume of virgin pulp required. In addition, where post-consumer recycled fibre is used, the amount of water and energy required during the production process is significantly reduced.



Chlorine compounds used in the bleaching process for paper can react with existing organic substances in water, creating compounds which may be toxic and are poorly degradable in the aquatic environment. In order to avoid the production of such compounds, the bleaching process should be totally chlorine free (TCF) or elemental chlorine free (ECF).

## ► Lessons learned

The aim of centralised purchasing is to set an example for the whole public administration and other stakeholders active in the market as well. If other contracting authorities also procured green products, the proportion of environmentally friendly products and the demand for them would increase. This would allow production capacity and supply chains to be oriented towards renewable and recycled materials.

The Directorate is continuously monitoring the performance of the framework, and developing its criteria based on the experiences noted. This includes monitoring the proportion of green products in the total purchases, in order to set higher targets for the next procedure. The number and value of green products and services purchased within the centralised public procurement system have been increasing steadily. The Directorate also follows the activities of other EU contracting authorities in order to note effective methods for GPP and apply best practices.

# Sustainable uniforms for the French Navy

## Ministry of Defence FRANCE

*In 2010 a pilot procurement was launched, with sustainability criteria included in both the technical specifications and award criteria. The weighting of 20% in the award scheme for sustainability considerations was the highest applied by a French public body in the purchase of clothing.*

*The results of this pilot procurement have indicated that it is possible to include comprehensive environmental and social requirements in this type of tender. Further work with suppliers, other purchasers and external auditors can help promote this approach.*

## ► Procurement objectives

The Ministry of Defence procures a broad range of equipment and supplies for the French Navy, Army and Air Force. It is responsible for clothing 240,000 people and its annual expenditure in this category amounts to some €170 million.

As a major purchaser in the clothing sector, the Ministry saw the opportunity to promote its objectives in the field of sustainable development by introducing procurement criteria targeting environmental and social impacts along the clothing production line. On the basis of the initial results, the Ministry is preparing a new tender which will be even more ambitious in terms of scope and inclusion of sustainable development criteria.

## ► Criteria used

A notice was published in the Official Journal in April 2010 to establish a single-operator framework agreement. The framework was divided into two lots for the supply of between 36 000 and 150 000 cotton knit jerseys over a period of three years.

### TECHNICAL SPECIFICATIONS

#### TEXTILES



#### **Lot 1: Supply of industry standard blue cotton jerseys**

Toxicity: hazardous substances must not be used in the production process or present in the final product in amounts above the below thresholds:

- ▷ Aromatic amines in azo dyes < 30ppm
- ▷ Azo dyes <1000 ppm
- ▷ Cadmium (in polymer coating) <100 ppm
- ▷ Formaldehyde (cas : 50-00-0) < 75 ppm
- ▷ pH range: 4.5 < pH < 7.5

#### **Lot 2: Supply of organic blue cotton jerseys**

- ▷ Cotton must be produced by an organic method of agriculture which conforms with [Council Regulation No. 834/2007 of 28.6.2007](#).
- ▷ Toxicity: hazardous substances must not be used in the production process or present in the final product (as Lot 1)
- ▷ pH range: 4.5 < pH < 7.5

### VERIFICATION

The [Oeko-Tex label](#) will be accepted as evidence of conformity with the requirements regarding hazardous substances, as will test results from an accredited laboratory or other equivalent forms of evidence. For Lot 2 the [EU Ecolabel](#) will be accepted as will other equivalent forms of evidence.

### AWARD CRITERIA

- ▷ Technical quality – 45%
- ▷ Price – 35%
- ▷ Sustainable development – 20%

The criterion of sustainable development was divided into two sub-criteria, relating to i) control of substances used in production and ii) environmental management along the entire supply chain for the products being purchased. Bidders were assessed on the basis of the evidence submitted of their action on these two points.

## AWARD CRITERIA

The contractor and its subcontractors must comply with the eight core conventions of the [International Labour Organisation](#). Within four months of award of contract, and on each renewal, the contractor must provide a report detailing how 11 criteria based on social requirements of the [SA 8000 standard](#) are being met. A checklist of these requirements is included in an annex to the contract. Noncompliance with these provisions will result in penalties and/or termination of the contract.

## ► Results

In previous tender procedures, a weighting of 60% had been given to technical quality and 40% to price. Due to the homogeneity in the quality of offers received, this meant that in practice price was the deciding factor. The introduction of 20% of the marks for sustainability considerations thus changed the basis for competition amongst suppliers. 28 suppliers requested the tender documents and two bids were received for each of the two lots.

In terms of cost, the price of conventional cotton (Lot 1) was 2% lower than previous tenders while the cost for organic cotton was 22% higher than the conventional cotton. To verify compliance with the contract performance clauses, the Ministry relies upon the services of a firm specialising in social auditing

## ► Environmental impacts

The main environmental impacts addressed in this tender are the use of toxic and hazardous substances in the production process for textiles. The production of non-organic cotton is an intensive agricultural process, with the use of pesticides and mineral fertilisers affecting soil and water quality and biodiversity, as well as generating greenhouse gas (GHG) emissions. The inappropriate use of certain substances involved in the processing of fibres and final textile products (such as dyes and flame retardants) can degrade air, soil and water quality. These substances can also have a negative impact on the occupational health of users where they remain as residues in the textiles.

## ► Lessons learned

The 2006 French public procurement code calls for the integration of sustainable development principles into public contracts. The purchase of clothing was one of the areas prioritised in 2009, with environmental, social and traceability considerations to be addressed. The pilot has demonstrated the possibility of doing this, however some elements will be given greater attention in future tenders. In particular:

- Expectations regarding the reduction of waste in the finishing process will be clarified
- Maximum thresholds for toxicity will be specified, with the relevant period and unit of measurement
- Evidence of the treatment process for hazardous waste will be requested
- For screen-printed garments, the absence of cadmium should be established
- Traceability of raw materials through production process: each site should be specified

A survey of the suppliers who requested the documents but did not submit a tender was carried out, which found that the relatively low price of cotton was in some cases not considered to merit investment in a sustainable supply chain. However, it is hoped that the continued practice of giving sustainable development a high weighting in tender evaluation will help encourage more suppliers to make this investment.

# Green Electricity and Vehicles

## National Public Procurement Agency SLOVENIA

Slovenia's National Action Plan on GPP covers the period 2009-2012. It sets a target for 50% of all procurement by central government authorities in eight product groups to include GPP criteria by 2012. For electricity, the target is 100% green procurement, reflecting the availability of hydroelectric and biomass (wood) energy sources. The strategy also includes training on GPP, pilot projects and assisting public authorities in attaining third-party certified environmental management systems.

## ► Procurement objectives

The Public Procurement Agency in Slovenia was established in 2010 and went into operation in January 2011. It is responsible for carrying out joint procurements for Slovenian public authorities for a number of product and service groups. As part of its mandate, the Agency implements GPP criteria in its procurement of electricity, paper, office IT equipment and vehicles.

This builds upon the work done by the Ministry of Public Administration to introduce GPP as part of central purchasing in Slovenia. The Agency currently purchases on behalf of about 130 authorities across the public sector.

## ► Criteria used

### SUPPLY OF ELECTRICITY



**Technical Specifications:** At least 30% of the electricity supplied must be produced from renewable sources or cogeneration of heat and electricity with high efficiency (defined as "green electricity").

**Award Criteria:** Most economically advantageous tender in terms of:

- ▷ Price: 96.1 points
- ▷ Percentage of green electricity offered above minimum: 3.9 points (Each additional percentage of green electricity above the minimum 30% means 0,15 points)

**Verification/Contract performance clauses:** For the purpose of evaluating compliance with the specifications and award criteria regarding the supply of green electricity, a declaration from the supplier is required. Guarantees of Origin will be required 12 months after the entry into force of the contract, to establish that the percentage of green electricity has been delivered.

### SERVICE VEHICLES



**Technical Specifications (For all Lots except cargo vans):** ALL vehicles must meet the EURO 5 emissions standard or equivalent. Maximum CO2 emissions range from 115 g/km for small cars to 180 g/km for mini-buses.

**Award Criteria:** Most economically advantageous tender in terms of:

- ▷ Operational lifetime costs\*: 81 points
- ▷ Service network: 5 points
- ▷ Safety and environmental equipment: 4 points
- ▷ Gear shift indicator: 1 point
- ▷ Warranty period: 4 points
- ▷ Delivery time: 3 points
- ▷ Tyre pressure monitor: 2 points

\* Operational lifetime costs are calculated applying the following formula:  
[Expected lifetime mileage (= 200 000 km) x [(Energy needed per km in MJ x price of Energy per MJ) + (emissions of CO2 kg/km x 0,03 EUR/kg) + (emissions of NO2 g/km x 0,001 EUR/g) + (particulate matter g/km x 0,087 g/km)]

The energy content of fuels, in accordance with the [Clean Vehicles Directive \(2009/33/EC\)](#) were taken as 36 MJ/litre for diesel and 32 MJ/litre for petrol.

## ► Results

### Supply of electricity:

This tender was conducted on behalf of over 120 public authorities. The estimated annual consumption of electricity was about 35.500.000 kWh. All five bidders offered at least the required percentage of “green electricity”, two of them offered 60% “green electricity” and one of these two was selected as the winning bidder.

### Supply of vehicles:

Applying operational Life-Cycle Costing (LCC) as a part of award criteria on one hand, and setting requirements for maximum levels of CO2 released on the other, has led contractors to submit offers for vehicles with lower CO2 emissions. The outcome of taking CO2 emissions and other pollutants into consideration can be seen by comparing the emissions of the vehicles tendered the previous year. The decrease in emissions varied from 3g/km to 45 g/km per vehicle, depending on the Lot

## ► Environmental impacts

Electricity generation based on fossil fuels is associated with high CO2 emissions. The use of renewable energies in the electricity sector is one of the most effective measures for achieving climate protection goals, in addition to reducing electricity consumption levels. [Cogeneration](#) (combined heat and power) can also be an environmentally preferable way to deliver electricity, particularly where criteria related to the efficiency of generation are applied. [Directive 2004/8/EC](#) and [Decision 2007/74/EC](#) provide a common framework for assessing the efficiency of cogeneration.

Road transport vehicles are responsible for 26% of EU final energy consumption and 24% of CO2 emissions. Urban areas in particular suffer from the resulting local air and noise pollution. It is imperative to further the development and deployment of new and better environmental technologies for public vehicles as part of the solution to these issues. The Clean Vehicles Directive provides a common methodology for taking greenhouse gas emissions and energy consumption into account in the procurement of road transport vehicles. Further information is available from the website of [DG Mobility and Transport](#) and the [Clean Vehicle Portal](#).

## ► Lessons learned

When administering contracts, it's necessary to foster competitiveness among contractors to deliver good economic and environmental performance. High priority should be given to surveying the market and ensuring that the procurer has up-to date information in order to set and achieve appropriate standards.

On 8 December 2011 the Government of the Republic of Slovenia adopted a [Decree](#) on Green Public Procurement, which will aid all contracting entities when launching a contract award procedure. The Decree stipulates that for 11 product and service groups, public buyers will have to consider minimum and extra environmental requirements, as well as award criteria. It identifies a number of statements or declarations which can serve as proof of these requirements.

# Sustainable school meals

East Ayrshire Council  
SCOTLAND

The *Hungry for Success* initiative aimed to promote healthy eating in Scotland's schools through improved nutritional standards and a more integrated approach to school meals as part of the learning experience. East Ayrshire was one of the first councils in the UK to change its procurement practices to reflect the Soil Association's *guidelines on sustainable food*.

This focuses on reducing processed food, organic agriculture, using fresh ingredients and implementing nutritional standards and education programmes for schoolchildren. The Council has also taken steps to green other contracts, as set out in its *procurement strategy*.

## ► Procurement objectives

East Ayrshire Council is responsible for 44 primary and nine secondary schools, offering approximately 1.3m school meals per year. A contract was advertised in 2008 to cover the supply of food and beverages to 30 schools for a period of up to three years. The objectives were to transform the menus on offer to reduce reliance on processed food and ensure good nutritional standards. At the same time, reductions in packaging and a switch to organic produce were intended to reduce the environmental impact of school meals.

## ► Criteria used

The restricted procedure was used and the contract was divided into nine lots for the supply of meat, poultry, fish, fruit, vegetables, milk, eggs, cheese and dried/bottled goods.

### SUPPLY OF FRESH/ ORGANIC FOOD

**Technical Specifications:** Bidders are required to submit method statements detailing their approach to all aspects of supply, including:



- Organic certification
- Compliance with animal welfare standards (where relevant)
- HACCP systems or clear details of sourcing
- Production and transport arrangements

**Award Criteria:** Most economically advantageous tender in terms of:

- Net price – 50 %
- Ability to supply to deadline – 15%
- Quality and range of foods – 15%
- Food handling arrangements and facilities – 10%
- Use of resources – 10%

The evaluation of 'use of resources' looked at the suppliers' proposals for reduction in environmental impacts; contribution to sustainable development and biodiversity; minimising packaging; minimising waste; recycling and composting; and higher than minimum animal welfare standards.

## ► Results



Following selection of tenderers, the number of offers received ranged from one to four per lot. Although the number of tenderers were low in some categories the standard and level of commitment to higher quality standards and ethical and environmental improvement was evident. One successful bidder initially did not have the required organic certification, but provided a commitment to do this and quickly adapted their supply chain and storage to meet the requirements.

The total value of all lots is approximately £400,000 (€480,000) per annum. Increased comparative costs were observed against alternative contracts that did not take the ethical and environmental requirements into account, however this has been mitigated partly by reviewing the menus and sales mix offered. It was also noted that the higher quality meat resulted in less being required in the menu and fewer off cuts of meat being wasted.



Research also established that taking a wider perspective and examining the social return on investment identified that for every £1 spent through this approach brought up to £6 back to the local community through employment, environmental, health and social benefits. At least 70% is sourced locally, although this was not a requirement under the tender. The uptake of school meals has also increased since the introduction of the strategy – contrary to a national trend downwards.

## ► Environmental impacts

Food production has a massive impact in terms of greenhouse gas emissions, soil and water pollution, depletion of natural resources and biodiversity. The effects of industrial agriculture using pesticides and the production of meat in particular are carbon-intensive. Switching to organic agriculture, less processed food and minimising food waste can all help to reduce this burden. East Ayrshire's approach incorporated all these elements, and the food items used also have a shorter distance to travel. Independent research carried out by the Scottish Environment Protection Agency indicated that the CO2 emission savings associated with the change in food sourcing for one school alone amounts to 37.7 tonnes per annum.

## ► Lessons learned

As the contract involved smaller, local producers and distributors the direct relationship allowed improved cooperation. With a narrow product list per supplier quality, consistency and reliability proved better. This was evident both at the individual school kitchen level and in overall contract management. Overall satisfaction levels were high and further improvements were implemented by suppliers following encouragement to work towards SALSA accreditation.

In 2011-2012 East Ayrshire is repeating the tender process. This will include greater discussions with a wider number of suppliers prior to tender on the strategy and the process. The tender criteria and aspects of the evaluation will be adapted to more clearly identify requirements and guidance provided by the Soil Association's Food for Life Standard. It will also aim to establish a further commitment to consider improvements and identify benefits through all aspects of farm to fork process with an emphasis on supporting educational, health and social outcomes.

East Ayrshire participated in the Scottish Government's National Food and Drink Leadership Forum, leading to a policy on sustainable food procurement in hospitals, schools and prisons, which was approved with cross-party support in 2009. East Ayrshire was also the winner of an Association for Public Service Excellence award in 2011.

# Cleaning products for schools

## Ville de Venelles FRANCE

*Venelles is a town of about 8,100 inhabitants neighbouring Aix-en-Provence in France. Inspired by the mayor and supported by the City Council of Venelles, the town has developed a comprehensive GPP policy approach since 2007 for most municipal procurement projects.*

*Venelles constantly seeks to further its activities in GPP and has achieved a high standard for an administration of its size. In 2011, Venelles was the winner of a competition on life-cycle costing in public procurement held as part of the [Euro Topen project](#).*

## ► Procurement objectives

In 2011 Venelles tendered for cleaning products for its schools. There are two preschools and three elementary schools with a total of 700-800 pupils. In order to reduce risks for children and cleaning personnel, Venelles tendered for cleaning products with reduced impact on human health and the environment.

The tender included several requirements, referring both to eco-labels and other criteria, and asked for samples before awarding the contract. After testing the products under real-life conditions and considering the ideas of the cleaning personnel, a detailed analysis of the offers was done to decide on a supplier.

## ► Criteria used

### SELECTION CRITERIA

Proof of technical and financial aptitude/suitability, references.

### TECHNICAL SPECIFICATIONS

#### CLEANING PRODUCTS



Suppliers must provide a technical dossier outlining the environmental characteristics of all products to be supplied under the contract, including details of their contents, biodegradability, packaging and how waste could be reduced in the execution of the contract. Samples of all products are to be provided.

### AWARD CRITERIA

Most economically advantageous tender:

**Price : 45%**

**Technical merit: 30%**

- ▷ 20% range and efficiency of products
- ▷ 10% performance in sample test

**Environmental performance: 20%**

- ▷ Environmental impact of products (marks will be awarded to products which are 100% biodegradable and solvent-free)
- ▷ Environmentally friendly packaging: refillable containers and paper packaging meeting the criteria underlying eco-labels such as FSC, PEFC or equivalent

**Delivery Time: 5%**

### VERIFICATION

Products bearing the EU Ecolabel or equivalent will be awarded marks, other appropriate evidence such as a data from the manufacturer will also be accepted (information may be based on REACH).

## ► Results

Seven offers ranging from €8,100–€21,600 were received. The successful tenderer presented the most competitive offer and achieved at the same time the highest level in environmental performance (17/20 points) and satisfaction during the sample test (8.9/10).

Eight out of twelve products carry an eco-label, with no product containing substances known as hazardous. Most products are solvent free or have a very low solvent content. Biodegradability for ecological alternatives is between 6-10 days. 96 percent of the products are available with refill packs and in environmentally friendly packaging such as paper or reusable canisters. The awarded supplier trains the city's cleaning personnel to save resources and reduce waste of cleaning products. Delivery time is two days with one designated contact person to be addressed in case of problems.



## ► Environmental impacts

Together with the protection of cleaning personnel from hazardous substances and dangerous products in their working environment, a pivotal incentive for Venelles' environmentally conscious tender was to reduce risks to children in the preschools and elementary schools where the products are to be used. With the products meeting high environmental standards such as those prescribed by eco-labels, this goal can be achieved.

The lack of dangerous ingredients (such as solvents) and the high degree of biodegradability help to reduce the overall environmental impact. Ensuring the availability of refill packs allows a significant reduction in waste.

## ► Lessons learned

This tender demonstrated that environmentally-friendly substitutes for all common cleaning products are available, without increasing the overall cost of the contract. Due to limited resources in the city's administration, monitoring will mostly depend on the products meeting the specifications set out in the tender. Overall, the City of Venelles is very satisfied with the tender process, the offers received and the resulting contract. This approach will be followed for future tenders.

# 'Green' Primary School in Pembroke

Foundation for Tomorrow's Schools  
MALTA

Construction of the government-run primary school in Pembroke (situated on Malta's north coast) began in March 2008 and was completed in September 2009, after which 266 school children began to use its facilities. The school was constructed on the site of a former army barracks occupying 9,000 square metres and built with a budget of €4.6 million.

## ► Procurement objectives

The Foundation for Tomorrow's Schools (FTS) is the national body in Malta responsible for schools. The primary school in Pembroke was a new build project and the goal was to construct the first energy self-sufficient school in Malta that relied only on solar and wind energy produced on site for electricity and warm water. The school, which is two storeys high, is fully accessible for students with special needs.

## ► Criteria used

The FTS included the following criteria in the open public tendering process:

### TECHNICAL CAPACITY



- Bidders were asked to demonstrate their technical capacity to carry out the project, either by having the expertise within the company or through co-operation with experts, to ensure an overall high environmental performance

### BIODIVERSITY



- Effective protection of fauna and flora in the building area and its surroundings, particularly in demolition phase

### ENERGY



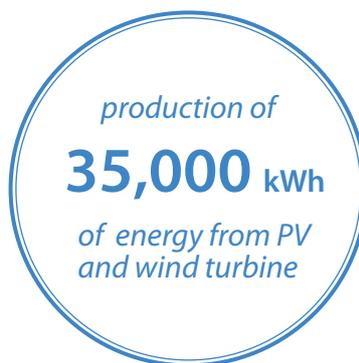
- Production of own energy from renewable energy sources to become energy self-sufficient
- Measures to ensure energy and water efficiency
- Intelligent lighting system that utilised natural light

### CONSTRUCTION



- Additional points were awarded for use of construction materials and products complying with certain environmental criteria, such as lower energy consumption than that required in the technical specifications based on the overall (net/final/primary) energy demand of the building (including heating, cooling, hot water, ventilation and electricity).

## ► Results



- The amount of energy consumed by the building was low, with surplus energy generated sold back to the national electricity grid.
- Building materials used were safe and non-hazardous, and complied with international safety limits for volatile organic compounds (VOCs) and no sulphur hexafluoride (SF6) was used.
- The School was equipped with water saving installations and solar powered water heating systems.

## ► Lessons learned

The construction design of the school provided an opportunity for the Maltese Government to minimise the impacts of future construction projects. Design and execution ensured that high environmental standards were met. This also facilitated transparency in procurement procedures. The main challenges were also encountered during the design phase namely: supplying the building with the energy generated on site, correctly tailoring and sizing the photovoltaic installation and setting up the wind turbine which was both laborious and required expert input.



## Further Information

This Brochure is available on the GPP website of the European Commission (<http://ec.europa.eu/environment/gpp>). The website also contains further examples of GPP in practice, in addition to:

- ▶ Further information on the legal and policy background for GPP
- ▶ The full sets of EU GPP criteria and background reports, as well as information on the criteria-setting process
- ▶ Information on National Action Plans for GPP adopted by the Member States
- ▶ Links to studies, projects, networks and organisations relevant to GPP
- ▶ A list of FAQs and glossary of key terms
- ▶ News-Alerts with the latest GPP news from across Europe, and upcoming events

For more information about Green Public Procurement, this brochure, or examples of GPP in practice, please contact the GPP Helpdesk:

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