



# Green Public Procurement in Lithuania: Volumes and Possibilities for Environmental Impact Reduction

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Green public procurement is a public procurement, which integrates environmental considerations into the public procurement process, and it is considered to be an appropriate tool seeking to reduce negative impacts on the environment. Therefore this paper aims to analyze results of green public procurement implementation in Lithuania over the 2008 – 2010 year period, considering its scope and possibilities for reducing environmental impacts.

It is determined that practical implementation of green public procurement in Lithuania is not smooth and is far from achieving the objectives yet. In 2008 green procurement amounted to 8.3%, in 2009 – 6.1%, in 2010 – 5.8% of the total number of public procurements performed. The biggest share of performed green public procurement is applied for works (82%), mainly related to the construction. However, some possibilities to reduce environmental impacts in terms of CO<sub>2</sub> have been missed. To compare to the benefit achieved, estimations show that in the case of personal computers, printers and vehicles, 126 - 150 tons of CO<sub>2</sub> could have been saved additionally per year, if environmental criteria had been applied to 50% of particular performed procurements. Hence, it is especially important to speed up the development of green public procurement in Lithuania, ensuring not only lowering negative impact on the environment, but also developing the market for environment-friendly goods and services.

Keywords: *environmental impact reduction, green public procurement.*

## 1. Introduction

Green public procurement (GPP) is a public procurement, which integrates environmental considerations in the public procurement process and takes into the consideration the entire life cycle of the product or service (CEC 2008). In addition, it is considered to be appropriate and one of the most effective tools seeking to reduce negative impacts on the environment (EEA 2008, Evans et al. 2010, de Leonardis 2011). It is estimated that applying GPP some countries have reached considerable environmental impact reductions in terms of CO<sub>2</sub> (PricewaterhouseCoopers, Significant and Ecofys 2009). De Leonardis (2011) suggests that 60 million tons of CO<sub>2</sub> could be saved if all public entities in the EU would require all electricity supplied to be green.

Quite a big share of public expenditure of governmental and public institutions is allocated for public procurements (PP). Governmental procurements account around 17% of gross domestic product in the EU (<http://ec.europa.eu>). Hence, these volumes create high possibilities to perform GPPs and influence the solutions of both environmental impact reductions and sustainable development targets (CEC 2008), as well as the whole economy (Michelsen, de Boer 2009).

Lithuanian government has approved the National Program for the Green Public Procurement Implementation 2007. The aim of this program is to promote GPP and ensure that purchased goods and services would be as environment friendly as possible (National Program for Green Public Procurement

Implementation 2007). Lithuanian national strategy for sustainable development (NSSD 2009) also aims to reach the level of the leading EU countries in GPP application until 2020. Hence, this is quite a challenging target, as in some countries GPP accounts to 50% and more of all PP (Evans et al. 2010).

Despite the fact that the concept of GPP was theoretically grounded in 2007, practical aspects of implementation and achieving these goals have not been analyzed in Lithuania. Therefore, the aim of this study is to analyze results of green public procurement implementation in Lithuania over the 2008 – 2010 year period, considering its scope and possibilities for reducing environmental impacts.

The paper is structured as follows. First some methodology issues are presented. In section 3.1 the volumes and main procurement object groups of GPP in Lithuania are presented. Section 3.2 presents some missed possibilities of environmental impact reductions of three product groups. And at the end some conclusions are drawn.

## 2. Methods

Data for the study are obtained from the Public Procurement Office of Lithuania. Possibilities of GPP for mitigation of an impact on the environment are estimated referring to the results of the Study on Integrated Environmental Impact of Implemented Public Procurement (Study on integrated... 2008).

Overall volumes of PP and GPP, structure according procurement object and main products groups, as well as main purchasers are analyzed and presented in the paper.

Estimating a potential for environmental impacts reduction, it was assumed that 50% of all purchased goods would have been “light green” or “dark green” depending on the environmental criteria applied. “Light green” is considered to be a product with up to 3 environmental criteria applied, “dark green” with 3 and more environmental criteria, mainly related to energy consumption (Study on integrated... 2008). The particular environmental criteria are not specified in the study, as the study is aiming not at the efficiency of different criteria, but at overall environmental impacts mitigation possibilities of GPP.

The potential for environmental impact mitigation of GPP was expressed in greenhouse gases - CO<sub>2</sub> amount (on the CO<sub>2</sub> calculations and related methodology see more in the Study on Integrated... 2008). The threshold of 50% was chosen according to the expressed goals to reach the most advanced EU countries in the field of GPP (NSSD 2009), having in mind that GPP amounts to half of all public procurements in some leading countries of the EU (Evans et al. 2010).

## 3. Results and Discussion

### 3.1. Trends and volumes of GPP in Lithuania

Recently the number of public procurement contracts (except the year 2009 due to the economic crisis) is significantly growing in Lithuania. Over the period of 2001 – 2010 the number of public procurements nearly tripled. The financial EU support has significantly increased the number of purchasing institutions which have to follow the Law on Public Procurement (1996). Hence, this has led to the increase in the number of the public procurement contracts, too (Figure 1). The value of performed PP amounted to 10.9 billion of litas in 2010. After the launching of the Green Procurement Policy in 2007 in Lithuania, environmental criteria started to be applied to public procurements. Environmental criteria were applied to 729 processes of PP in 2010 (Figure 1). However, it is noticeable that practical implementation of GPP in Lithuania is not smooth and is far from achieving the foreseen objectives yet. It has been estimated that in the year 2007 GPP accounted to 5 % of all public procurements.

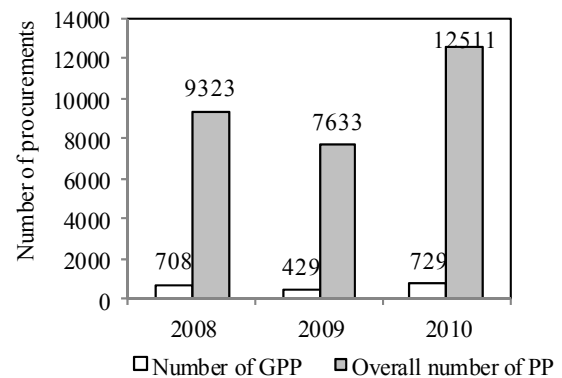


Fig. 1 Number of overall and GPP in Lithuania during 2008 – 2010 (Source: Public Procurement Office)

After the launching of GPP policy in Lithuania, when more accurate data started to be collected, GPP made up 8.3% in 2008, 6.1% - in 2009, 5.8% - in 2010 of the total number of public procurements performed. Meanwhile, the strategic objective expressed in the National Program for Green Public Procurement Implementation (2007) is to reach 25% in Lithuania in 2011. For example, in Nordic countries (Finland, Sweden and Denmark) even in 2005 the environmental criteria were included in 66% of tender calls (Nissinen *et al.* 2009).

Then analyzing the value of performed procurement, GPP made up to 18.4% of the value of all public procurement (1641.1 million LTL) in 2010 (Figure 2). Nevertheless, it is worth mentioning that over the short history of GPP in Lithuania, the monetary value of performed GPP is also decreasing (Figure 2).

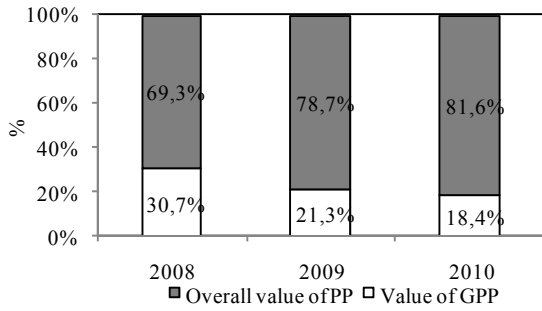


Fig. 2 Structure of performed PP value over 2008 – 2010 in Lithuania (%). (Source: Public Procurement Office)

The biggest share of performed GPP is applied to purchased works (82.1%), mainly related to the construction (Figures 3, 5). Services accounted to 9.3% and goods - to 8.6% of all value of GPP in 2010 (Figure 3). The share of the value of goods and services is on a slightly increasing trend.

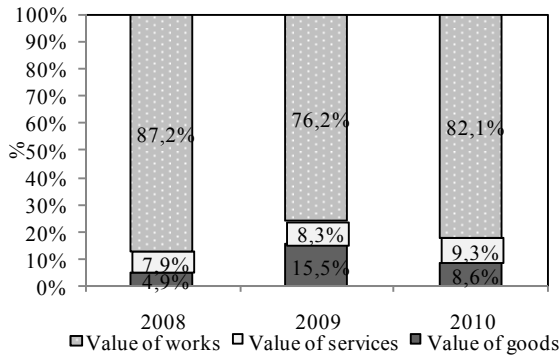


Fig.3 Structure of the GPP value according to the procurement object over 2008 – 2010 (goods, services, works, %). (Source: Public Procurement Office)

According to the National Program for Green Public Procurement Implementation (2007) governmental organizations have to apply environmental criteria to their procurements. As results show the organizations which must perform GPP performed only 211 GPP in 2009 and this was only 6.1% of all procurement those organizations had performed during that year (Figure 4). Undoubtedly, it should be positively evaluated that the value of GPP was much higher and amounted to 24% of overall PP value of organizations which must apply environmental criteria to their PP.

However, rather a low number of GPP could be determined by some lack of political commitment like clear and applicable GPP procedures, particular targets and defined responsibilities.

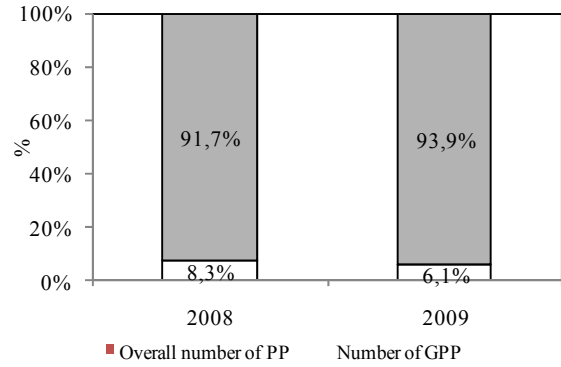


Fig. 4 Structure of PP by the institutions that must apply environmental criteria to their procurements over 2008 – 2009 (%). (Source: Public Procurement Office)

Then analyzing main product and service groups to which environmental criteria were applied most, it is seen that construction works account to more than 80% of all products and services purchased (Figure 5). This includes motorway construction, road maintenance and repair, school construction and renovation, street construction, etc. Architecture, construction and engineering services made up 2.7%, agriculture, forestry horticulture, and aquaculture and apiculture services - 3.1% of all purchased products and services, according their value (Figure 5).

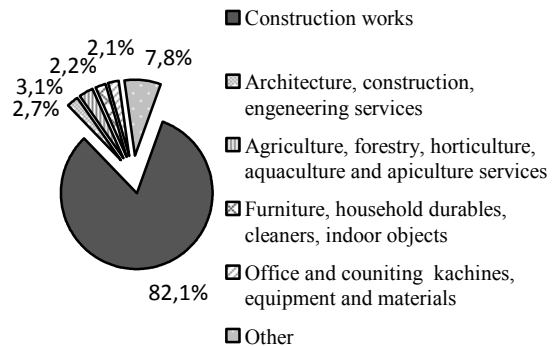


Fig. 5 Main object categories of green procurement in 2010 (%). Source: Public Procurement Office

Among the institutions, which have to apply environmental criteria to their procurements, the biggest share of GPP contracts (according to the green procurement value) in 2009 was allocated to the Lithuanian road administration (34%), public institution “Plačiajuostis internetas“ (12%) and the Municipality of Druskininkai (5%). State company “Regitra” performed 5% of all GPP, “Lietuvos geležinkeliai” – 2%, according to their monetary value (Figure 6). This could be associated mostly with the investment in infrastructure and application of environmental criteria for the purchasing construction works and services.

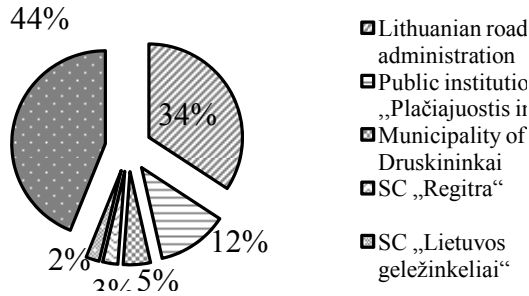


Fig. 6. Top GPP enterprises according to the GPP value (%). (Source: Public Procurement Office)

Summing up the results of the volumes of GPP it should be stated that relatively high commitments are foreseen and some progress is going on. However, the number and the value of performed GPP are low and insufficient to compare to the foreseen goals and expected environmental-economic benefits.

One of the obstacles for a wider application of environmental criteria to public procurement is lack of “green” products and services in the market, as well as the notions that “green” products are more expensive. Also there is a prevailing lack of information on the benefits and resource

consumption, and environmental pollution over the whole life cycle of products and services. The barriers also include insufficient knowledge on environmental criteria and practical experience on GPP application. Furthermore, not clear responsibilities in GPP, rather unambitious or nonexistent political will and absence of responsibility for environmental impacts during the whole product or service life cycle harden a wider application of GPP to practise.

Nevertheless, it is important to proceed with the foreseen strategic goals, provide relevant information and support GPP specialists (with examples of procurement technical specifications, website, etc.) and business (on investments in green technologies, green markets, possible benefits and possibilities, etc.), spread best practice examples and strengthen political commitment at the national and local level. As de Leonardis (2011) states more mandatory behaviour rather than recommendations are needed in this area. And according to Michelsen and de Boer (2009) very often the cheapest offer overcomes environmental arguments in the purchasing processes, even if purchaser indicated preference to environmental aspects of the product or service in the tender (Nissinen *et al.* 2009).

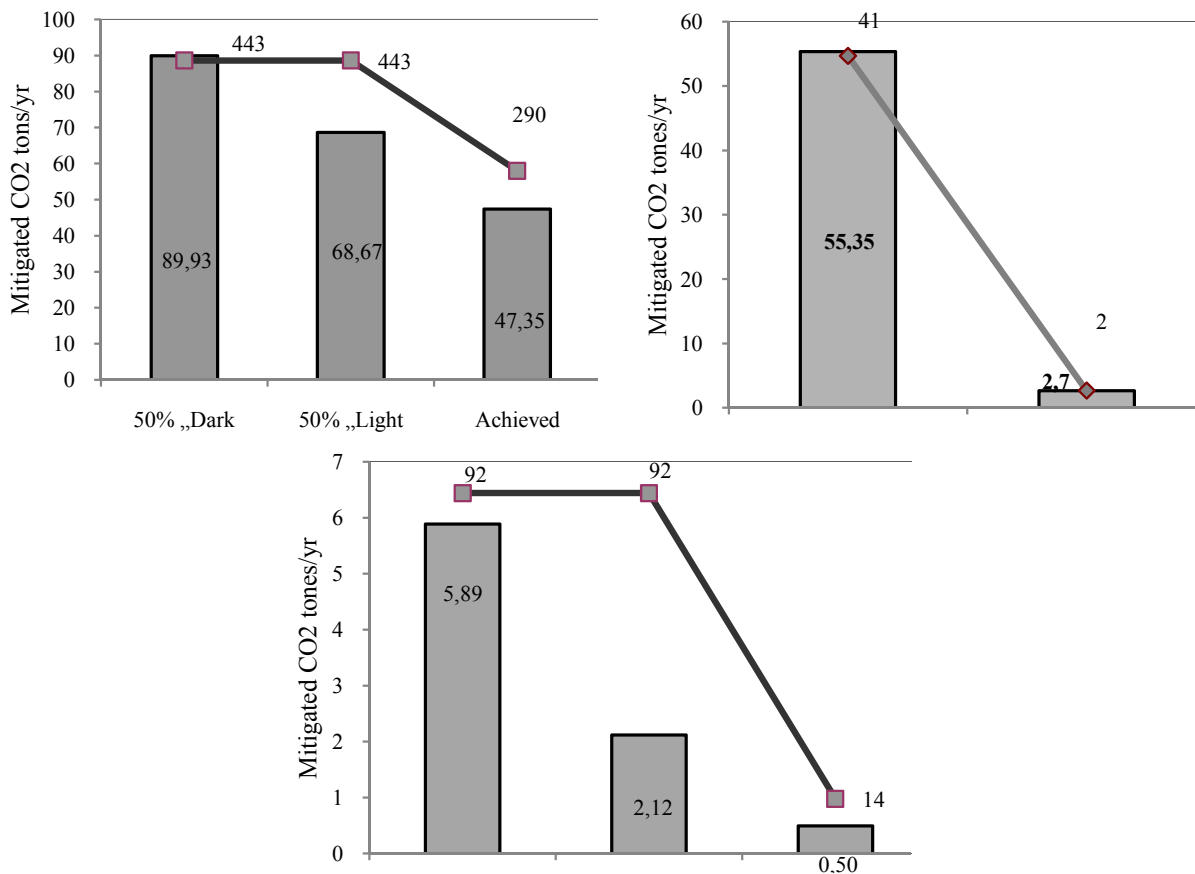


Fig. 7. Achieved and potential benefit of GPP (expressed in reduced CO<sub>2</sub> emission in three product groups) Calculations, (based on Study on Integrated..., 2008)

### 3.2. Possibilities of GPP for environmental impact reduction

Evaluating possibilities of GPP for environmental impact reduction, it has been determined that purchasing the products that meet certain environmental requirements is a useful tool to reach the foreseen goals (Evans et al. 2010). It is estimated that more efficient toilets and taps in public institution buildings could reduce water consumption by 200 million m<sup>3</sup> (de Leonardis 2011) and purchasing energy efficient computers could reduce greenhouse emission by around 830 thous. tons of CO<sub>2</sub> equivalents in the EU (Nissen *et al.* 2009).

These possibilities could be employed in Lithuania, too. However, based on already accomplished procurements, the analysis reveals that some possibilities of reducing environmental impacts in terms of CO<sub>2</sub> have been missed in a Lithuanian case. To compare to the benefit achieved, our estimations show that in the case of personal computers 2 times more of CO<sub>2</sub> could have been saved, in the case of printers – 12 times and in the case of vehicles 20 times more of CO<sub>2</sub> could have been saved additionally if environmental criteria had been applied to 50% of particular performed procurements during the period from the 1<sup>th</sup> of January to the 1<sup>th</sup> of October in 2008 (Figure 7). Only then up to 3 environmental criteria would have been applied to the procurement (“light green”), in the case of personal computers 68.6 tons of CO<sub>2</sub> would have mitigated per year, in the case of cars - 55.3 tons of CO<sub>2</sub>, laser printers - 2.1 tons of CO<sub>2</sub> per year would have been saved.

If then more than three environmental criteria had been applied (“dark green”, 89.9 tons of CO<sub>2</sub> emission could have been reduced, in the case of printers – 5.9 tons of CO<sub>2</sub>).

Altogether, if then environmental criteria had been applied to the half of the products in those three groups of goods, depending on the number of environmental criteria applied, 126 - 150 tons of CO<sub>2</sub> could have been saved instead of reduction in 50.5 tons mitigated in 2008. This means that compared to the achieved GPP results, additionally at least 75.5 tons of CO<sub>2</sub> emission could have been reduced.

Hence, it is especially important to speed up the development of GPP in Lithuania, ensuring not only lowering negative impact on the environment, but also developing the market for environment-friendly goods and services. Provision of appropriate information for business and procurement specialists as well as more clear commitments for purchasing organizations could be beneficial for fostering of GPP in Lithuania. To ground all these measures and tools, more accurate analysis of GPP, tender calls and actual purchase contracts, as well as the main objects and purchase areas, skills and needs of purchasing institutions would be beneficial and are open for further research.

### 4. Conclusions

1. Though legal preconditions for developing green public procurement are created in Lithuania, practical implementation of GPP is not smooth. In 2010 GPP accounted only to 5.8% of all performed public procurements in Lithuania.
2. Procuring institutions, which have to apply environmental criteria to their procurement, account 6.1% of GPP in their overall public procurements performed. Meanwhile the strategic foreseen goal in the National Program for Green Public Procurement Implementation is 25%.
3. It is estimated that the biggest share of GPP value is allocated to purchased works. This procurement object amounted to 87% in 2008, 76% in 2009, and 82% in 2010 of all the value of GPP. Construction works composed the biggest share within the works group.
4. Applying up to three environmental criteria to three product groups (personal computers, laser printers, automobiles) for 50% of purchased products reduction of 75.5 tons of CO<sub>2</sub> could have been achieved additionally in 2008.
5. Acknowledging the importance of GPP and fostering its further development, it is necessary to improve information provision to all stakeholders, spread of the best practices, and creation of auxiliary instruments for procurement specialists, as well as political support and impose stricter commitments to purchasing institutions.

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## Žalieji viešieji pirkimai Lietuvoje: apimtys ir galimybės poveikio aplinkai mažinimui

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Žalioji viešasis pirkimas – tai toks pirkimas, kuris įtraukia aplinkosauginius aspektus į viešąjį pirkimą ir padeda siekti poveikio aplinkai mažinimo tikslų. Šio straipsnio tikslas – išanalizuoti žaliųjų viešųjų pirkimų eigą 2008 – 2010 Lietuvoje, jų apimtį ir galimybes poveikio aplinkai mažinimui.

Nustatyta, kad žaliųjų viešųjų pirkimų įgyvendinimas Lietuvoje nėra sklandus ir atsilieka nuo nustatytų tikslų. 2008 m. žalieji viešieji pirkimai sudarė 8,3%, 2009 m. – 6,1%, 2010 m. – 5,8% viešųjų pirkimų. Didžioji dalis žaliųjų viešųjų pirkimų buvo taikyta įvairiems darbams (82%), daugiausia susijusiems su statybomis. Tačiau visos galimybės poveikio aplinkai sumažinimui (CO<sub>2</sub>) nėra išnaudotos. Lyginant su pasiekta nauda, nustatyta, kad buvo galima sutaupyti 126 – 150 tonų CO<sub>2</sub>, taikant aplinkosauginius kriterijus bent 50% visų atliktų pirkimų trijose produktų grupėse. Taigi svarbu spartinti žaliuosius pirkimus Lietuvoje, siekiant ne tik mažinti poveikį aplinkai, bet ir kurti aplinkai palankių prekių ir paslaugų rinką.