Analysis of opportunities for implementing GPP in Ukraine based on Slovak experience, in the frame of EU requirements

(project report)

2017

CONTENT

BACKGROUND

The study is conducted within the framework of the project ***Transferring Experience with Green Public Procurement in Slovakia to Ukraine*** supported by the SlovakAid, the development cooperation programme of the Slovak Republic.

The general objective of the project is to contribute to more effective functioning of state administration and civic society in Ukraine. The specific objectives are to improve the competences of state administration, self-governments and civic society in implementing green public procurement (GPP) in Kyiv region and to improve the awareness of public administration and civic society in Ukraine on the role of GPP in increasing the effectiveness of public administration, in sustainable development and in climate change mitigation. Ukraine has agreed to approximate the legal system of the country to EU legislation and has taken environmental commitments. The project addresses these commitments, as well as the national commitments in the frame of international agreements and forums, including the Earth Summit Rio+20. The analysis of the legal system in Ukraine conducted in 2014 confirmed that in Ukraine a legal framework exists that allows the implementation of GPP. The approach is however only rarely used and training and awareness rising is needed. The project is an initiative supporting the practical application of environmental criteria in public procurement in Ukranie, based on experience in Slovakia, in the frame of requirements set by EU. It is complementary to international programmes and projects on policy level, which aim on transposition of laws and reform of the legal system towards EU acquis. The project analyzes in more detail the opportunities and current practices in GPP in Ukraine. It develops and publishes supporting tools for implementation of GPP, including an online training course for subjects implementing public procurement and conducts a pilot training of officers on GPP in Kyiv region. Through promotional activities the dissemination of project results and their use is supported.

The aim of this study is to find out the current situation in the legislative field of Ukraine on green procurement issues as well as the advantages, recommendations, and obstacles for green procurement implementation in Ukraine.

1. APPROACH AND METHODOLOGY

1.1. General approach

The presented study consists of a descriptive analysis of the legislation status, the existing institutional infrastructure in accordance with it, as well as the analysis of GPP practices based on questionnaire based survey of public authorities and local self-government. Also, the study includes the results of a desk-research on green public procurement on ProZorro portal with brief conclusions.

Based on experience in Slovakia, in the frame of requirements set by EU, environmental considerations for GPP can be included on three levels of the public procurement process:

1) Exclusion criteria from participation in procurement procedures, where clear and non-discriminatory criteria are set for the purpose of assessing that the candidate/tenderer has sufficient financial, economic, technical and professional capacity to implement the tasks of the contract. The chosen criteria shall be proportionate and may not go beyond the scope of the contract. Besides requirements on **integrity** – legal, economic and professional (e.g. related to bankruptcy, payment of taxes or social security contributions, child labour, terrorism, violation of laws and standards, etc.) or **financial and economic capacity** (e.g. min. average annual turnover of the tenderer for last 3 years, ratio assets/ liabilities in the last year, etc.), for **professional or technical capacity** (e.g. experience, professional certificates, staff qualification) requirements can be set on **QMS – ISO 9000, EMS – ISO 14001, EMAS**, or equivalent measures and processes introduced.

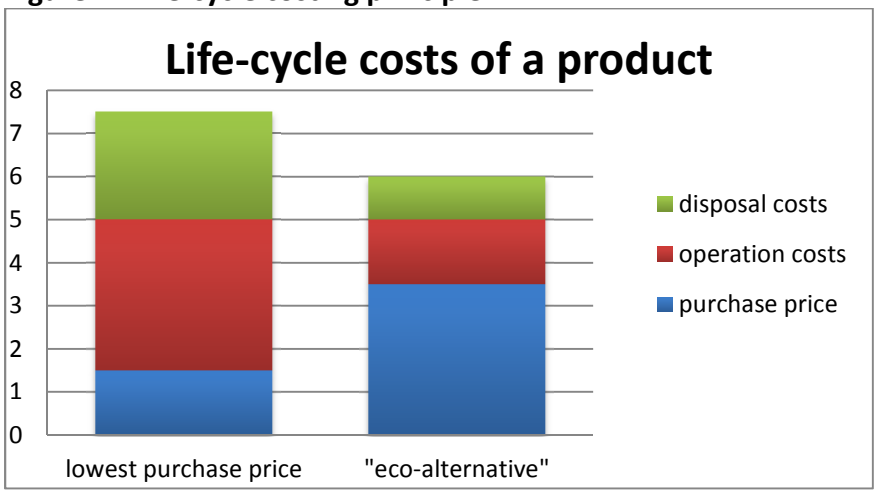
2) Award criteria

Contracts are awarded on the basis of the most economically advantageous tender established for the call for tender in one of the following ways:

- under the best price-quality ratio, in which case the contracting authority takes into account the price and other quality criteria linked to the subject matter of the contract, and apply a weighting formula; also including the **life-cycle costing;**
- under the lowest price, provided the tender satisfies the minimum requirements laid down.

The criteria must be precise, non-discriminatory and not prejudicial to fair competition.

Figure 1. Life-cycle costing principle



3) Terms of reference (TOR) and technical specifications

Terms of reference (for service contracts) and technical specifications (for supply and works contracts) give instructions and guidance to contractors to submit a tender which responds to all technical and administrative requirements, and later to serve as the contractor's mandate during project implementation. The terms of reference or technical specifications are included in the tender dossier and will become an annex to the resulting contract.

The terms of reference and the technical specifications must allow equal access for candidates and tenderers and must not have the effect of creating unjustified obstacles to competitive tendering. They must be clear and non-discriminatory, and proportionate to the objective and/or the budget for the project. They specify what is required of the service, supply or work to be purchased. They also specify the minimum requirements whose non-compliance entails the rejection of the tender.

The specifications mainly include:

a) quality levels;
b) environmental and climate performance (e.g. care is taken to ensure that specifications take into consideration the latest developments on the matter);
c) design for all users requirements (accessibility for disabled people, environmental issues, etc. in accordance with the latest developments;
d) levels of and procedures for conformity assessment, including environmental aspects;
e) performance or use of the supply;
f) safety or dimensions, including, for supplies, the sales name and user instructions, and, for all contracts, terminology, symbols, testing and test methods, packaging, marking and labelling (including environmental labelling, e.g. on energy consumption), production processes and methods
g) conditions of performing the supplies - economic, environmental aspects, innovation or employment (way of transport, packaging, reuse / recycling of waste or packaging)

1.2. Legal analysis – methodology

The aim of the legal analysis is the part of the Ukrainian legislation concerning public procurement in general and, in particular, all aspects affecting the environmental factors of procurement. Also, the subject of the legal analysis includes a part of the national legislation on aspects relating to the regulation of issues of the environmental impact of goods, works or services, in particular, national legislation on emissions, potential hazardous effects on the environment by certain goods, works or services. The research object also includes the results of a survey of public authorities and local self-government and the desk-research on ProZorro portal on green procurement, which allow assessing practical application of the norms.

The methods of organizing the collection of information will be, firstly, an analysis of current legislation and international agreements, draft acts posted on official websites of public authorities. Secondly, the results of a survey on green procurement practices will be assessed.

The study will be the basis for further development of training materials and a manual on green procurement issues.

1.3. Survey of the UA public procurement web-portal – methodology

The aim of the survey is to define the actual knowledge on environmental criteria and their application in the PP process. The object of the analysis is information on the public procurement portal website: www.prozorro.gov.ua using the comprehensive analytical module BI Prozorro (Business Intelligence), which made it possible to conduct analysis with a much larger number of indicators and classifications.

The sample
The object of analysis was:

1) Public procurement related to those groups of goods, works or services, for which the European Commission has prepared criteria for Green Public Procurement, posted on http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm. In case, when the criterion applied to more than one group of goods, works or services, minimum 1 group of goods / works / services (by the Unified Procurement Dictionary) from such a group of criteria has been analyzed.
2) Groups of goods / works / services classified by the Unified Procurement Dictionary, which is unified with the corresponding classifier by the European Union and posted on www.dk21.dovidnyk.info/index.php.
3) Public Procurement for the period from the 1st of January 2017 to 30th of April 2017.

4) Public procurement of all types of public procurement procedures (Pre-threshold, negotiation, auction, etc.).
5) Public procurement completed.
6) If the number of purchases was more than 10, which are subject to analysis in a particular group, for the analysis, 10 purchases were randomly selected.

During the study of a specific procurement, the following criteria were analyzed:
1) The presence of 'green' qualifying criteria of qualification requirements for participants
2) The presence of green' criteria for choosing a winner
3) The presence of 'green' criteria in the tender documentation / specifications
4) Other important aspects of green purchases are included in the column 'notes'.

1.4. Questionnaire survey among public authorities– methodology

The aim of the survey is to define the baseline knowledge on environmental criteria and their application in the PP process, to find out the level of interest on their application.

Legal experts of the project prepared the questionnaire. GOLOCAL enlisted the support of Department of Economy and Investment of Kiev Region State Administration. The Department disseminated it among cities and regional units (rayons) of Kiev Region with the order to provide answers for questionnaire via email directly to GoLOCAL.

The poll was conducted in September – October 2017 and obtained 50 answers. The respondents were the representatives of state authorities and local authorities, whose duties include participation in the process public procurement. 95 % of respondents represented Kiev region. The poll was analyzed by manual counting of the results, analysis and synthesis.

The Questionnaire used for the survey is attached in Annex 1.

2. BASELINE

2.1. International obligations of Ukraine concerning Green Public Procurement

2.1.1. EU-Ukraine Association Agreement

Until recently, the legal framework for EU-Ukraine relations was the Partnership and Cooperation Agreement (PCA), which entered into force in 1998. Subsequently, the European Neighbourhood Action Plan of 2005 further elaborated certain relevant points as regards priorities and progress in applying certain PCA provisions. In regard to public procurement, the provisions of Articles 51, 52 and 55 of the Agreement essentially required co-operation under the Agreement to develop conditions for the open and competitive award of contracts for goods and services and the gradual approximation of Ukrainian legislation with EU law in regard to public procurement.

The recent **EU-Ukraine Association Agreement** includes a dedicated **Chapter 8 on public procurement**, comprising **Articles 148-153 and an associated Annex XX1**. Thus, the Agreement provides for progressive mutual access to the public procurement markets of the EU and of Ukraine on the basis of *planned, phased and supervised progress* in the approximation of the public procurement legislation in Ukraine with the EU public procurement acquis communautaire; accompanied by institutional reform and the creation of an efficient public procurement system based on the principles governing EU public procurement. The Agreement entered into force provisionally on 1 November 2014 and the economic and trade provisions (which include Articles 148-153 and Annex XXI) entered into force on 1 January 2016.

The main focus of Ukraine's commitments under the Association Agreement is alignment with EU rules on public procurement set out in five Directives and supplemented by the guidance and interpretations on their implementation in the relevant case law of the Court of Justice of the European Union (CJEU). The main directives are:

- Directive 2014/23/EU of the European Parliament and of the Council on the award of concession contracts ('the Concessions Directive');
- Directive 2014/24/EU of the European Parliament and of the Council on public procurement and repealing Directive 2004/18/EC ('the Public Sector Directive'); and
- Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sector and repealing Directive 2004/17/EC ('the Utilities Directive').

Green public procurement is a policy which has been adopted by most EU Member States and which is specifically supported by the European Commission. It aims to reduce the environmental impact of public purchasing while helping to develop the market for sustainable goods and services. One of the features of green procurement is that there is a very strong network of organizations at the local, national and international level supporting it - public

sector, private sector and NGOs. Also, it is important to note that many public authorities in Europe practice not only green procurement, but SPP – Sustainable Public Procurement – including both environmental and social criteria in their purchasing decisions.

Therefore, in terms of environmental legislation, Ukraine is obliged to implement all EU legislation on environment in the Association Agreement and, in particular, the following EU Directives in other spheres which affect the most Green Public Procurement:

- Directive 2010/31/EU on the energy performance of buildings;
- Directive 2012/27/EU on energy efficiency. Annex III of the Directive defines the measures which must be taken by central government authorities, and which can be voluntarily adopted by other public authorities;
- Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles;
- Regulation No 106/2008 on a Community energy-efficiency labeling programme for office equipment.

2.1.2. The Treaty establishing the Energy Community

The Energy Community Treaty entered into force in Ukraine on 1 February 2011. One of the objectives of the Energy Community is to provide legal and economic framework on energy products and materials in order to improve the environmental situation in the sphere of energy products and related energy efficiency sphere, promote renewable energy sources, and define the conditions for energy trade in the single regulatory space.

The Agreement obliges the Parties to carry out the construction and operate new power plants in accordance with the EU legal framework in the field of environment, namely:

- Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 97/11/EC of March 3, 1997 and Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003;
- Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC;
- Directive 2001/80/EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plants;
- Chapter 4 (2) of the Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds.

The Agreement also provides for the possibility of the Energy Community to implement measures aimed at stimulating development in the field of renewable energy and energy efficiency in terms of energy security, environmental protection, social cohesion and regional development.

2.1.3. International Treaties in the field of Environmental Protection

Ukraine is a party to numerous international agreements and conventions in the sphere of environmental protection, which also play its role in the implementation of the 'green public procurement' policy. In other words, contracting authorities should bare in mind not only national legislation but also look at the broader picture of procurement and make sure it won't be against the international obligations of Ukraine in the sphere of environmental protection.

Therefore, in particular, Ukraine has international obligations to implement and enforce the following documents:

- The 1979 Geneva Convention on Long range Transboundary Air Pollution (The Convention aims to promote international cooperation in the fight against air pollution, including long-range transboundary air pollution);
- The Stockholm Convention on Persistent Organic Pollutants (The Convention defines the list of chemicals, the production and use of which should be eliminated, or restricted);
- The UN Framework Convention on Climate Change and the Kyoto Protocol (the overarching objective of the Framework Convention and any related legal instruments is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system);
- The Convention on Environmental Impact Assessment in a Transboundary Context (the Espoo Convention);
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;
- The Convention on International Trade in Endangered Species of Wild Fauna and Flora, Endangered (CITES) (the purpose of the Convention is to ensure that international trade in wild animals and plants does not create a threat to their survival; the treaty covers different degrees of protection for more than 33,000 species of animals and plants);
    - The Montreal Protocol on Substances that Deplete the Ozone Layer;
    - The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (the Convention applies to banned or severely restricted chemicals and severely hazardous pesticide formulations);
- The Convention on Biological Diversity;
    - The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention) (the Convention obliges the Parties to encourage operators whose activities have a significant impact on the environment to inform the public regularly of the environmental impact of their activities and products, where appropriate within the framework of voluntary Eco labeling or eco-auditing (environmental impact assessment) schemes or by other means);
    - The Convention on the Transboundary Effects of Industrial Accidents;
- The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter;

- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);
- The Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty.

2.2. The Ukrainian legislation on 'green' public procurement

In Ukraine, some steps have already been taken towards implementing 'green' public procurement policy.

First of all, in order to implement the provisions of the EU-Ukraine Association Agreement, in particular, Articles 148-153, the Ukrainian Government has developed a ***Public Procurement Reform Strategy/Road-Map***, outlining its intended planning for the full implementation of the public procurement requirements of the Agreement, and this was formally approved by the Government on 24 February 2016[1].

Under the Public Procurement Reform Strategy/Road-Map, Ukraine is committed to legislate by end-2018 on various matters including:

- Standards of proving quality of goods, works and services, business management practices, criteria of green production etc. (Directive 2014/24/EU, Articles 57–58, 62);
- Tender evaluation criteria, particularly, criteria representing the most economically advantageous tender and requirements to applying tender evaluation criteria, evaluation criteria for abnormally low tenders (Directive 2014/24/EU, Articles 67-69). The concept of the most economically advantageous tender (MEAT) includes the environmental characteristics of bids. It is also possible to take environmental considerations into account as part of supplier qualification, in technical specifications and in contract terms.

Additional obligations to harmonize Ukrainian law with EU standards relevant to green procurement will arise in the period January to December 2019, where the Strategy provides for the inclusion of:

- Conditions of integration of social and environmental standards and requirements to contractors or to supplies procured to meet the needs of the state as qualification criteria and elements for the purposes of evaluation of tenders (Directive 2014/24/EU, Articles 74 and 77);
- Standards of proving quality of products and international labelling standards;
- Requirements to and methods of calculation of cost of procured supplies, works and services taking into account their full life cycle and additional costs relating to their environmental, social and technological effects (Directive 2014/24/EU, Articles 31, 68, 78–82).

[1] Cabinet of Ministers Resolution "*On the Strategy for Reforming the Public Procurement System/"Road-Map*" No.175-r of 24 February 2016.

It is important to note that under EU law (2014 EU Public Procurement Directives), green procurement is undertaken voluntarily by contracting authorities.[2]

Secondly, the ***Law of Ukraine "On Public Procurement" № 922-VIII*** of 25 December, 2015 has also a number of 'green' provisions.

For example, Article 22 of the Law sets that in tender documents it is required that "…*Technical and qualitative characteristics of the procurement item shall provide for necessary environmental protection measures*". The provision was found similarly in the previous law and refers to mandatory environmental requirements in various Ukrainian legislation (international treaties, conventions and agreements being part of it). The aim is therefore not primarily to allow procuring entities to include such requirements but to encourage them to do so as in Ukraine green/environmental characteristics of the goods and services are very often forgotten. However, the decision to include environmental criteria depends on the level of awareness of the chairmen, members of the tender committee or units responsible for the preparation of tender documents. Such a freedom is relatively complex to administer for procuring entities without additional guidance.

Although, there are procurement objects to which setting environmental requirements is compulsory. First of all, it is applicable to construction works, in relation to which certain measures are required during the design and construction stages, to minimize the negative environmental impact, prevent contamination of air and water, soil erosion, defoliation, extinction of wild animals. A procuring entity may apply environmental criteria and specify them in the tender documents based on the *Law of Ukraine "On Fundamental Principles (Strategy) of the National Environmental Policy of Ukraine for the Period until 2020"*[3], and relevant standards, including sanitary (for example, coal category, etc.).[4]

Moreover, Article 22 does not include any prioritization as regards use of standards and does not explicitly allow the bidder to use alternative standards. However, this Article doesn't exclude non-mandatory environmental criteria that the procuring entity chooses to include. In general, the Law of Ukraine on Public Procurement does mention the possibility of using environmental criteria in connection with selection or award and not as a contractual performance requirement.

[2] The Court of Justice of the EU has in particular been supportive of the possibility to address both environmental and social considerations through public contracts. In particular, in Cases C-513/99 Concordia, C-448/01 EVN Wienstrom, and C-538/10 Dutch Coffee.

[3] Of 21 December 2010, № 2818-VI

[4] For more, see "Commentary to the Law On Public Procurement" of December 2016 by O. Shatkovskyi and O. Iaremenko at www.eupublicprocurement.org.ua

2.3. Legislation of Ukraine on Environmental Protection

Environmental protection is regulated in Ukraine on the constitutional level (Articles 15, 50, 85, 92, 06, 110) and includes right of citizens to a healthy and safe environment and right to free access to environmental information. Ukraine in addition has a large legislative base concerning the environmental protection, consumer protection in different sectors as well as numerous standards from construction to food products. To name some of them, in particular:

- Law 'On Air Protection'
- The Water, Forestry, Land Codes of Ukraine, Natural Resources Code
- Law 'On Waste'
- Transport Strategy of Ukraine for the period until 2020
- Law of Ukraine 'On the Protection of the Natural Environment of Ukraine'
- Fundamental Principles of Legislation of Ukraine for Public Health Service
- Law 'On Energy Efficiency'
- Law of Ukraine 'On General Safety of Inedible Products'
- Law of Ukraine 'On Protection of Consumers' Rights'
- Laws "On Principles of Urban Planning' and 'On Regulation of Urban Development' etc.

Ukrainian legislation includes environmental protection aspects especially regarding renewable and alternative energy sources, rational use of natural resources as well as legislation in the fields of transport, construction, household chemicals and detergents; there are numerous engineering and construction norms; norms for food safety and production etc.

But, unfortunately, there are no clearly defined criteria on green procurement in Ukraine apart from the short mentioning in the Article 22 of the Law 'On Public Procurement'. An obvious source for green criteria going further than legislation requires is the eco-labels. In the EU in order to give a competitive edge to the development of green products and services the special eco-labels were introduced. For example, the EU-Ecolabel the *Nordic Swann* and the German *Blue Angel, Energy Star* cover a multitude of products and services as well as different environmental aspects.

Eco-labels are frequently used in green procurement, however, the use of eco-labels does not oblige the bidders - they can base their bids on other products provided that they can document that such products fulfill the requirements of the eco-label in question. The European Commission stated that[5]:
The GPP criteria are based on data from an evidence base, on existing Eco label criteria and on information collected from stakeholders of industry, civil society and Member States. The evidence base uses available scientific information and data, adopts a life-cycle approach and engages stakeholders who meet to discuss issues and develop consensus."

Concerning ***labelling***, in Ukraine the introduction of environmental labelling of products and

[5] See the EU Commission website on environmental protection
http://ec.europa.eu/environment/gpp/gpp_criteria_en.htm

food is one of the objectives of the *Strategy of State Environmental Policy of Ukraine for the period up to 2020*. For example, the Ukrainian Green Crane label was introduced in 2002 and is a voluntary program that operates according to international standards and principles. It covers certain categories of products, including, foodstuffs, forest products, paper, textiles and cosmetics. The Green Crane Program was audited by the Global Eco Labelling Network (GEN) as meeting ISO 14024 standards for eco-labelling in 2004[6]. A general framework for introducing and regulating additional eco-labelling schemes based on ISO 14027 and the EU Regulation 66/2010/EC on eco-labelling has since been introduced[7]. Also, the certification authority body *'Living Planet'* administers environmental labelling program of type I in Ukraine in accordance with ISO 14024: 1998.

Organic food products are also a developed area in Ukraine with rapidly expanding market of labelled organic food, which is considered to have much less negative environmental impact than conventional food products. Ukraine has developed its own legislation on organic labelling in 2013[8], but was not effectively implemented and was not fully compliant with the EU legislation. Therefore a new draft law was developed and is registered now in the Parliament. Meanwhile Ukrainian producers are certified with the EU Organic Leaf[9] (eco-labelling for organic food) by the accredited by EU organizations. This is the way to reach EU market, but does not solve the problem of national labelling and further possibility to use it in green public procurement.

2.4. EU approach

To assist contracting authorities in identifying and procuring greener products, services and works, in the EU environmental procurement criteria have been developed for 21 product and service groups, which can be directly inserted into tender documents. These green public procurement criteria cover the various points of the process where criteria would be relevant starting with the tender specifications, qualification and award criteria and also contractual performance requirements. Each set of criteria is based on a technical background report as a source of reference to understand the reason behind the concrete criteria proposed and have been developed in line with EU procurement directives. Moreover, these green public procurement criteria are regularly reviewed and updated to take into account the latest scientific product data, new technologies, market developments and changes in legislation.[10] Here is a recent example from the EU on green public procurement criteria:[11]

[6] See further concerning the labelling and the certifying organisations http://www.ecolabel.org.ua/

[7] See Cabinet of Ministers technical Regulation No. 529 of 18/5 2011 on Environmental labelling.

[8] See Law on Production and Trafficking of Organic Products and Raw Materials http://zakon2.rada.gov.ua/laws/show/425-18

[9] See EU website on organic farming https://ec.europa.eu/agriculture/organic/downloads/logo_en

[10] For more see *'Buying green! A handbook on green public procurement 3rd Edition'*, European Union, 2016 at http://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf

[11] For more information, please see technical background criteria and EU GPP criteria for Waste Water Infrastructure. For more examples of green public procurement see Sustainable procurement Platform at

Example: Efficient waste water treatment in the Netherlands

Background

The Waterschapsbedrijf Limburg (WBL) is the public utility company responsible for the transport and treatment of municipal and industrial wastewater and treatment of sludge in the province of Limburg, Netherlands. The company operates 18 sewage treatment plants altogether. The targets of WBL are to meet both the effluent demands of the wastewater treatment plant (WWTP) and their energy saving goals, at the lowest cost possible. In this example, a new type of thermal hydrolysis process was installed at the WWTP in Venlo, which increased biogas production, reduced sludge generation and speeded up the process – leading to both energy savings and cost reductions.

Procurement objectives

The WWTP in Venlo had been established many years previously, but in January 2011, WBL released an invitation to tender for the design, construction, operation and maintenance of a new sludge hydrolysis plant on the site. WBL opted for a two-stage tender procedure using pre-qualification to ensure capacity and capability, followed by a competitive dialogue procedure based on functional specifications to allow for innovative proposals that would lead to the optimum hydrolysis technology for the WWTP. After the pre-selection phase, two rounds of dialogue took place with those who were eligible to bid for the tender at which all candidates were present. Any questions, which were raised at these meetings were subsequently submitted in writing and were answered in written format, with all bidders receiving the same information to ensure fairness and transparency.

Subject matter of the contract: Design, construction, operation and maintenance a full-scale hydrolysis-digestion plant for a period of 6 years at the WWTP in Venlo (with the option to extend to 10 years).

Technical specifications: Applicants were required to submit a detailed technical proposal based on the functional specifications issued by WBL, the scope of which included; thickening, hydrolysis, digestion, biogas utilisation and dewatering, in addition to operating and maintaining the plant for a period of 6 years. The total investment allowed was 5,500,000 euro.

Award criteria: The contract was awarded on the basis of total costs i.e. the financial gains/benefits from energy generation and reduced sludge, minus the associated capital costs and operating costs.

Results: The tender was published in January 2011. After the pre-selection phase 2 bids were received, with the contract awarded in May the same year. Installation work began in late 2011, and the hydrolysis plant entered operation in autumn 2012. The winning bidder developed a technology which significantly improves the efficiency of sludge treatment, and is affordable in smaller WWTPs (7,000 tonnes per year in this case). It increases the amount of biogas production, reduces the quantity of sludge produced, reduces the anaerobic digestion time and increases the dewatering. As a result, the technology is an affordable thermal hydrolysis sludge treatment technology that lowers the costs and the CO2 emissions of sludge treatment. The winning bidder developed the technology in-house and WBL was the launching customer. The winning bidder is responsible for the exploitation of this new technology. It has a period of six years to do so with an option to extend to 10 years. The technology will be developed further in this period.

Environmental impacts: The installed technology resulted in a series of positive environmental impacts:

- Production of sustainable energy: The combination of hydrolysis and digestion results in an enhanced degradation of sludge in comparison with conventional digestion. The biogas production is increased by 15-50% compared to conventional digestion. The produced biogas is used for the generation of heat and electricity for use on site. The generated electricity amounts to 4 million kWh/year, equal to 40% of the electricity demand of the WWTP in Venlo. This equates to a saving of 2,700 tonnes CO2 per year.

http://www.sustainable-procurement.org/case-studies/

- Reduction of sludge disposal: The amount of sludge is reduced by 50%. As well as the additional sludge degradation, the sludge can be dewatered so that it has a higher dry solids content. The reduction of the amount of sludge and the higher dewatering means that the amount of transportation required is halved (in comparison to a traditional process).
- Recovery of nutrients: The high degradation causes increased concentrations of nitrogen and phosphorus in the sludge. This makes the nutrients in the sludge suitable for recovery. At the moment, further research is being carried out by the winning bidder in order to make it possible to recover the sludge.

2.5. Existing practices and awareness

In 2015 a comprehensive evaluation was carried out of the legal and market conditions in Ukraine for implementing green public procurement.[12] This identified the following priority sectors for green public procurement implementation, based on a survey of 75 organizations carrying out procurement from the central budget fund: paintwork materials, heat insulating materials and detergents and cleaners.

Ukraine, learning from the EU example, can use the criteria for reducing the environmental impacts of these product groups which are available as part of the EU green public procurement criteria for cleaning products and services and office building construction, which already include technical specifications, award criteria and contract performance clauses.[13] For example, concerning EU green public procurement criteria for office building design, construction and management[14]: each material and finish selected for the fit-out of the offices shall comply with the following emissions limits in table below. This requirement shall apply to: ceiling tiles, paints and varnishes, textile floor and wall coverings, laminate and flexible floor coverings and wooden floor coverings. Materials and finishes emission limits:

Product	Emissions limits (µg/m³)	
	3 days	28 days
TVOCs	10,000	<2,000
Formaldehyde	-	<120

These and many other already defined criteria for the green public procurement can be used as a reference by the Ukrainian contracting authorities to make sure the goods they procure are in line with Ukrainian, European and international environmental standards.

However, among the contracting authorities you can often hear the argument that 'green'/'organic' labelled and certified products are more expensive than others and therefore

[12] This was done under the "*Greening Economies in the European Union's Eastern Neighbourhood*" (EaP GREEN) programme which is part of the EU's Partnership for Environment and Growth. The reports are available at: http://www.green-economies-eap.org/topics/sustainablepublicprocurement/

[13] Available at: http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

[14] COMMISSION STAFF WORKING DOCUMENT 'EU GPP Criteria for Office Building Design, Construction and Management', Brussels, 20.5.2016, SWD(2016) 180 final

it will be a waste of money to buy the more expensive ones. In such cases it is important to mention that buying green doesn't always mean you spend more, you just need to look at the long-term perspective.

In some cases, green goods and services will cost less overall, particularly if they save energy or are more durable. One way of determining whether this is true is by applying life-cycle costing (LCC) - a technique which is discussed in Guidelines published by the EU Project *"Harmonization of the Public Procurement System in Ukraine with EU Standards"* in 2016.[15] The Guidelines reveal an example that the City of Vienna saved €44.4 million and over 100,000 tonnes of CO2 between 2004 and 2007 only through its *"EcoBuy Programme"*.[16] Also, a market research carried out in advance of tendering can help to determine both the availability and cost of green products in the relevant sector. Studies carried out in EU countries have shown that green public procurement can have a broader economic impact.[17] For example, including environmental criteria in public tenders may help businesses to compete internationally and assist small and medium-sized enterprises (SMEs) in building market share.

Thus, using the green public procurement may help Ukrainian companies who produce 'green'/organic certified goods and therefore help to build economic growth to the new sectors which are less energy intensive and polluting. Every year there are more and more companies in Ukraine who start their business thinking 'green' and taking care of the environment. Thus, the contracting authorities must think in the long-term perspective, apply life-cycle costing analysis and include more clear 'green' criteria to the technical specification documents. In the end this 'green' policy will benefit the society in whole, it will lead to the more efficient use of the taxpayers money and will be the most beneficial for the environment.

Moreover, a 2015 analysis of market readiness for green public procurement in Ukraine found that, for the prioritized product groups (paintwork materials, detergents and heat insulating materials), a range of environmentally preferable products exist on the Ukrainian market. Many of these carry third-party eco-labels and some are cheaper than more polluting or energy intensive products.[18]

[15] Available in Ukrainian and English at: http://eupublicprocurement.org.ua/public-procurement-strategy-andlegislation.html

[16] Klimaschutzprogramm "ÖkoKauf Wien" spart CO2 und Geld (City of Vienna, 2008) available at: www.wien.gv.at/rk/msg/2008/0326/011.html

[17] Bauer, B., Christensen, J., Christensen, K, Dyekjær-Hansen, T., and Bode, I (2009) Benefits of Green Public Procurement Nordic Council of Ministers. Edquist, C., Vonortas, N. S., Zabala-Iturriagagoitia, J. M., & Edler, J. (2015) Public Procurement for Innovation Cheltenham: Edward Elgar Publishing.

[18] State Environmental Academy of Postgraduate Education and Management of the Ministry of Ecology and Natural Resources of Ukraine (2015) Market Readiness (Final Report), pp 8-14.

2.6. Conclusions

Green public procurement criteria are widely used in the European Union by contracting authorities, which in the end brings benefits to the economy and helps protect the environment.

The Law of Ukraine "On Public Procurement" of 2015 also reflects the possibility of the contracting authorities to use such 'green' criteria and they are doing this already as we have seen from the examples. However, this is only the beginning and much more often use is desirable. The most important is that all contracting authorities have to understand what green procurement is about, they have to make market researches to understand the environmental impact of their decisions and apply life-cycle cost analysis in advance. In this regard, training of the contracting authorities is important to raise the awareness about green procurement practices and how such criteria could be applied in Ukrainian context.[19]

Moreover, in the Ukrainian context, a prioritization exercise was carried out in 2015 with the cooperation of 75 bodies procuring under the central budget fund to define spheres which are the most suitable to start using green procurement criteria. The next step would be to use available green criteria on practice and to identify even more goods and services, which could be procured using green criteria as this can be beneficial for the economy and environment. Products, which consume less energy, are more durable, or which create less waste can save money across their life-cycle. And in addition green public procurement is a great instrument for innovation, development and research.

[19] See available free online courses on public procurement for contracting authorities on www.prometheus.org.ua

3. Best practices on GPP

3.1. Examples of GPP in Ukraine

In this chapter procurements in Ukraine are presented that include at least one environmental criterion (from the product sheet) in the frame of the:

1) Exclusion criteria from participation in procurement procedures; and/or
2) Award criteria; and/or
3) Terms of reference (TOR) / technical specifications.

The data from the desk-research on the public procurement portal www.prozorro.gov.ua finalized in July 2017 are presented in the following table:

CVP code	Number of tenders	Exclusion criteria. Environmental requirements in the technical specification	Environmental non-price award criteria	Important comments
90919000-2 Office, school and office equipment cleaning services	1	Only general requirement to follow environmental protection legislation by contractor	no	
39830000-9 Cleaning products	1 641 (only 10 random were analyzed)	1 – the products should not harm environment 3 – products should comply with State standards on cleaning products 1 – should be allowed to be used in educational establishments	no	
09310000-5 Electricity	11 593 (only 10 random were analyzed)	No technical specifications, as negotiations procedure was applied in all cases	No (either n/a)	No specific requirements were found in the agreements (e.g. Co-generation of energy, use of renewable sources of energy), only general clauses in 9 out of 10 agreements on preventing harm to environment and following the legislation in place.
09323000-9 District Heating	1 256 (only 10 random were analyzed)	no	no	
09330000-1 Solar energy	6	No, but the object of procurement is environmentally friendly in itself.	no	Procurers were not state level agencies, but municipal bodies or public enterprises

CVP code	Number of tenders	Exclusion criteria. Environmental requirements in the technical specification	Environmental non-price award criteria	Important comments
30210000-4 Data processing machines (hardware)	1 081 (only 10 random were analyzed)	No characteristics on durability, energy efficiency or end-of-life management. All tenders include mandatory requirement on the warranty and service (usually the period required was 12-24 months).	no	
30231000-7 Computer screens and consoles	25 (only 10 random were analyzed)	1 – contained requirements on minimum energy efficiency of monitors; durability of materials. 1 – on availability of the service center in the region. All tenders include mandatory requirement on the warranty and service (usually the period required was 12-24 months).	no	
30197630-1 Printing paper	888 (only 10 random were analyzed)	No requirements were found for the sustainable forest management characteristics or eco labelling. Procurers in tender documentation required high levels of brightness (usually more than CIE 145). In 1 case the procurer indicated environmentally friendly bleaching of paper as a tender specification (Elementary Chlorine Free (ECF).	No (either n/a)	
44621210-4 Water boilers	3	No	no	
9040000-0 Sewage services	862 (only 10 random were analyzed)	No	no	
33123200-0 Electrocardiographic (ECG) equipment, diagnostic	5	1 - minimum 12 months warranty	no	
6010000-0 Road transport services	332 (only 10 random were analyzed)	No	no	
03100000-2 Agricultural and horticultural products	34 (only 10 random were analyzed)	1 - without GMO; glass packaging for some products; specification “natural” was used (though there is no such term is UA legislation).	no	
45233252-0 Surface	4	no	no	

CVP code	Number of tenders	Exclusion criteria. Environmental requirements in the technical specification	Environmental non-price award criteria	Important comments
work for streets				
4530000-0 Construction work	372 (only 10 random were analyzed)	No	no	
39130000-2 Office furniture	604 (only 10 random were analyzed)	1 - general requirement in tender documentation on “ecologically clean materials”	no	1 - the furniture has to be brand new from new materials (anti-GPP qualification)
50232000-0 Maintenance services of public-lighting installations and traffic lights	69 (only 10 random were analyzed)	No	no	

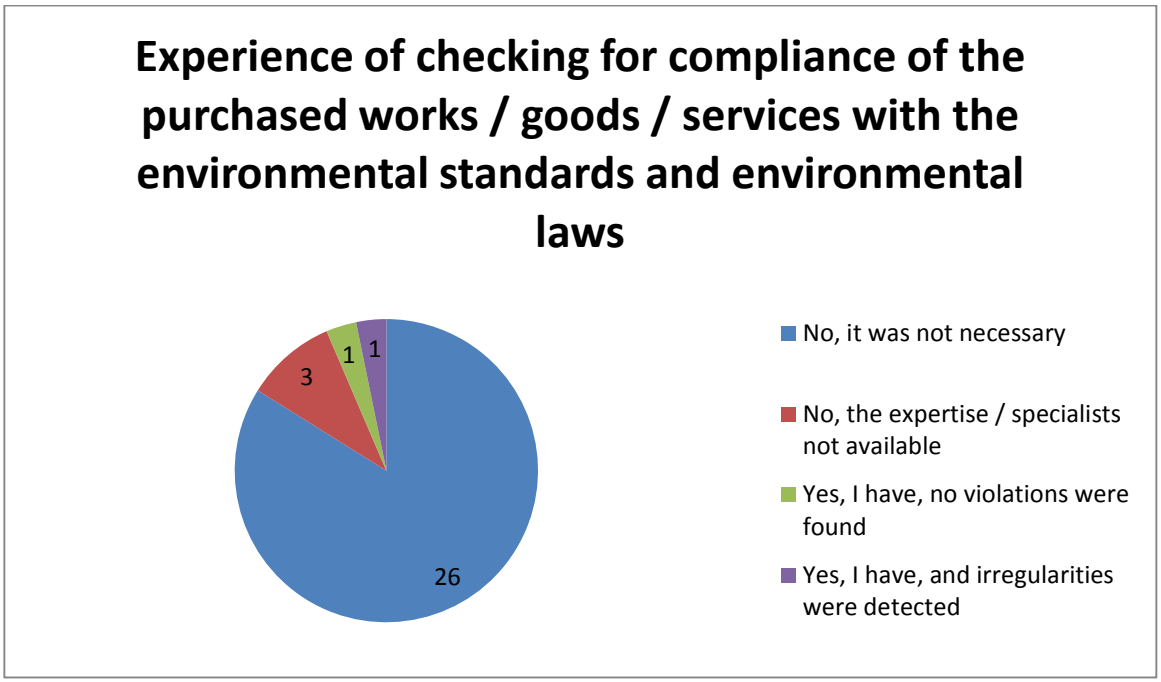
3.2. Results of the questionnaire

Results of the questionnaire-based survey of public authorities and local self-governments finalized in October 2017 are presented in the following:

1. Most of the respondents are employed in the economics departments; financial units; tender committees of local state administrations.
2. All of the respondents are officials, involved in the process of organizing public procurement; therefore all questions reached its target audience.
3. The range of experience of the respondents in organizing public procurement and ranges from 6 months to 17 years.
4. Acquaintance of the respondents with the term “green public procurement” is following: 22 respondents know what it is; 17 do not know what it is; 11 heard about it but do not know for sure.
5. Most of the respondents expressed willingness to learn more about gpp. 32 respondents would like to know more about gpp; 10 of them are not sure but most probably would like to know; only 8 would not like to know.
6. The awareness of the respondents about Ukraine's commitments under the Association Agreement with the EU on implementation of "green procurement" in 2018-2019 years is following: 9 respondents have full information about it; 17 are aware, but would like to know more; 23 do not know, but I would like to learn about it and only 1 is ignorant and is not interested in receiving more information.
7. The question on attitude to green public procurement showed very positive results: 26 respondents support gpp because they think it will be useful for their Institution / Region / State; 20 respondents support the idea, but they think it will be difficult to implement; Only 4 respondents do not support it, because they do not understand its benefits; And no one

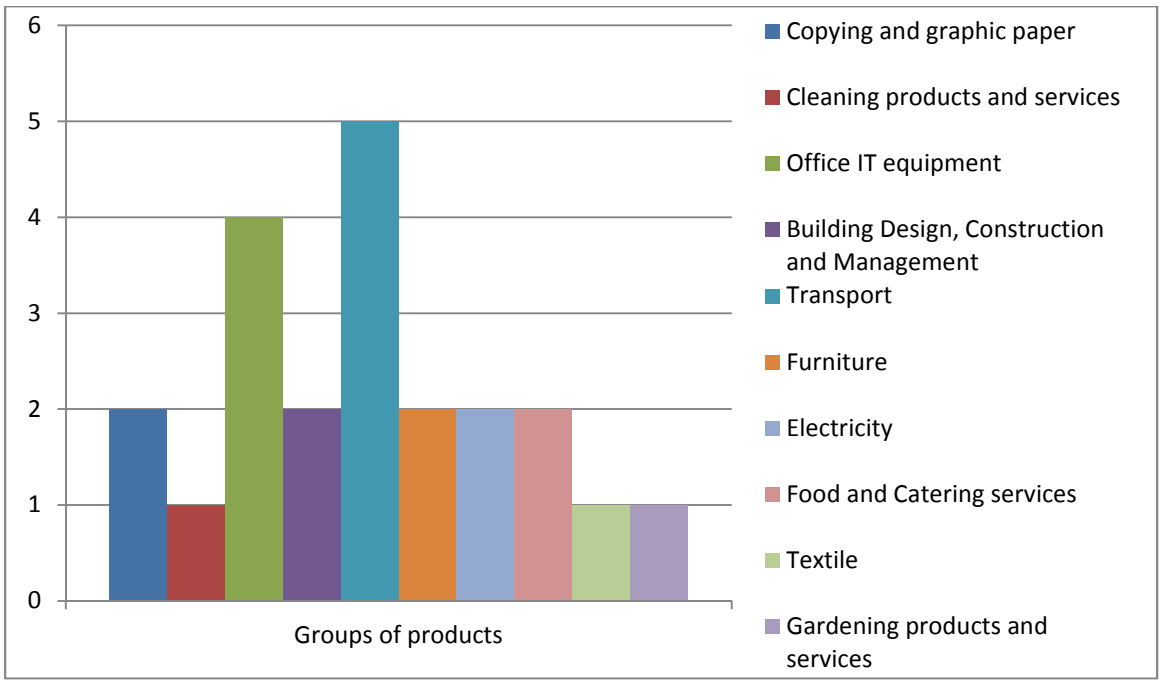
said that they do not support, because it's a waste of money and will not have any effect on the environment.

8. Question on awareness of the systems of certification of products, which are more environmentally friendly, showed following results: 25 respondents do not know about it; 25 respondents partly know about it, but do not use it; 0 respondents know about this system of certification and use in organizing public procurement. 49 respondents do not use environmental compliance certification for goods/works/services or for professional and technical capacity criteria for participation in procurement procedures during the formation of tender documents and only 1 respondent does. Such certification was used: EMS – ISO 14001 and - National environmental labels (Blue Angel, Scandinavian Swan, etc.). Unfortunately, respondent did not indicate, for which goods the certification was used.
9. Most of the respondents (34) did not take into account environmental criteria in the formation of tender documents and/or assessing proposals. Only 6 respondents did. They indicated such categories of goods: pollution of air for automobiles (1); harm for people's health for stationary and IT equipment (1); renewable energy sources for energy sources (1); energy saving for gas (3).
10. Any environmental criteria was used as award criteria only by 2 respondents (though they did not indicate examples), the rest 48 respondents did not use environmental criteria as award criteria.



Out of those categories, where compliance of the purchase with environmental requirement was checked: stationary and printed materials (conclusion of the state sanitary inspection was required); office IT equipment (state quality standard required).

14. Priority groups of products for which any of environmental requirements were used



15. The number of public procurements, where environmental requirements were used is 11. One procurer indicated, that they procured with environmental criteria for 3 years.
16. The amount of public procurement sums, which were held with use of any environmental indicators was: 1) 3,5 mln EUR; 2) 55 000 EUR 3) 3482 EUR.
17. 14 people indicated that they are interested in receiving more information on green public procurement.

3.2.1. Summary of the questionnaire

Analysis of the answers received supports the assumptions of the project team and gave more detailed information on specific level of knowledge and experience in the field.

The level of awareness about GPP and its aspects is moderate (for example more than a half of the respondents were aware about meaning of the term green public procurement, but more specific questions showed much less level about different aspects of GPP).

The level of implementing GOO in practice is very low, which was expected, as there is very vague legal possibility to implement it according to national legislation. Among the good practice cases the biggest number is among public procurements of energy sources (which could be connected with energy efficiency motivation).

Nevertheless the questionnaire showed very high level of interest on the topic and willingness to receive more information in future. The respondents left their contacts and could be involved in further activities of the project.

3.3. Conclusions on GPP practice in Ukraine

The initial data on revealed green criteria are presented above and these data are summarized here. There are quite few examples from the current year of procuring entities including environmental concerns in the tender dossier in Ukraine. But in most cases these are references to general requirements of environmental legislation. Frequently there is lack of specifics in the legislation and the criteria often merely make reference to mandatory requirements in Ukrainian legislation which in any case need to be fulfilled whether mentioned in the tender documents or not. It is therefore important to define more precise specifications even when the tender is not meant to go further than what the environmental legislation requires.

In other cases, the procuring entity merely requires in a general manner that the supply/service "must not harm the environment and provide measures for protection of the environment". It is in such cases not likely that the intention is to have bidders compete on "greenness" beyond what Ukrainian legislation requires. The procuring entities are in many cases presumably unable to be more specific because the legislation itself is general and with little guidance. The general nature of the requirements does in any case mean that it is entirely left to the bidders how to technically convert such types of criteria into more precise and verifiable proposals in their bids. In other words, there is uncertainty for contracting entities as well as bidders even in cases where the intention is merely for the tender to respect existing mandatory environmental requirements.

According to the Ukrainian legislation there is a minimum price criteria in awarding a contract (70%). Another 30% could be used for other criteria, including GPP criteria. Though 100 % of the analyzed procurements stipulated price as the only award criteria (in the cases when indication of award criteria was necessary according to Ukrainian legislation).

Exclusion criteria neither contained any specific "green" requirements, which would allow for procurers to choose more sustainable bidder. Only very generally formulated obligations to follow all environmental legislation was found in few cases. Though all bidders have to follow all existing legislation, including environmental one, therefore this criteria does not prioritize more environmentally friendly entities among others.

There are few examples of specific green criteria being used in terms of reference and technical specifications of tenders in such groups of works/goods/services:

- Agricultural and horticultural products: GMO free products; glass packaging;
- Electrocardiographic (ECG) equipment, diagnostic: minimum warranty;

- Printing paper: environmentally friendly bleaching of paper as a tender specification (Elementary Chlorine Free (ECF);
- Computer screens and consoles: requirements on minimum energy efficiency of monitors; durability of materials; availability of the service center in the region; mandatory requirement on the warranty and service (usually the period required was 12-24 months);
- Data processing machines (hardware): mandatory requirement on the warranty and service.

The above mentioned GPP technical specifications could be multiplied and easily used in these typical groups of good, procured by many public entities (especially IT equipment and printing paper).

Translation and dissemination of the product sheets into Ukrainian will be another useful tool to enhance GPP implementation to Ukrainian procurement practices.

3.4. Examples of GPP in Slovakia

3.4.1. Optimization of thermal management and thermal insulation

The contracting authority in the public procurement process has applied also some considerations, which support the principles of green public procurement. Specifically, within the specification, the contracting authority requested following requirements:

- Necessary to insulate the topdressing of the building by EPS facade polystyrene (material with less ecological defect)
    - *Verification of this requirement:* the claim is supported by the components from which the polystyrene EPS is produced
- The requirement to insulate the roof cladding.

The contracting authority, within the contracts conditions, also specified some GPP principles:

- The requirement that bulk material and any packaging material from the workpiece should be drove away to be disposed of in a regulated landfill of waste (to prevent disproportionately burden on the environment).

However, it should be noted that the contracting authority did not apply all the institutes that can be used in case of building insulation according to GPP principles. Proposals for using GPP principles within procuring similar subject of the tender can be divided into 3 main categories:

(i) Proposals relating to the specification of the subject of the contract,
(ii) Proposals relating to the terms of the contract, and
(iii) Proposals concerning the determination of the criteria for the evaluation of the tender.

(i) Specification of the subject of the contract

In determining the requirements for the subject of the contract, it is necessary to take into account all the circumstances that have the most significant impact on the environment - in

other words, thermal insulation requirements (with regard to the potential future renovation of the building in addition to its exterior and interior parts) should be set in such a way that the environmental impact is minimal, while it is important to follow the main objective of the building's thermal insulation – with the main aim to achieve energy savings. It is recommended to incorporate into the requirements of the specification of the subject contract the following conditions:

Specific requirements

- the conductivity of heat " λ "
- thermal resistance "R"
- fire safety of buildings
- weathering stability, moisture resistance - diffusion of air humidity
- the chemical content of the product
- waste
- consumer information
- packaging materials

Volatile Organic Compounds (VOC)

Construction products. VOC emissions from used building products must not exceed the relevant values in the European Standards for the determination of emissions of EN ISO16000-9-11 or an equivalent standard (for example, construction products must meet the test values set out in the German AgBB system to meet the minimum requirements of building codes for health protection against VOC emissions).

Exclusion of certain materials

Bidders must declare that the following materials / substances will not be used in the building:

- products containing sulfur hexafluoride (SF6).
- Inner paints and varnishes (Limit values obtained from the Community Ecolabel and corresponding standards like EN 13300) containing solvent (volatile organic compounds - VOCs with boiling point not more than 250 ° C) exceeding:
  - for wall paints (according to EN 13300): 30 g / l (without water);
  - for other paints with a yield of at least 15 m2 / l with a coverage of 98% opacity: 250 g / l (without water);
  - for all other products (including paints that are not paints on walls and ceilings) (less than 15 m2 / l, lacquers, wood stains, floor paints and floor paints and related products): 180 g / l (without water).

In the case of thermal insulation, it would be appropriate to take into account GPP recommendations, where the GPP Thermal Insulation Product Sheet also provides recommendations for purchase in the form of basic and detailed criteria.

(ii) Contractual requirements

It is recommended to identify following contract terms and conditions:

- the successful tenderer (contractor) takes the appropriate measures in environmental issues to reduce the amount of waste generated during the renovation of the building and to reuse this waste if applicable (as a means of verification it may be required from the contractor, for example, a written confirmation stating how the waste will be sorted, used or recycled).

(iii) Bid evaluation criteria

It is recommended to choose the criterion the most economically advantageous tender for the award of a similar contract, and except using criterion of the lowest total cost of the work use also:

- **sub-criterion** - **Use of building materials and products meeting certain environmental characteristics:** Applicants must indicate the percentage of the relevant product types, windows, paints, insulation materials to be used in construction (according to value) and manufactured in accordance with the requirements of the ISO 14024 type I eco-label, or to provide clear and transparent information on product properties based on product environmental statements - Type III environmental labeling. Additional points are allocated relative to the proposed percentages. Products awarded with the Type I environmental label will be deemed to conform to these characteristics. Alternatively, credible evidence that the requirements of a given Type I Ecolabel are met,
- **sub-criterion** - **Use of building materials from renewable raw materials:** tenderers must indicate the percentage of relevant product types, windows, paints, insulation materials from renewable raw materials to be used in construction (by value).

The environmental criteria for the evaluation of tenders should consist of a minimum of 10 to 15% of the total number of available points.

3.4.2. Public lightening modernization

The contracting authority in the public procurement process has applied also some consideration, which support the principles of green public procurement. Specifically, within the specification the contracting authority requested following requirements:

- replacement of existing luminaires with new LED lamps - lamps specially designed directly for LED sources, cooling only passive,
- replacement of switchboards for more efficient,
- Installation of management, remote administration and traffic monitoring, status and online management - the management system should allow an immediate change in the luminous flux of each individual luminaire. Each lamp or group of luminaires should have possibility for individual dimming diagrams for each day within year

These together with other requirements will result in savings of the public lighting system to a total of 260,656.46 kWh / year, which represents a reduction in the amount of CO2 of about 65.70 tons / year.

The contracting authority, within the contracts conditions, also specified some GPP principles:

- Requirement for the disposal and disposal of waste in accordance with the particular legal acts,
- ensuring and performing all necessary examinations, attestations and revisions in accordance with the standards relating to the subject matter of the contract.

However, it should be noted that the contracting authority did not apply all the institutes that can be used in case of building insulation according to GPP principles. Proposals for using GPP principles within procuring similar subject of the tender can be divided into 3 main categories:

(i) Proposals relating to the specification of the subject of the contract,
(ii) Proposals relating to the terms of the contract, and
(iii) Proposals concerning the determination of the criteria for the evaluation of the tender.

(i) Specification of the subject of the contract

When defining the requirements for the subject of the contract, it is necessary to take into account all the circumstances that have the most significant impact on the environment - in other words, the requirements for the reconstruction of public lighting must be determined in such a way that the impact on the environment is minimalistic.

The most significant impacts of public lighting on the environment are definitely the energy consumption in operation and with the associated greenhouse gas emissions. Other impacts on the environment could be caused by using of certain substances, mercury or light pollution, depending on where the lighting is located.

It is recommended to incorporate into the requirements of the specification of the subject contract the following conditions:

The most significant environmental impacts of public lighting	Access to Green Public Procurement in public lighting
• energy consumption in all phases, but especially during the operation of public lighting • high energy consumption when using traditional bulbs • use of natural resources; materials and generation of waste (hazardous waste but also non-hazardous waste) • possible air, soil and soil pollution water caused by the use of hazardous materials, mercury • light pollution in from public lighting	• provision of high-efficiency fluorescent lamps; lamps • provision of efficient ballasts • enforcing the purchase of lighting systems they have in ratio to the amount of light providing low power consumption • support for the devices which use LED diodes • support for the use of dimmable ballasts in cases, if possible • support for the fluorescent lamps and discharge lamp with lower mercury content • support for the use of lamps, u which is limited by the amount of light emitted above the horizon

(ii) Contractual requirements

It is recommended to identify following contract terms and conditions:

- the requirement that the successful tenderer (contractor) take the appropriate measures in environmental issues to reduce the amount of waste arising from the installation of a new or refurbished lighting system; and to reuse this waste, and to ensure that all fluorescent lamps, lamps and lamps are used; lighting controllers will be sorted and used in accordance with the Directive WEEE (as a means of verification it may be required from the contractor, for example, a written confirmation stating how the waste will be sorted, used or recycled),
- a requirement for the contractor to ensure that the lighting equipment (including fluorescent lamps and lamps, lamps and light bulbs lighting controls) were installed exactly according to the original drawing - this should prevent situation when the originals are replaced by products with lower quality the installation (as a means of verification may be required from the contractor, e.g. a written list of installed lighting accompanied by manufacturer's invoices or delivery notes),
- the requirement for the contractor to ensure that new or refurbished lighting systems and drivers are working properly and do not have more power consumption than required, i.e. that (a) the drivers work depends on the daylight are calibrated to ensure that the lights will be switched off in case of enough daylight, (b) the time switches are set to the appropriate switching off times to meet the visual requirements and at the same time, energy consumption is not increased excessively, (as a means of verification may be required from the contractor, for example, written statement by the contractor that the appropriate calibration adjustments have been made).

(iii) Bid evaluation criteria

It is recommended to choose the criterion the most economically advantageous tender for the award of a similar contract, and except using criterion of the lowest total cost of the work use also:

- Sub-criterion - saving from energy efficiency,
- Sub-criterion dealing with light limitation - points are awarded for lights in proportion to the limitation of light emitted above the horizon beyond the required standards, without any negative impact on the overall energy efficiency of the system for which it is proposed,
- Sub-criterion dealing with light dimming - if damping is required and / or beneficial - the points are awarded in proportion to the percentage of damping in relation to light source output.

The environmental criteria for the evaluation of tenders should consist of a minimum of 10 to 15% of the total number of available points.

3.4.3. Non-price criteria

The last stage of the procurement procedure is the contract award. In this stage, the contracting authorities evaluate the quality of the offers that complied with the technical specifications in order to choose the most appropriate one.

There are 2 ways of awarding a contract, based on:

a) Lowest price;
b) Most economically advantageous offer.

In the first case, the final decision is based solely upon the price of the bids. Therefore, if no environmental criteria have been defined in previous stages, there is no opportunity to include them at this stage. If this option is chosen, it should be ensured that environmental criteria are introduced in the technical specifications.

If the principle of the "most economically advantageous offer" is applied, other award criteria can be taken into account, along with the price. These criteria may concern quality, delivery date, technical merit or environmental characteristics for example. In this case, it is very important that environmental award criteria are:

- related to the subject-matter,
- objectively quantifiable,
- weighted in relation to the other award criteria (arranging them in decreasing order) and,
- clearly defined in the tender documents in order to guarantee transparency.

Using the award phase to introduce environmental criteria can be a good idea if there is an uncertainty about the availability or cost of the more environmentally friendly product/service. Introducing environmental award criteria basically says that "greener" products are preferred; however if they are much more expensive they will not be selected. The "weight" that is given to the environmental criteria in the evaluation will determine how much extra the contracting authority is willing to pay.

It is possible to include environmental award criteria even if minimum environmental standards are included in the specifications – this provides an opportunity to reward even better performance.

3.4.3.a) Use of non-price criteria: Personal computers and notebooks

Evaluation of the most economically advantageous offer

1. Criterion = price (recommended relative weight max. 85%)
2. Criterion* = Simplicity of dividing the product into smaller parts and recycling of the plastic parts
3. Criterion* = energy consumption even lower than that defined in the technical specifications

* The sum of the environmental criteria – total recommended relative weight min. 15%

Criterion # 2:

Additional points are allocated for simple dividing the product into smaller parts and recycling of the plastic parts, that means in case:

- the connections of the parts are easily to find, they are available with common tools and they have the highest level of standardization.
- Plastic parts weighing more than 25 g have permanent label with the specification of the material according to ISO 11469: 2000 or equivalent. From this characteristic are excluded extruded plastic materials and the light flats of panel displays. The plastic parts must consist of one or more compatible polymers, but the the cover must consist of at most two kinds of polymers which can be separated.

Verification of criterion # 2:

Test report confirming the simplicity of dividing the product to smaller parts. It must contain an schema of a personal computer marked with the main parts and all hazardous substances. It may be in written or audiovisual form. Information on hazardous substances must be submitted to c to the contracting authority in the form of a list of materials, indicating the type of material, quantity and location.

Criterion # 3:

Energy consumption even lower than that defined in the technical specifications

Verification of criterion # 3*:*

Manual with information regarding Total energy consumption of the computer or other proof confirming the above mentioned characteristic.

3.4.3.b) Use of non-price criteria: Catering services

Evaluation of the most economically advantageous tender

1. Criterion = price (recommended relative weight max. 85%)
2. Criterion * =% of the products of the organic sources above the minimum requirement in the technical specification
3. Criterion * = Recyclability secondary and / or transport container min. 45%
4. Criterion * = Packaging material made from renewable raw materials
5. Criterion * = Possibility of individual delivery

   * The sum of the environmental criteria - recommended relative weight min. 15%

Criterion # 2:

Additional points will be allocated for an additional share of products coming from organic sources above the minimum requirement in the technical specifications.

Verification of criterion # 2:

- EU Ecolabel Certificate.
- A Type I environmental label if it states that it meets the above characteristics.
- Other proof confirming the above mentioned characteristic.

Criterion # 3:
Other points are allocated in % proportion of the products which are delivered within the secondary and / or transport packaging with recycled content more than 45%.
Verification of criterion # 3:
Signed declaration stating that the environmental characteristics are fulfilled.

Criterion # 4:
Further, the points are allocated for the percentage of products which are delivered in the packing material made from renewable raw materials.
Verification of criterion # 4:
Signed declaration stating that the environmental characteristics is fulfilled

Criterion # 5:
Further, the points are allocated for the percentage of products which are not delivered piece by piece.
Verification of criterion # 5*:*
Signed declaration stating that the environmental characteristics are fulfilled.

3.4.4. Eco-label

The Energy Labelling Directive (2010/30/EU) establishes a framework for labelling and consumer information regarding energy consumption. Initially established for household appliances, the scope of the Directive has been extended to energy-related products, which are likely to have a direct or indirect impact on the consumption of energy and potentially of other resources during use.

The Energy Labelling Directive is a framework directive that mandates the Commission to propose, by means of delegated acts, details relating to information to be provided on the label and in the fiche for each type of product. Products are ranked, according to their energy consumption, on an A to G scale with colors from dark green to red. The implementation of the Energy Labelling Directive is linked to the Eco Design Directive (2009/125/EC): requirements and benchmarks defined for individual product group under the Eco design Directive are used as references for setting the energy labelling classes.

The labels also give other useful information to the customer as they choose between various models of the products. The information should also be given in catalogues and on retailer's websites.

Under EU procurement law ecolabels may be used in public procurement – both as a source for environmental criteria for specifications or the award phase, and as a form of verification - providing a number of conditions are met:

- it is not allowed to demand that a product carries an ecolabel; it may be only indicated that the criteria underpinning a certain ecolabel are met, and that it may be used as one form of proof of compliance
- only those ecolabel criteria can be used, which can legally be used in public procurement – i.e. only criteria which refer to characteristics of the product or service itself or production processes, not those relating to the general management of the company.

3.4.4.a) Use of Eco-label: Cleaning products

Requirements within Specification:
All offered cleaning products must meet the ecological criteria of the European Ecolabel.
Verification:
Products carrying the European Ecolabel will be deemed to comply. Any other appropriate means of proof will also be accepted, such as a technical dossier of the manufacturer or a test report from a recognized body.
Award Criteria:
Additional points will be awarded to products that meet the ecological criteria of the European Ecolabel

3.4.5. Energy Performance Contracting

GES - Energy Service Guaranteed is better known (internationally) under the name EPC - Energy Performance Contracting (hereinafter as „**GES**").

Energy Performance Contracting (EPC) is a form of 'creative financing' for capital improvement which allows funding energy upgrades from cost reductions. Under an EPC arrangement an external organisation (ESCO) implements a project to deliver energy efficiency, or a renewable energy project, and uses the stream of income from the cost savings, or the renewable energy produced, to repay the costs of the project, including the costs of the investment. Essentially the ESCO will not receive its payment unless the project delivers energy savings as expected.

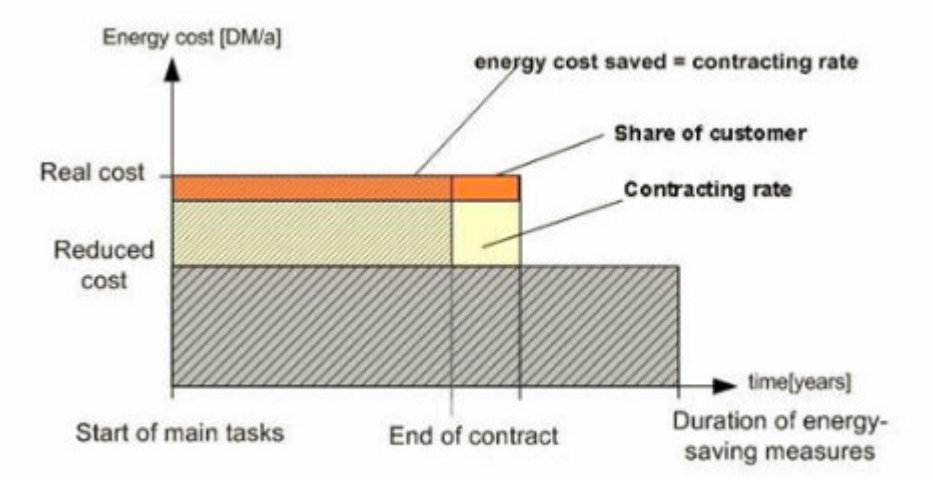
The approach is based on the transfer of technical risks from the client to the ESCO based on performance guarantees given by the ESCO. In EPC ESCO remuneration is based on demonstrated performance; a measure of performance is the level of energy savings or energy service.

The standard project implementation process consists of the following phases:
❶ Preparation of the project → ❷ Selection of the GES Provider → ❸ Planning and Implementation of Measures → ❹ Guarantee and Repayment Period / Verification of Savings → ❺ Implementation of Corrective Measures

EPC is a means to deliver infrastructure improvements to facilities that lack energy engineering skills, manpower or management time, capital funding, understanding of risk, or technology

information. Cash-poor, yet creditworthy customers are therefore good potential clients for EPC. Figure 2 illustrates the concept.

Figure 2. Energy Performance Contracting



Source: Berliner Energieagentur GmbH

4. Conclusions

4.1. Barriers

The research of the legislative framework of GPP in Ukraine showed that GPP is promoted in Ukrainian legislation mostly on the level of principles and general declarations norms, but it lacks detailed description of the implementation mechanism.

Market researches show that there is very limited amount of green goods, works and services on the Ukrainian market. This could be compensated by imported goods. Though according to the Ukrainian legislation the principle of non discrimination of foreign bidders is declared, usually foreign bidders are limited in access to Ukrainian procurement procedures due to language barrier and requirement of relevant experience. Therefore suppliers who can supply more sustainable goods/works or services do not participate in tender procedures.

Procurers avoid using even those instruments for GPP, which are available in acting legislation (e.g. non-price award criteria) as they are afraid to be accused of misuse of public finances. One of the possible reasons could be that they have low awareness about GPP and its benefits, which was supported by the results of the questionnaire.

4.2. Opportunities

Implementing the norms of the Ukraine-EU Association Agreement will give the opportunity for Ukraine to include EU sustainable development and GPP norms to the Ukrainian legislation. Until 2019 the relevant legislation has to be developed and adopted.

Since 2016 the Deep and Comprehensive Free Trade Agreement came into force, according to which many barriers (e.g. many tariffs) were lifted. Therefore it gave possibility for producers and procurers to much bigger market of more intensive trade between Ukraine and EU, including trade of sustainable goods/works/services.

On the national level in Ukraine there is a pilot project of creating the Central Procuring Entity, which would be more professional and perform centralized procurement of typical goods/works/services for public entities. If procurers of this entity will be trained on GPP, they would implement greener choices on everyday level which would increase drastically the number of GPP in Ukraine. So far it has been launched as a pilot project for few ministries and one regional administration.

4.3. Recommendations

1) First of all the main recommendation is to create favorable legislative framework for GPP in Ukraine. It should include at minimum implementing relevant norms of EU legislation on public procurement with further elaboration of detailed by-laws, which would be clear for most procurers.

2) Even before the new legislation is developed and passed some existing components of introducing GPP should be used, like non-price award criteria, qualification criteria.

3) Trainings and awareness raising activities for procurers of all levels about GPP and its benefits are crucial alongside with introducing new legislation. Without proper application these norms can remain unused. Therefore it is needed to develop clear and detailed information materials for different types of procurers and products. One of such practical tool could be including information on GPP to information library for procurers (situated at http://infobox.prozorro.org/) and managed by the state enterprise, which is managing the public procurement portal.

4) Performing a new market research on green products and services which would take into account new trade agreements and new markets of Ukraine.

Annex 1

The survey on Green Public Procurement (GPP) for representatives of state and local authorities implementing public procurement

QUESTIONNAIRE

1. Full Name (Optional)

2. The authority, you are working with
   - State
   - Self-administration (municipal, regional)
   - Other (please specify)

3. Position held
   - Manager
   - Staff responsible / dealing with public procurement
   - Other staff

4. How many years are you performing duties related to the organization of public procurement?

5. Are you aware about "Green Procurement" term?
   - Yes
   - I heard about it, but not sure what it is
   - No

6. Would you like to learn more about "green procurement"?
   - Yes
   - Maybe, not sure
   - No, I would rather not
   - Other (Please specify) _____

7. Do you know Ukraine's commitments under the Association Agreement with the EU on implementation of "green procurement" in 2018-2019 years.?
   - Yes, I have full information about it
   - Yes, but I would like to know more
   - No, but I would like to learn about it
   - No, I'm not interested
   - Other _____

8. What is your attitude towards the introduction of "green procurement" in Ukraine and in your workplace in particular?
   - I support it, I think it will be useful for our Institution / Region / State
   - I support the idea, but I think it will be difficult to implement
   - I do not support it, because I do not understand its benefits

- I do not support, because I'm sure it's a waste of money and will not have any effect on the environment

9. Are you aware of the systems of certification of products which are more environmentally friendly? (ISO, labeling of organic food products, EMAS (Environmental Management and Audit Systems etc.)?

- No
- Yes, I partly know about it, but do not use it
- Yes, I know about this system of certification and use in organizing public procurement

10. Do you use environmental compliance certification for goods/works/services or for professional and technical capacity criteria for participation in procurement procedures during the formation of tender documents?

- Yes
- No

If yes, please specify which certification for which goods/works/services do you use?

- QMS – ISO 9000, for: ……..
- EMS – ISO 14001, for: ……..
- EMAS (Environmental Management and Audit Systems)
- European Union Ecolabel , for: ……..
- National environmental labels (Blue Angel, Scandinavian Swan, etc.) for: ……..
- Energy label or EU Energy Star , for: ……..
- Other (please specify), for: ……..

11. Please indicate whether you take into account environmental criteria in the formation of tender documents and / or assessing proposals?

- Yes
- No

If yes, which of the following criteria and for the procurement of which goods / works or services you use it and provide examples?

- energy savings or energy efficiency, for ……..
- Water savings, for: ……..
- Consumption of raw materials, for: ……..
- Content of dangerous substances, for: ……..
- Pollutants (water air, soil), for: ……..
- Pollutants (human health), for: ……..
- Renewable energy sources, for: ……..
- Bio / organic food, for: ……..
- Environmental waste management, incl. prevention of waste production, for: ……..
- Reducing packaging, for: ……..
- Recycled materials, for: ……..

12. Have you ever used any environment criteria as award criteria?

- Yes
- No

If yes, provide, please, examples for which goods/works/services products you have used. Approximately, what is the percentage of such criteria in assessing the proposals

13. Please indicate whether you ever checked for compliance of the purchased works / goods / services with the environmental standards and national environmental laws? (Eg. license, chemical composition, environmental friendliness during production, etc)

- No, it was not necessary
- No, the expertise / specialists not available
- Yes, I have, no violations were found
- Yes, I have, and irregularities were detected

If yes, please indicate what have you checked?

14. Please indicate for which priority groups of products you have used any of the above indicated environmental requirements:

- Copying and graphic paper
- Cleaning products and services
- Office IT equipment (computers and monitors, imaging equipment)
- Building Design, Construction and Management
- Transport
- Furniture
- Electricity
- Food and Catering services
- Textile
- Gardening products and services

15. Please indicate the number of procurements, in which you have used the environmental requirements:

16. Please indicate the amount (in UAH) of procurements, in which you have used the environmental requirements:

17. If you are interested to receive more information on GPP please provide your e-mail contact. We will inform you on the project and its products and events.