



Green Public Procurement

Results of the European Project Green ProCA – Publishable Report

www.gpp-proca.eu



Imprint

Published by:

Berliner Energieagentur GmbH
Französische Straße 23
10117 Berlin

Amtsgericht Charlottenburg, HRB 45313
USt.-Id.-Nr.: DE 157 533 924

Telephone: +49(0)30-293330-0

E-Mail: office@berliner-e-agentur.de

Internet: www.berliner-e-agentur.de

Concept / Editor: David Uong, Simone Kleeberger

Design: David Uong, Simone Kleeberger

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.

Image rights:

Axel Thünker/Stiftung Haus der Geschichte | Page 13

Berliner Energieagentur | Pages 1, 7, 9, 11

Berliner NetzwerkE | Graphic: Page 5, LED Lighting/Doris Poklekowski: Page 14, 23

Bundesbeschaffung GmbH (BBG), Vienna/Austria | Page 19

City Municipality of Ajak/Hungary | Page 17

City of Lebork/Poland | Page 18

Fotolia | Greenery Concept©Sergey Nivens: Page 24, Customer support Callcenter©Bacho:

Page 10, plant in lamp©Oleksiy Ilyashenko: Page 4, electronical devices©photka Page 25

Budapest Főváros XVIII | Page 15

Municipality of Salve/Italy | Page 17

Municipality of Melpignano/Italy | Page 17

Municipality of Turin/Italy | Page 19

Rainer Sturm/pixelio.de | Page 12

sanderdewilde.com | Page 16

Stadtwerke Weilheim i.OB Kommunalunternehmen/Germany | Page 18

Technische Betriebe Dormagen AöR-Straßen (TBD)/Germany | Page 18

Turin Metropolitan City/Italy | Page 19



Co-funded by the Intelligent Energy Europe
Programme of the European Union

Content

Green ProcA – Green Procurement in Action

Executive Summary	4
What is Green Procurement?	5
The European Project Green ProcA	6
Project Partners	7
Main Activities and Outputs in GreenProcA	8
Lighthouse Projects	12
GPP Award and Winners	16
Green Public Procurement in Sustainable Energy Action Plans	20
Lessons Learnt	22
Green Public Procurement Step by Step	24
Conclusion	26
Links	27
Contact	28

Executive Summary

Total public procurement in the EU – i.e. purchase of goods, services and public works by governments and public utilities – is estimated at about 19 percent of the Union’s gross domestic product or 2 trillion Euros. Its importance varies significantly between Member States ranging between 11 percent and 20 percent of their gross domestic product.

Procurement has the ideal position in public organisations and private companies to fulfil a pivotal role between providers of products/services and buyers, when considering providers as sources of innovation. Regular demand for eco-efficient products would motivate suppliers to offer more products and services that comply with modern quality and environmental requirements. For companies, innovation-driven procurement will become one of the key competences to keep the pace of innovation sufficiently high in the ever faster changing world.

Therefore, it is clear that policy-makers play a crucial role in guiding the market towards a future of environmental sustainability.

With this immense purchasing power, public purchasers and Green Public Procurement (GPP) in general can make an important contribution towards sustainable development and the EU target of reducing CO₂ emissions by 20 percent by 2020 – one of the “20-20-20” targets.

Green ProcA – Green Public Procurement in Action – is built upon the results of the precursor project Buy Smart+. Its main objective was the promotion of Green Public Procurement towards public authorities. Buy Smart+ further addressed the targets of Sustainable Energy Action Plans (SEAPs) concerning GPP, to increase sustainable consumption and to ensure a broader transfer of knowledge among European countries.

The project offered:

- ▶ Information for purchasers
- ▶ Free consultation and training sessions
- ▶ National helpdesks
- ▶ National and international awards recognizing outstanding Green Public Procurement activities in Europe

The project Green ProcA, co-funded by the Intelligent Energy Europe European Programme, was carried out in seven countries:

- ▶ Bulgaria
- ▶ Germany
- ▶ Hungary
- ▶ Italy
- ▶ Poland
- ▶ Romania
- ▶ Slovakia

The project results, successes and impacts, described in this report, show interesting findings and conclusions for GPP on national and EU level.



What is Green Procurement?

Green Public Procurement (GPP) is defined 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.”

The 20-20-20 EU Energy Policy sets the targets to reach 20 percent reduction of CO₂ emissions, 20 percent reduction of energy consumption, and an increase of renewables in the energy mix by 20 percent until 2020. One component in the implementation of energy efficiency goal is the energy service directive 2006/32/EC which prescribes public purchasers to procure energy efficient products and services.

Since then, the European Commission has started several initiatives on GPP. In the year 2008 the goal of 50 percent green procurement until 2010 has been set in a communication on GPP, the GPP toolkit has been published and several legislative requirements have been set up:

- ▶ Regulation No 106/2008: Energy Star Regulation (2008)
- ▶ Directive 2009/33/EC: Clean Vehicles Directive (2009)
- ▶ Directive 2010/30/EU: Energy Labelling Directive (2010)
- ▶ Directive 2010/31/EU: Energy Performance of Buildings Directive (2010)
- ▶ Directive 2012/27/EU: Energy Efficiency Directive (2012)
- ▶ Directive 27/2012 on Energy Efficiency: The new Directive entered into force on 4 December 2012. Most of its provisions have been implemented by the Member States by 5 June 2014.



Figure 1: Green Procurement Process

The European Project Green ProcA

The main objective of Green ProcA was the promotion of green public procurement (GPP) among public authorities. The project primarily focused on signatories of the Covenant of Mayors (CoM) addressing GPP in their Sustainable Energy Action Plans (SEAPs).

Furthermore, local authorities that were on the brink of becoming CoM signatory or had other voluntary targets for enhancing energy efficiency or reducing CO₂ emissions were also qualified for receiving support within Green ProcA.

Green ProcA was supported through the European Commission's Intelligent Energy Europe (IEE) Programme. It ran from March 2014 until August 2016.

The main elements of Green ProcA to promote GPP were:

- ▶ GPP information points in the seven participating countries, providing assistance and instructions on how to start and maintain GPP
- ▶ Institutional free-of-cost GPP trainings, consultations or material for buyers
- ▶ Development of GPP lighthouse projects in municipalities or other public sector offices
- ▶ Elaboration of a GPP best practice database
- ▶ Organisation of national GPP Awards and a European GPP Award to recognise procurement offices in Europe that have carried out outstanding GPP projects.

Green ProcA collaborated with national and international network partners of the public sector, as for example the CoM Office, communal and city networks or associations and also e-procurement platform.

Barriers	User Needs
Lacking trust, that GPP is administratively feasible, cost-efficient and not too complex to perform	Provision of information and especially training on GPP and supporting EU legislation
Insecurity about legal correctness in the selection and following application of green criteria in tenders	Supporting agencies (information points) about the formal correctness/legal issues of procurement using green criteria and support in appropriate criteria selection
Separate budgets for products/goods procurement and energy costs in most public administrations	Clear priority for green procurement, e.g. through adoption of institutional purchasing policies
Limited personnel in procurement departments	Tested and easy-to-use GPP tools and procedures, reducing the additional workload to a minimum
Limited knowledge about the concept of life-cycle-costs (LCC) and how to calculate them (appropriate values of the parameters to be included in the calculation)	Adequate and up-to-date GPP criteria, adequate training and tools for the calculation of LCC of most relevant product groups
Nationally varying behaviour/conditions resulting in different GPP procedures, requirements and selection criteria	Effective and experienced information point providing support in GPP issues on national level/in national language

Project Partners

Within Green ProcA twelve experienced partners spread across seven European countries were working together in order to put forward GPP in Europe.

Bulgaria

- ▶ Association of Rhodope Municipalities (ARM) | www.arm-bg.net
- ▶ Sofia Energy Center (SEC) | www.sec.bg

Germany

- ▶ Berliner Energieagentur (BEA) | www.berliner-e-agentur.de
- ▶ Climate Alliance (CA) | www.klimabuendnis.org

Hungary

- ▶ HAB-749 Mérnöki Tanácsadó Kft. Hungary | E-Mail: idab@t-online.hu
- ▶ Energiaklub | www.energiaklub.hu

Italy

- ▶ CONSIP S.p.A. | www.consip.it
- ▶ Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA) | www.enea.it

Poland

- ▶ Bałtycka Agencja Poszanowania Energii SA (BAPE) | www.bape.com.pl

Romania

- ▶ Regional Environmental Center Romania (REC) | www.romania.rec.org

Slovakia

- ▶ Energy Center Bratislava (ECB) | www.ecb.sk
- ▶ Tatra Tender s.r.o. (TT) | www.tatratender.sk



Main Activities and Outcomes in Green ProcA

The definition of Green (Public) Procurement as described in the introduction contains two of the major challenges for purchasers that have to be overcome:

- ▶ The purchasing process – at least for public purchasers – naturally has to be in line with the prevailing legal provisions for procurement. Green criteria have to be integrated into the process of buying goods and services in conformity with the existing laws.
- ▶ The consideration of environmental impact and life-cycle costs, instead of the lowest price only, can be complex, depending on the products or services to be purchased.

These open issues, and many other questions, show that Green Procurement is not just a political decision that once taken is easily implemented. Specific know-how has to be established, procurement processes have to be (re)structured and the will to develop green procurement has to become part of the purchasing policy of a company, municipality or any entity responsible for procurement. In order to improve the status quo of GPP and to support CoM signatories accelerating the implementation of Sustainable Energy Action Plans (SEAP) by increasing the efficiency of public purchasing organisations, the following activities have been implemented within the Green ProcA project:

Assessment of Legal and Practical Situation

In a first step, the legal and practical situation of Green Procurement on European level and in the partner countries have been evaluated by assessing all existing Sustainable Energy Action Plans, implementation reports (ImpRep) and monitoring reports of Covenant of Mayors (CoM) municipalities in the seven participating countries with respect to GPP. The analysis of the SEAPs and ImpReps resulted in a well-founded overview of the importance of GPP, its focus and priority, the product categories addressed and the tools and strategies used for GPP in the municipalities. Furthermore, the municipalities were addressed with a questionnaire to receive additional information which was not included in the SEAPs.

The information gained was made available on the project website and was also the basis for any trainings or advice given within Green ProcA.

The analysis showed that even though many municipalities across the countries have heard of the concept and idea behind GPP, there is still a lack of concrete expertise on the exact implementation of the methods and tools of GPP. Information and dissemination materials provided by the EU and in the countries were not always known. The fact that a municipality has signed the Covenant of Mayors and the existence of a SEAP does not necessarily lead to a better knowledge about green procurement. To improve this knowledge additional measures are necessary.

International and National Websites

A European project website plus seven subsites in national languages have been set up at the beginning of the project and have been updated constantly. Containing helpful information on green public procurement, the Green ProcA website constituted an essential element for the project partners being a national information point for public purchasers in their respective country.

The website provides information GPP and on how to implement GPP procedures, best practice examples, Life-Cycle Costs (LCC) and criteria from the European GPP website and further Intelligent Energy Europe (IEE) projects. Next to the phone number and e-mail of contact persons in each country to contact for direct consultation, the website contains information material especially prepared and ordered by product groups, i.e. among others guidelines on Green Procurement concerning buildings and building components, IT, lighting. These guidelines also include tools for life-cycle cost calculation of various products.

Within the project duration, more than 70,000 views and 5,300 downloads have been registered on the Green ProcA project website.

Setting up National Steering Committees

For the successful project implementation, each country set up a steering committee. The national steering committees mostly consist of representatives of theme-related governmental bodies, communal and professional networks or associations, stakeholders involved in energy efficiency and environmental protection and highly regarded SEAP and procurement experts.

The idea behind the steering committee was to accompany and support the activities planned and to provide strategic advice. This included on the one hand the inclusion of high level expertise and on the other hand the participation of opinion leaders who were able to add weight to the project goals and provided access to other key players and facilitate networking and dissemination.

Networking Activities

During the project lifetime, the partners of Green ProcA were in regular contact with European and national partners in each country, e.g. CoM, city networks, associations of public or communal housing, NGOs or professional associations, acting as multipliers towards public purchasers.

Public purchasers and procurement agencies, as well as local political decision makers were addressed to take part in networking and capacity building activities. On local level decision makers were involved either in capacity building on importance and effectiveness GPP or in the role of multipliers.

The objective of the networking activities was to create a kernel – within existing network structures and strategic partners – of committed members and individuals, who became GPP experts and sustainable GPP multipliers beyond the project lifetime.

The local project partners successfully identified and brought together suitably mentoring partnerships and build up new GPP related networks. Furthermore the networking activities provided opportunities to promote the trainings and consultations. Since the beginning of the project more than 60 networking events took place.



Trainings

GPP trainings for groups of purchasers were offered on the institutional level (e.g. one specific local authority or a procurement agency). This way, more specific capacity building concerning institutional implementation of GPP was addressed. The focus group of these trainings were members of municipalities which have already signed SEAPs.

Part of the capacity building were inhouse trainings and train-the-trainer seminars for multipliers. In all dissemination activities, the opportunity to receive tailor-made trainings or consultations on the institutional/departmental level was announced and promoted.

The participants consisted of purchasers from different departments responsible for different product groups as well as environmental managers. Environmental managers were often those with the largest interest in introducing GPP and capable to take on the role as advisor for environmental questions of purchasers in the municipalities.

The scope of the trainings was to approach themes such as:

- ▶ Background/importance of GPP
- ▶ Relevant legislation on GPP
- ▶ Information about approach of life-cycle costing
- ▶ How to implement GPP in an institution
- ▶ Further sources of information

The trainings were conducted with different moderation methods, like brainstorming, questions or group work. In total 90 trainings with more than 2,100 participants took place.

Consultations

Customised consultations with a procurement office or unit in public administration allowed to reflect, discuss and assist in specific procurement measures and to provide support in practice. Consultancy was given individually by the information points on specific request.



Measures in a consultation process included:

- ▶ Assessment of existing knowledge on GPP, major obstacles and barriers, specific goals of the consultation
- ▶ Help with the assessment of specific reduction potentials
- ▶ Introduction to available GPP tools and their usage
- ▶ Consultancy on specific legal, technical and procedural questions
- ▶ Proactive advice on common pitfalls
- ▶ Support on checks for an existing procurement drafts
- ▶ Consultancy on EU legislation on energy efficiency (energy labelling, eco design, benchmarks, ecolabel, energy star)
- ▶ Tools for identification of eco-efficient products
- ▶ Consultancy on content and criteria for the national GPP Action Plan

Participant's interest was mainly about legal requirements, selection of criteria and existing labels, life-cycle cost calculations, verification of criteria or price issues and available supporting tools.

During the project duration more than 430 consultations took place.

Training Guidelines

A common training approach and guidelines were developed, addressing all major issues of implementing GPP in a modular way. They complement the Buying Green Handbook of the GPP website of the Environment Directorate-General: Whereas the handbook is about the theoretical background about how GPP is implemented, the training guidelines provide insight about the best ways to teach this background to different target groups: beginners, advanced purchasers and political decision makers.

These basic guidelines are available in eight languages and have been adapted by addressing country-specific issues and/or with additional modules by each project partner. The modular structure also allows to easily adapt the trainings to different levels of existing knowledge, e.g. offering trainings for beginners (basic trainings) and for more advanced users (advanced trainings).

The basic training guidelines also addresses good didactical knowledge to ensure an easy understanding of the green procurement matters, and the perception and acceptance of GPP. The composition of the trainings may include different approaches: including (in a non-exhaustive list) theoretical input, open discussion and question and answer sessions, hands-on sessions on practical issues in small working groups and integration of practical and specific examples of the participants.

This is the outline of the training guideline:

- ▶ Purpose and goal
- ▶ Structure of a seminar
 - ▶ Introduction
 - ▶ Potential
 - ▶ Legal framework
 - ▶ Procurement process
 - ▶ Criteria
 - ▶ Life-cycle costs
 - ▶ Reflection of results
- ▶ Using the material
- ▶ Methods
- ▶ Exercises
- ▶ Post processing

A basic set of training material was provided, e.g. master copies of flip chart presentations, worksheets, tools, case examples and extensive background information material.



Lighthouse Projects

One of the main activities within the Green ProcA project was the implementation of lighthouse projects with selected potential candidates among the signatories of the Covenant of Mayors that included GPP measures in their action plans. The goal of the lighthouse projects was to either purchase a product or service with GPP criteria or to implement GPP procedures in the institution. Once the procuring administrations agreed to engage in a lighthouse project, they received support in drafting their procurement specifications and exemplary tender documents. The overall cumulated results of the lighthouse projects were:

- ▶ annual CO₂ savings: approx. 25,000 t CO₂;
- ▶ annual electricity/heat demand savings: approx. 56,000 MWh.

The pilot projects were mostly related to energy efficiency actions and energy production including: electricity power production from photovoltaics plants, hot water and heating generation, energy related reconstruction of existing buildings (quality building insulation materials, multi-chambered profiles etc.), street lighting as well as measures in information and communications technology (ICT). A total of 39 lighthouse projects were performed.

The number and quality of the lighthouse projects implemented in each member country depended on the number of submitted and implemented SEAPs and on the capacity of the local authorities to:

- ▶ adopt green procurement actions;
- ▶ refer GPP to more conventional procurement procedures;
- ▶ understand the opportunities provided by the participation to a lighthouse project;
- ▶ understand the eligibility conditions to participate to a lighthouse project;
- ▶ receive comprehensive assistance in the preparation of a GPP lighthouse project;
- ▶ accept the assistance provided to facilitate tendering process and tender evaluation and to apply the life-cycle costs calculation tools;
- ▶ agree to publish and disseminate the lighthouse projects results;
- ▶ understand the importance of monitoring, disseminating and reporting for both citizens, public employees and the current and potential “green agents” operating on the market.

The function of the lighthouse projects was threefold:

- ▶ Recognition of very active purchasers, who took extra efforts to apply GPP in an exemplary manner.
- ▶ Provide an example to public purchasers operating in other procurement offices showing the possible impact of GPP.
- ▶ Strong contribution to the achievement of the SEAP’s targets for municipalities by means of GPP actions.

Some of the actions are based on interesting investments that may be a source of inspiration for other European local authorities engaged in climate protection and energy efficiency.

The activities of the Green ProcA consortium and their impact concerning these lighthouse projects can best be described with some selected examples.



GERMANY | Lease of Copiers and Work-place Printers



Overview

The Stiftung Haus der Geschichte der Bundesrepublik Deutschland (Foundation House of History of the Federal Republic of Germany) presents German history ranging from post-war times to the present day in a visitor-friendly and fun-oriented manner at three locations – Bonn, Leipzig and Berlin. With over a million visitors a year the houses of the Foundation belong to the most visited museums of the Federal Republic of Germany. In addition to permanent exhibitions, attractive temporary exhibits and a variety of events and publications deepen individual aspects of contemporary history.

In September 2015 the Foundation has, for a service period starting 1st February 2016 and ending 31st January 2021, publicly advertised the conclusion of contracts with a term of five years each, covering lease and service performance of/for computer printers and digital copiers as an open procedure according to § 3 EG Abs. 1 VOL/A legislation.

Specification of Services

Publicly tendered was the rent for new, functioning copiers and workplace printers with the specified scope of function and services for 60 months incl. equipment setup and installation at commencement of lease and collection at termination of lease.

The computer printers and digital copiers were tendered in two separate lots.

- ▶ LOT 1: three colour laser printers DIN A4/DIN A3, 76 b/w laser printers DIN A4 and one b/w laser printer DIN A3 (with a noise emission of max. 0.1 sone in sleeping mode)

- ▶ LOT 2: 10 copiers with a copy number DIN A4 one-sided of a minimum of 20, 40 or 60 prints/p minute in parts incl. sorting, punching, stapling, duplex, booklet as well as payment mode for visitors

As a technical minimum requirement all equipment in use has to at least comply with the standard of the Umweltzeichen „Blauer Engel“ (Environmental label „Blue Angel“) or meet comparable standards. For each model offered documentary evidence had to be provided. Apart from that the equipment has to have an automated power saving mode, has to be equipped without Korona-wires and provide a closed toner system (applies to printers only). Furthermore, it must be ensured that all devices are suitable for the use of recycling paper (EN 12.281; 2003-01).

Beyond that the contractor had to provide his own technical support service (repair services, procurement of spare parts as well as delivery of replacement devices) for the entire contract period.

Results

The contract was awarded to the bidder submitting the most economical offer. Evaluation criteria were price (70 percent) and energy efficiency (30 percent). The basis for evaluating the energy efficiency was – in accordance with the resolution 2009/347/EG – the TSV-value (typical electricity consumption). As per 1st February 2016 the contact was signed with the company Ricoh.

The Foundation decided to lease 81 laser printers and 10 multifunction devices, all marked with Blauer Engel (Blue Angel label). Assuming a reduction in electricity consumption by 45 percent corresponding to power savings of approximately 6.200 kWh and a CO₂ reduction of about 4,5 tons will be achieved annually.

Contact

Stiftung Haus der Geschichte der Bundesrepublik Deutschland

Willy-Brandt-Allee 14, 53113 Bonn

Website: www.hdg.de/stiftung

Contact person: Diana Roschka-Meinerding, Sachgebietsleiterin Beschaffungen

E-Mail: Roschka-Meinerding@hdg.de

SLOVAKIA | Refurbishment of Street Lighting in the Municipality of Nova Bana, II Phase



Overview

The Ministry of Economy of the Slovak Republic approved a subsidy for the Municipality of Nova Bana within the Operational Programme “Competitiveness and economic development” of 656,504 EUR for the „Refurbishment of street public lighting in the municipality of Nová Bana“.

Specification of Services

The objective of the project was to improve technical parameters of the public lighting under the achievement of substantial electric energy savings and CO₂ emission reduction.

The project dealt with the installation of 705 new LED lamps replacing 471 old conventional lamps by the new LED ones, as well as by installing 234 LED lamps on existing supporting points.

The project started in July 2015 and it has been concluded in August 2016.

Results

The Municipality succeeded to reduce the energy consumption of the public lighting by installation of 705 lamps (new ones together with modernized ones) and thus to mitigate the environmental impacts.

Achieved savings of CO₂ emissions shall reach a level of 66 tons per year.

Expected electric energy savings achieved approximately 80 percent, i.e. 938,4 GJ by the installation of the high-tech lighting technologies with substantial energy-saving potential.

Nonetheless the esthetical image of the City was improved.

Contact

Námestie slobody 1
968 26 Nová Bana

Tel: +421 45 6782 800

Website: www.hdg.de/stiftung

Contact person: Mrs. Lenka Bielíková,
Project manager

E-Mail: bielikova@novabana.sk

HUNGARY | Improving Energy Efficiency at Kastélydombi Primary School



Overview

The Municipality of District XVIII of Budapest with a population of 99,000 people operates several public institutions, among them nurseries, kindergartens and schools. The public buildings are continuously being modernized through the use of own resources and EU-funded projects.

The Procurement

Based on the technical specification of the refurbishment works, the building constituted a separate unit, its refurbishment was implemented through a public procurement process. The technical specifications needed to be reconciled with the requirements of the grant agreement, but some extra tasks were accomplished that turned out to be necessary during the refurbishment, but were not financed by the grant. One such example was the reconstruction of the building's lightning protection system. Upgrading the heating system was not covered by this project and the Municipality was not able to allocate own resources for this task. Similar energy efficiency programmes in the previous years provided an eight per cent aid intensity, which needed a higher amount of own contribution thus using up available resources.

In the preparatory phase the energy efficiency characteristics of the building were measured and the Municipality prepared the technical specifications of the construction and the detailed budget call that were provided to the tenderers in the procedure. In the submitting phase there was no on-site visit as the facades of public institutions are visible for anyone without restrictions. Additional information was required during the procedure, the tenderers wished to suggest alternative solutions that were not accepted.

However, equivalent proposals were allowed. After evaluating the tenders received before deadline the contract was awarded to the tenderer proposing the lowest price among the admissible tenders.

Results

The technical specification provided to the tenderers during the public procurement procedure demanded the compliance with the requirements outlined in Decree No. 7/2006 on the requirements of building energy characteristics. In their proposal, the winning tenderer undertook the installation of products that comply with the above requirements – which obviously was included in the admission criteria. As a result of the upgrading, the building's energy class has changed from the previous "E" to "A".

- ▶ The annual amount of CO₂ saved as result of the measures procured is 64 tons of CO₂
- ▶ The amount of annual cost savings resulting from the procurement is approx. 15,000 Euros
- ▶ The annual heating energy demand saved as result of the procurement is 316.1 MWh/year.

Conclusions

The refurbishment provided users, children and parents, with a renewed, more beautiful building, only positive feedback was received. Since the takeover of the work no objections have been received with regards to the quality of the work completed.

Quantitative Results

Heating costs and emission of greenhouse gases (GHG) were reduced significantly. As a result of the project the annual GHG emissions are expected to drop by 64 tons, while the school's energy consumption is reduced by 316 MWh (1.138 GJ). This equals to a 57 percent saving compared to the initial state.

Contact

Primary School Budapest, District XVIII

Nemes utca 56-60, 1188 Budapest, Hungary

Website: www.bp18.hu

Contact person: Zsuzsanna ROSTÁSY

E-Mail: rozszuzsi@bp18.hu

GPP Award and Winners

Within the framework of seven national and one concluding European GPP Award municipalities and districts that implemented sustainable procurement practices got the chance to receive recognition for outstanding green public procurement projects in Europe.

The GPP Award was open to municipalities and public institutions in Europe that are bound to procurement directives. Cities, towns and districts that have integrated green concepts and criteria into their procurement practices were encouraged to apply.

“By highlighting exemplary projects in the field, the GPP Award will encourage municipalities to use their purchasing power to choose environmentally friendly goods and services,” stresses Susanne Brandt, project officer at Climate Alliance and coordinator of the GPP Award.

The need for this encouragement is obvious: According to EU estimates, local authorities spend almost 20 percent of GDP purchasing services, works and supplies and thus have a major influence on the market.

Often the principle buyers in sectors such as energy, transport and waste management, cities, towns and districts can do much to bolster the climate agendas by focusing on green procurement practices.

Winners of this very first European GPP Award were chosen in three categories according to the size of the participating municipality. In the selection process, an independent jury, representatives from the European Commission, Science and national energy agencies, decided on the best submissions.

The CO₂ savings brought about by each project as well as its level of innovation and transferability were in the focus of the decision process. Social responsibility and the local authority’s commitment to energy efficiency were also factored. It was then up to the public to decide on the winners from this jury-selected pool via online voting on the Green ProcA website. Winners were honoured in a ceremony held in Brussels in June 2016 and received prominent position on the award website.

In total, 23 candidates were considered for the European GPP Award leading to very good press resonance with more than 28 media coverings.

The awarded projects provide a good example for versatile and innovative GPP projects in other European countries.



Winners of Category 1

The following projects won the GPP Award in Category 1 designated for municipalities with up to 10,000 inhabitants:

GOLD: Sustainable Salve



Over the last decade the municipality of Salve in Italy with its 4,708 inhabitants has committed itself to adopt sustainable actions to reduce the impacts of community activities on the environment. In 2013 Salve SEAP was adopted, GPP was included.

One of the core actions of Sustainable Salve was the full replacement of the former inefficient public lighting system with LED technology and a GPP policy to make its municipal purchases more sustainable. In addition, the municipal employees have been trained to incorporate sustainable criteria in their procuring activities. The municipal car pool was being gradually renewed through the replacement of former gasoline cars with new hybrid models which allow reducing polluting emissions and thus improve the quality of urban air as well as reduce GHG emissions. Moreover, the historical centre has been transformed into a traffic restricted area. Salve developed a territorial communication plan to convey the need for a cultural change on the issues of energy savings, efficiency and use of renewable sources. That is why information campaigns have been promoted over the last two years and all public events have been used as a stage to sensitise the community on these topics and to create consent for future actions despite the financial shortage experienced by small municipalities. This bundle of activities composing the Sustainable Salve project allowed a CO₂ emissions reduction of 300 tons per year.

SILVER: Renewable Energy and Energy Saving



The Municipality of Melpignano in Italy with its 2,210 inhabitants saves 72 tons CO₂ per year due to the installation of a geothermal heat pump in several school buildings as well as energy saving measures such as replacement of windows, thermal insulation of the building envelope as well as works on the electrical and thermal plants.

BRONZE: Energetic Development of Public Buildings



In the framework of the project in the municipality of Ajak in Hungary with its 3,894 inhabitants four buildings were renewed: the City Hall, the Primary School, the Nursery and another house. Within this project, Ajak committed itself to reduce CO₂ emission by annually 110 tons/year, which corresponds to a reduction of 550 tons within 5 years. This success is due to the installation of biomass heating systems in the City Hall, the Primary School and the Nursery.

Winners of Category 2

The following projects won the GPP Award in Category 2, designated to cities with 10,000 to 100,000 inhabitants:

GOLD: Construction of a Biomass-fired CHP Plant as Primary Heat Source



In July 2015 the City Council of the City of Lebork in Poland with its 34,000 inhabitants adopted the Low Carbon Economy Plan now leading to CO₂ savings of 25 tons per year.

The Low Carbon Economy Plan is a document based on the SEAP structure, rules and requirements. One of the plan's goals is to reduce CO₂ emissions by over 23,000 tons per year (20 percent) until 2020 (base year – 2009). The project has been supported by the Swiss-Polish Cooperation Programme (85 percent co-financing) in the “Design, Build” formula.

The investment included design, delivery and construction of a high-efficiency CHP plant based on a biomass-fired boiler, cooperating with a co-generation block operating in an ORC (Organic Rankine Cycle) system.

SILVER: Fully Autarchic Energy Supply with Regenerative Energies



The municipality Weilheim in Germany counts 22,000 inhabitants. The energy concept of the new Municipal Utility Building includes an energy efficient building envelope, a wood chip power station with 300 kW capacity, a thermal heat pump with 60 kW and a solar power system with 400 kWp installed on all roofs, resulting in CO₂ savings of 62 tons per year.

BRONZE: Energetic Development of Public Buildings



From 2007 to 2008, the TBD – Technische Betriebe Dormagen AöR, Germany (technical operations Dormagen) converted about 4,900 street lights from mercury vapor technique to sodium vapor high pressure lamps in Dormagen through performance contracting. From 2011 to 2013 the TBD installed 607 LED lights. Due to this positive experience and to open up further savings a financing contracting for additional 4,045 LED lamps was announced in July 2013 reducing 254 tons CO₂ per year.

Winners of Category 3

The following projects won the GPP Award in Category 3, designated for cities with more than 100,000 inhabitants:

GOLD: Video Interpretation Service



Interpreters that are available on site within max. five minutes – impossible? Not at all! The framework contract on “video interpretation services” makes it possible for Austrian public bodies to procure interpretation services via the internet saving now 3,596 tons of CO₂ this year. This idea made the Bundesbeschaffung GmbH (BBG) in Vienna/Austria with its 1.8 Mio. inhabitants winner of the golden GPP Award in category 3.

Within up to 5 minutes the staff of cities, hospitals, police, legal authorities etc. can contact an interpreter via internet. The internet connection is established through a secured internet connection. Via this connection qualified and certified interpreters can be contacted. The video interpretation service works with different kinds of hardware like desktop computers, notebooks, tablet-computers or smartphones. When contacted, the interpreter appears on screen and translates all relevant questions and answers concerning diagnosis, treatments or other kinds of services.

Public institutions in Austria will benefit from this video translation service, since there is only little waiting time when translation services are needed. Also, compared to face-to-face-translation this online translation service is less cost intensive and is a more environmental-friendly solution.

SILVER: GPP in the Covenant of Mayors Actions



Several GPP measures have been incorporated in Turin's SEAP, the Turin Action Plan for Energy (TAPE). The main sectors of those measures are efficiency gaining actions on municipal and regional real estate, transportation, electric energy production and public lighting, remote control heating service and ecological procurement through the membership of the A.P.E protocol (Acquisti Pubblici Ecologici – Ecological Public Procurement), saving now 94,373 tons CO₂ per year in the Italian city counting 898,714 inhabitants.

BRONZE: Network Management for the Promotion of the A.P.E. Project



The environmental policies and the relevant implementation actions that the municipalities of Turin Metropolitan Area with 2.3 Million inhabitants adopted to comply successfully with their GPP objectives are diversified in several lines of action saving 17,731 tons CO₂ per year.

Green Public Procurement in Sustainable Energy Action Plans

One central activity of the Green ProcA project with important outcomes was the development of a guide on how to integrate Green Public Procurement in Sustainable Energy Action Plans (SEAPs).

The SEAP is a key document outlining how the signatories of the Covenant of Mayors – the mainstream European movement involving local and regional authorities, who voluntarily commit to meet and exceed the European Union objective of a 20 percent reduction in CO₂ by 2020 – intends to fulfil its commitment.

The SEAP uses the results of the Baseline Emission Inventory to identify the best fields of action and opportunities for reaching the local authority's CO₂ reduction target. It defines concrete reduction measures, together with time frames and assigned responsibilities, which translate the long-term strategy into action. In the main target sectors of a SEAP – buildings, equipment/facilities and urban transport – green procurement plays a central role.

How to Integrate Green Procurement into the SEAP Process

One of the key messages of the guideline is that GPP should form part of the municipality's long-term strategy. Green purchasing practices can contribute significantly to the strategic objectives of public authorities.

Both the long-term vision and the detailed measures are integral parts of the SEAP. For example, as a long-term strategy, the local authority could decide that all cars purchased for the municipal fleet should be electric. Of course, the municipality cannot vote on the budget for all cars that will be purchased up until 2020, but they can include this measure in the plan and evaluate its impact up until 2020 by reviewing the estimated future purchases of cars by the municipality. For the duration of the local authority's political mandate, this measure should be presented in very practical terms, with budgets, identification of financing sources, etc.

When considering a GPP policy, it is important to define what the main objectives of the policy should be. For example, the contracting authority may already have other policies or decrees in place (political decisions already reached regarding the avoidance of certain products, local procurement handbooks, Environmental Impact Assessments, etc.) which cover some of the

aspects of the proposed new GPP policy. By identifying such policies and analysing their content, it can be ensured that the proposed policy does not conflict with the further objectives of contracting authorities. Once synergies with any other policies are identified, main objectives can be defined more accurately.

Implementing GPP Actions

The key message of the guideline is that procurement – as well as financing – is an overarching activity for the implementation of measures in SEAPs. In order to achieve anything more ambitious than the minimal requirements, GPPs should be initiated. These will lead to tangible savings, which are central to the implementation of SEAPs.

Whether the GPP in SEAPs will be successfully implemented or remain a pile of paperwork depends to a large extent on the human factor. Especially, the implementation of procurement measures requires ongoing political support. The SEAP needs to be managed by an organisation that supports people in their work, where there is an attitude of ongoing learning: Mistakes that are made should be accepted in order to learn from them and to improving processes in the future. During the implementation phase, it will be essential to ensure both good internal communication within the local authority (e.g. between different procurement departments) and among all stakeholders (local building managers, etc.) as well as good external communication (to citizens and stakeholders).

The SEAP implementation team should regularly inform the city council (or equivalent body) and politicians in order to make them an important part of successes and failures and to win their commitment through updated council resolutions. Political decision-makers should ensure that sufficient time and resources are foreseen.

Staff must have appropriate practical skills, technical knowledge and access to information to implement criteria/specifications and procedures and sector-specific GPP approaches, e.g. for buildings or electricity. The public authority should provide supporting guidelines and resources to allow effective implementation of the policy, provide staff and politicians with environmental training and awareness-raising tools, and ensure that there is effective communication between the central purchasing unit and the individual departments. The local authority should communicate green purchasing objectives,

imposed requirements and desired outcomes with suppliers (existing and potential). It should work with suppliers and contractors to help them improve their environmental performance (e.g. to reduce, reuse and recycle their packaging) and so spread good environmental practices through the supply chain.

Successful implementation of GPP should be promoted to other municipal public authorities and community through various activities (e.g. leaflets, promotional website).

Reporting and Monitoring

Furthermore, the guideline states that monitoring progress and energy/CO₂ savings are an integral part of SEAP implementation. Life-cycle environmental impact savings associated with GPP contribute to reductions. Life-Cycle Cost (LCC) assessment helps to avoid reducing the environmental impact at one point in the life-cycle and increasing it in another. For example, to avoid causing waste-related issues while improving production technologies or increasing emissions in one country while reducing them in another.

The Covenant of Mayors provides signatories with harmonised data compilation and a reporting framework which is unique in Europe, and helps them to follow systematic energy planning and monitoring at the local level.

Reporting data via the Covenant allows signatories to demonstrate the EU-wide impact of GPP actions on the ground. Covenant signatories are required to fill in an online SEAP template in English. This allows to summarise the results of Baseline Emission Inventory as well as the key elements of the SEAP. Moreover, the template is a valuable tool that provides visibility to the SEAP and facilitates its assessment as well as the exchange of experience between the Covenant signatories. Highlights of the collected information will be shown online on the Covenant of Mayors website.

The template presents the opportunity to report at different sectorial levels in order to enable a certain degree of flexibility for signatories. In the monitoring template, there is also the option of highlighting GPP actions as Benchmarks of Excellence. Finally, further indicators like the percentage of tenders that uses GPP criteria or the actual procurement of green products (total and/or percentage of green tenders and/or products) are useful for local authorities to monitor overall GPP progress in the municipality.



Lessons Learnt

The experience of the lighthouse projects and other Green ProcA activities contributed to create a legacy for the project partners that may represent also important lessons learnt for all actors dealing with GPP. These projects pointed out the need to motivate municipalities to adopt a GPP policy and to train them by illustrating specific and real-life-based examples of environmental criteria and how to translate them into technical specifications and to incorporate them into contractual conditions. It must be acknowledged that many governments are not very active in forcing the contracting authorities to adopt GPP measures due to a lack of clear legal requirements and of a practical guide issued by the public procurement authority.

There is also a further need for building environmental awareness and linking GPP and SEAPS with climate change prevention and assessing the feasibility and potential of greenhouse gas mitigation. This should be matched with an evaluation of the capacity and the data availability in relation to climate impacts and vulnerability assessment. Decision makers should be supported in the development of effective adaptation strategies to reduce environmental and security risks related to climate change by means of dedicated methodologies.

EU funding schemes played an indirect positive role in the introduction of GPP criteria as they represent an important source of financing for several Member States. In order to obtain these funds, the applicants are obliged to comply with some specific prerequisites ensuring that the investments made by public authorities contribute to CO₂ emissions reduction, reduced use of fossil fuels and energy efficiency improvement.

Some more broad lessons have been learnt with respect to the two main product groups of the lighthouse projects:

Buildings

- ▶ It is necessary to know in advance the minimum building size for ensuring the economic viability and interest for energy service companies (ESCO).
- ▶ In the services provided to the public authorities there should be an explicit prohibition to use materials and substances that have been classified as harmful by the European Union in order to introduce even more stringent requirements with respect to the relevant regulation. This proposal is based on the principle that the public authorities play a leading role in the market orientation towards the production of goods and services that have no negative impacts on the human health.
- ▶ The accessibility to data that are collected during the monitoring phase. This data represents a precious starting point for the elaboration of analysis aimed at assessing the actual efficiency of the implemented actions and at formulating proposals for the advancement of the following editions of the Covenant of Mayors.
- ▶ The energy mapping and the technical registry of the municipal buildings allowed an increasing awareness of the challenges that the administration is asked to face. Therefore, the action plan is expected to become more and more systematic and ambitious since it is aimed at ensuring a governance of all the real estate assets. The final purpose is to achieve a high efficiency level in the criticality management and a more effective use of resources.

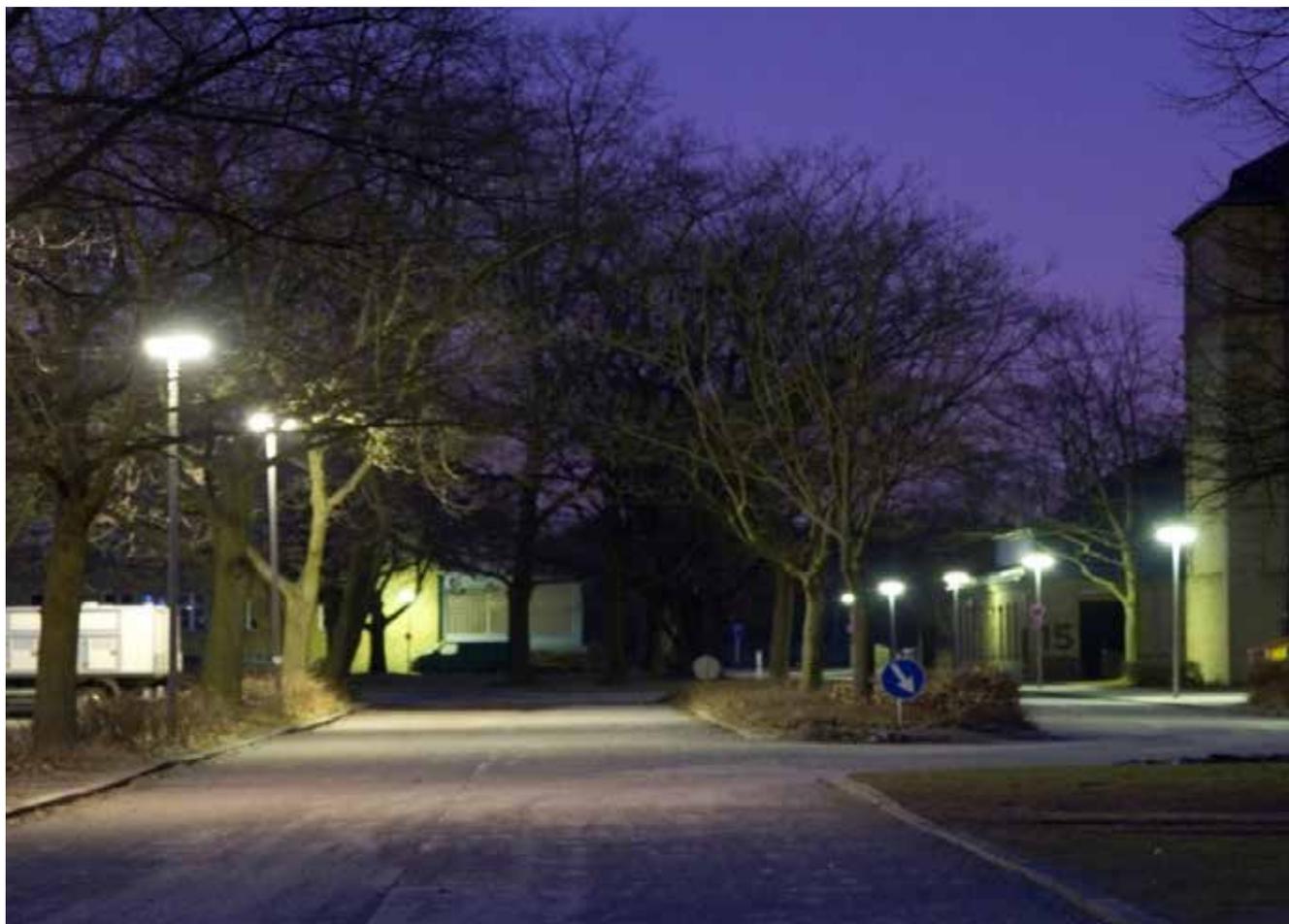
- ▶ Without increasing the awareness of the users on the importance to favour the onset of virtuous behaviours, it is very hard to obtain a consumption reduction, a cut of the relevant polluting emissions and a diffusion of the occupants' comfort culture. The target to enhance comfort is motivated by the eagerness to improve the life quality in terms of environmental, thermal and visual comfort and to reduce the effect of other polluting sources.
- ▶ The actions described in the SEAP were used by local authorities to set up the energy efficiency interventions plan, thus exploiting the knowledge of the SEAP designers'. Therefore, more suitable actions have been set up to keep into account criticalities and peculiarities.

Public Lighting

Expansion of LED street lighting pays off and is achievable once funding or subsidies become available for the local authorities

- ▶ Determination of detailed technical parameters of lamps and light parameters helps to select appropriate light sources by the tenderer.
- ▶ The requirement to submit photometric tests of the light sources offered is one of the elements that guarantee the achievement of the desired effects and the quality of lighting for the purchaser.

The lighthouse projects provided a tangible evidence of the applicability of advanced technologies, procedures and protocols also to the public authorities' buildings, lighting systems or ICT services, thus creating an important evidence of the feasibility and of the progress in the required standards of the public contractor.



Green Public Procurement Step by Step



Considering the lessons learnt within the Green ProcA project (see previous chapter, page 22), the following steps are suggested to public purchasers within the procuring process:

Step 1: Achieve Political and Management Support

It is advisable to implement a green procurement policy for your institution or company well before the actual procurement procedure begins. The procurement directives should also comprise the evaluation basis of the most economic offer with the calculation of life-cycle costs. Choose a green title to communicate the policy to your staff and the outside world.

Step 2: Assess your Actual Needs

Here the necessity of the procurement and its complexity are examined. Thereby, possible alternatives to the purchase of the product e.g. the repair of old devices or leasing of a new product as well as measures to improve efficiency and synergy of environmental friendly aspects, are examined. A critical and exact demand analysis is one of the most important steps for an environmental friendly procurement.

Step 3: Define the subject matter and Make a Preliminary Consultation of the Market

The subject matter of a contract relates to the product, service or work you want to procure. Purchasers are free to define an environmentally friendly product or performance-based product definition. Describe your needs in a functional manner so as not to exclude alternatives. Market engagement allows a public authority to test and influence potential suppliers in the market. Finding appropriate ways to engage with the market, whilst respecting company confidentiality and ensuring trans-

parency can greatly assist a purchaser in knowing what is possible (please also refer to Article 40 of Directive 2014/24/EU and Article 58 of Directive 2014/25/EU).

Step 4: Define Technical Specifications

After having defined which products, services or works to procure, the policy-makers are expected to describe the technical specifications of the contract and to constitute the minimum compliance criteria. Apply environmental criteria to save resources and energy as well as to reduce waste and pollution. The GPP Toolkit is one of the key tools used to implement GPP http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

The GPP toolkit proposes two categories of criteria for each sector covered:

- ▶ The core criteria are those suitable for use by any contracting authority across the Member States and address the key environmental impacts. They are designed to be used with minimum additional verification effort or cost increases.
- ▶ The comprehensive criteria are for those who wish to purchase the best environmental products available on the market. These may require additional verification effort or a slight increase in cost compared to other products with the same functionality.

In each category there are minimum compliance criteria and award criteria offered:

a) **Minimum compliance criteria:** These criteria will be included in the performance specifications and must be fulfilled by the service or product supplier (e.g. the maximum capacity of the electrical equipment). A non-fulfilment of a mandatory criterion excludes the offer from the call for tenders. This procedure demands strict compliance with central environmental criteria.

b) **Optional award criteria:** These criteria are evaluated with the help of extra points and considered in relation to other awarding criteria during the awarding process. The total score of the optional criteria (altogether 100 percent is possible) represents the degree of compliance with environmental characteristics such as recycling ability or energy efficiency. They enter the offer evaluation depending on the assigned importance of these criteria. Thus, economic and environmental interests can be weighted accordingly. These criteria are described in step 5.

In principle environmental interests can have a strong impact even without the compliance with mandatory criteria, if they are evaluated with a high score as optional criteria. Thus devices, which do not fulfil a certain criterion, have a chance to be considered, as long as the sum of the environmental characteristics convinces.

The following product groups are covered by the GPP toolkit:

1. Copying and graphic paper
2. Cleaning products and services
3. Office IT equipment
4. Construction
5. Transport
6. Furniture
7. Electricity
8. Food and catering services
9. Textiles
10. Gardening products and services
11. Thermal insulation
12. Hard floor-coverings
13. Wall panels
14. Combined heat and power (CHP)
15. Road construction and traffic signs
16. Street lighting and traffic signals
17. Waste water Infrastructure
18. Indoor lighting
19. Toilets and urinals
20. Sanitary tapware
21. Imaging equipment
22. Electrical and electronic equipment used in the health care sector
23. Water-based heaters

Another helpful tool is represented by the Eco-labels – both to develop specifications or criteria and to verify the compliance of products and services with these standards. There are many different kinds of eco-labels, for example those which address a single issue such as the Energy Star label or those which cover multiple criteria. It is important to note that it is not allowed to use the labels in the procurement process but the criteria in the label can be used (European Court of Justice on 10 May 2012, Case C 368/10).

Step 5: Define Award Criteria

Determine award criteria, e.g. better eco-efficiency, and their weighting when evaluating the tenders. The award criteria must relate to the subject matter of the contract. Describe how you will calculate the life-cycle cost and how it will be weighted.

Life-Cycle Costing

- ▶ The cost efficiency of an offer does not only depend on the purchasing price, but also on the operating costs. For the comparison of the offers the purchasing, operating and disposal costs are evaluated over the expected lifetime of usage (life-cycle costs).
- ▶ Calculation tools are provided for each product to compare the cost-efficiency of the offers. The following factors have to be considered if energy-related environmental interests are included in the calculations.
- ▶ Providers must guarantee the maximum level of power and energy consumption for the calculation.
- ▶ Factors such as yearly utilisation periods in different operating modes should be realistically measured and empirically secured if possible.
- ▶ Technical measures to reduce the energy consumption should be considered if possible e.g. energy management in PCs and auto power off function.

Step 6: Set Contract Performance Clauses

Use contract performance clauses as a way of setting further relevant energy efficiency/environmental conditions for the green contract.

Step 7: Award the Contract

Provided that all the offers fulfil the technical specifications, the contract will be awarded to “the economically most advantageous tender” based on the results from the Buy Smart+ life-cycle cost calculation tool and degree of compliance with award criteria. The public authorities need to verify the correspondence between the required technical specifications and the characteristics owned by the product.

Conclusion

The Green ProcA project has proven that a continuous need for GPP related information, training and dissemination does exist. The programme funded by the European Commission allowed to continue and enhance the sensitisation and training activity that the actors involved in GPP started several years ago. However, these activities require a continuous stimulus to keep their effectiveness. The costs covered by these funds would have not been sustained by other public authorities nor by private entities and, therefore, the role of the European Commission has been crucial and strategic.

The initiatives to build awareness among the procurement officers can be particularly useful also for suggesting other ways to introduce green criteria into public tenders through contract performance clauses, qualification/selection criteria and contractual clauses, monitoring and execution control.

The organisation of networking events with public authorities' networks and the offer of basic and advanced trainings built the capacity of public purchasers for GPP and new procurement procedures were announced. The involvement of representatives of theme-related governmental bodies, professionals and procurement experts is obviously a significant contribution. The campaigns that usually are addressed only to public officers might be extended to citizens and economic operators whose role has been gradually acknowledged. Better information clearly improves the knowledge on green products and green market. Even more important, it can support the suppliers to remain up to date with respect to the most innovative technologic and qualitative trends. In other words, an early involvement of suppliers in the process allows the timing adoption of new technologies, with innovation improvement and possibly more research and development on products and process. Technological innovation improves industry competitiveness on local, national and global market level, however, innovation always requires investments (human and material resources).

Lastly, networking, collaboration activities with stakeholders and the private-public cooperation is fundamental to achieve GPP targets. Cooperation with and between various stakeholders assures that the different actors work together for a common objective.

Thus, the awareness on GPP initiatives and tools is highly significant in determining both the choice to implement GPP and the number of tenders that are adopted with the inclusion of environmental criteria. The more a public administration is informed and acquires competence and know-how in developing GPP practices, the more it is eager to experiment these new procedures and introduce greener criteria in the tenders. Large anecdotal evidences show that the information campaign, sensitisation on GPP opportunities and training courses for purchasers are actually increasing the capability of public bodies to adopt and effectively "use" environmental criteria in their purchasing strategies and decisions. As a result, also small public administrations and local authorities which are not provided with a technical department can issue environmentally advanced tenders and can adopt an authentically green procurement policy.



Links and Glossary

Links

European Websites

- ▶ Directorate-General for Environment: www.ec.europa.eu/dgs/environment/index_en.htm
- ▶ EU Green Public Procurement: www.ec.europa.eu/environment/gpp/index_en.htm
- ▶ IEE Programme: www.ec.europa.eu/energy/intelligent/index_en.html
- ▶ Public Procurement: www.ec.europa.eu/internal_market/publicprocurement/index_en.htm

European Projects

- ▶ Best Products of Europe: www.topten.eu
- ▶ eafip – European Assistance For Innovation Procurement: www.eafip.eu
- ▶ EESI 2020: www.eesi2020.eu
- ▶ GPP 2020. Procurement for a low-carbon economy: www.gpp2020.eu
- ▶ Procurement Forum (network for professional purchasers): www.procurement-forum.eu
- ▶ Sustainable Procurement Resource Centre: www.sustainable-procurement.org

Glossary

ARM	Association of Rhodope Municipalities
BAPE	Bałtycka Agencja Poszanowania Energii SA
BEA	Berliner Energieagentur
CA	Climate Alliance
CHP	Combined Heat and Power
CoM	Covenant of Mayors
ECB	Energy Center Bratislava ECB
EESI	European Project “European Energy Service Initiative Towards the EU 2020 Energy Saving Targets”
ENEA	Italian National Agency for New Technologies, Energy and Sustainable Economic Development
EPC	Energy Performance Contracting
ESCO	Energy Service Company
ICT	Information and communications technology
LCC	Life-Cycle Costs
ORC	Organic Rankine Cycle
REC	Regional Environmental Center Romania
SEAP	Sustainable Energy Action Plans
SEC	Sofia Energy Center SEC
TAPE	Turin Action Plan
TT	Tatra Tender s.r.o.
ImpRep	Implementation reports

Berliner Energieagentur GmbH
Französische Straße 23
10117 Berlin

Fon +49(0)30-293330-0
Fax +49(0)30-293330-99

E-Mail office@berliner-e-agentur.de
Internet www.b-e-a.de

www.gpp-proca.eu



Co-funded by the Intelligent Energy Europe
Programme of the European Union

