

# The Role of Green Public Procurement in the Implementation of Sustainable Development. City of Łódź Case Study

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## Abstract

*The article concerns the practical use of green public procurement to implement sustainable development. The use of this type of instrument in the investment activity of the city in the years 2007–2017 is presented on the example of the City of Łódź. Documents related to the implementation of public procurement were analyzed. The research was subordinated to the verification of the hypothesis that the implementation of urban investments using green public procurement and ecological criteria is an effective mechanism for the implementation of sustainable development by the territorial self-government. The results confirmed that green public procurement contributes to the improvement of the natural environment and the quality of life of residents in accordance with the concept of sustainable development.*

**Keywords:** green public procurement, sustainable development, City of Łódź, Poland

**JEL:** E60, H57, Q01

## Introduction

The public sector in the modern economies of the European Union is a significant player on the market, creating through its orders the demand for various goods and services of total value of two billion EUR which accounts for 14% of GDP. The growing interest in implementing sustainable development observed since the 1990s resulted in the fact that the European Commission (EC) drew attention to the possibility of using the purchasing power of the public sector to promote the patterns of sustainable consumption and production. Green public procurement (GPP) occupies a special place. Following the EC Communications<sup>1</sup>, directives<sup>2</sup> obligations of member states

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1. See: Commission interpretative communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement. COM/2001/0274 final, OJ C 333, 28.11.2001, p. 12–26; Communication from the Commission to the Council and the European Parliament—Integrated Product Policy—Building on Environmental Life-Cycle Thinking. COM/2003/0302 final; Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Public procurement for a better environment, SEC(2008) 2124, SEC(2008) 2125, SEC(2008) 2126, COM/2008/0400 final.

2. See: Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC Text with EEA relevance. OJ L 94, 28.3.2014, p. 65–242; Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC Text with EEA relevance. OJ L 94, 28.3.2014, p. 243–374.

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were adopted to broaden the scope of application of environmental and social criteria in public procurement. The article presents the results of research on the application of GPP by the local government authorities of the City of Łódź. The choice of the subject of the research was not accidental. As far back as 2010 the City of Łódź demonstrated its interest in GPP and openness to new possibilities of action by joining the implementation of the international GPPinfoNET project. Despite the common opinion among the Polish local governments at the time that the application of the GPP criteria is an additional impediment, and even contains the threat of aggravated inspections, this city decided to take a closer look at the experiences of foreign project partners and take advantage of good practices. The article uses information on legislative initiatives and the application of ecological clauses in public procurement of the City of Łódź. The information made it possible to confirm the research hypothesis that the implementation of municipal investments using ecological criteria is an effective mechanism for the implementation of sustainable development by the territorial self-government. The collected examples prove that the pro-ecological orientation of public procurement is a significant stimulus of positive changes not only in the environment, but also positively affects the quality of life of residents and dissemination of innovative technical solutions.

## 1 Green public procurement in the City of Łódź: institutional aspects

Local self-governments in Poland are responsible for the implementation of 70% of the value of public procurement. They must comply with national and EU regulations in this regard. The Act of 29 January 2004, Public Procurement Law, is the basic legal act governing public procurement in Polish legislation.<sup>3</sup> The regulations introduced by the amendment of this law in June 2016 are of key importance for green public procurement.<sup>4</sup> They transpose the European Parliament and Council Directives of 26 February 2014.<sup>5</sup> The amendment considerably expanded the previously existing possibilities of including environmental and social aspects at various stages of the procurement process. The articles 24, 29, 90, 30, and 91 are directly related to GPP.

Cities, especially large ones, are generators of development and innovation. They influence residents' life model, which is confirmed by Florida speaking about them and their creative inhabitants as new centers of the creative class, developing on the basis of technology, talent and openness (Florida 2003, 10–11). In order to disseminate the approach based on sustainable development, while working on strategic documents the municipality of Łódź decided to take into account provisions referring to rational management of resources, supporting innovative solutions and public procurement limiting the negative impact on the environment. The following resolutions directly refer to the reduction of the negative impact on the environment and implementation of sustainable development:

- No. XLIII/824/12 of the City Council in Łódź of 25 June 2012 regarding the adoption of the Integrated Development Strategy for Łódź 2020+
- No. LV/1151/13 of the City Council in Łódź of 16 January 2013 regarding the adoption of the Municipal Policy and Environmental Protection of the City of Łódź 2020+
- No. XXXV/916/16 of the City Council in Łódź of 28 September 2016 regarding the adoption of the Municipal Revitalization Program of the City of Łódź
- No. XLV/1193/17 of the City Council in Łódź of 5 April 2017 regarding adoption of the Low-Emission Economy Plan for the City of Łódź for implementation

In the “Integrated Development Strategy for Łódź 2020+” the objective “green and orderly Łódź” was recorded, which is to be implemented in part by minimizing negative environmental impacts

3. See: Obwieszczenie Marszałka Sejmu Rzeczypospolitej Polskiej z dnia 26 listopada 2015 r. w sprawie ogłoszenia jednolitego tekstu ustawy — Prawo zamówień publicznych. DzU z 2015 r. poz. 2164; Ustawa z dnia 20 maja 2016 r. o efektywności energetycznej. DzU z 2016 r. poz. 831; Ustawa z dnia 10 czerwca 2016 r. o Bankowym Funduszu Gwarancyjnym, systemie gwarantowania depozytów oraz przymusowej restrukturyzacji. DzU z 2016 r. poz. 996.

4. See: Ustawa z dnia 22 czerwca 2016 r. o zmianie ustawy — Prawo zamówień publicznych oraz niektórych innych ustaw. DzU z 2016 r. poz. 1020.

5. See: Directive 2014/24/EU..., op. cit. and Directive 2014/25/EU..., op. cit.

in spatial, health, housing, education and transport policies as well as in economic and promotional activities, and also in the public procurement system.<sup>6</sup>

The City of Łódź regulates public procurement issues through the city president's regulations containing recommendations and regulations regarding the awarding of public procurement contracts and the use of environmental and social clauses. These are:

- Regulation No. 3715/VII/2016 of the President of the City of Łódź of 7 June 2016 on public procurement using social and environmental clauses at the City of Łódź Office
- Regulation No. 5823/VII/17 of the President of the City of Łódź of 25 April 2017 on the introduction of "Recommendations on the application of social clauses and other social and environmental aspects in public procurement at the City of Łódź Office"
- Regulation No. 6850/VII/17 of the President of the City of Łódź of 8 September 2017 on the introduction of the Regulations for the awarding of public procurement contracts at the City of Łódź Office

When analyzing public procurement, its relation to the policy of sustainable development and the priorities of European funds, attention should be paid to the change of environmental protection objectives shaping development projects. In the 2014–2020 perspective, compared to the years 2007–2013, a marked tightening of environmental standards took place, which is mainly due to the strengthening of counteracting climate change. This is clearly evident in the regions. For example, the projects submitted under the 2007–2013 perspective in the Regional Operational Program ROP of Łódzkie Voivodship, under the priority axis 2 "Environmental protection, threat prevention and energy," were to contribute to the improvement of the natural environment and, consequently, to increase the competitiveness of the voivodship (i.e., the projects were of a general dimension). In the 2014–2020 perspective, the EU set specific targets for reducing greenhouse gas emissions, reducing energy consumption, and increasing the share of energy from renewable sources in final gross energy consumption and in transport. Therefore, the actions to be taken in the investments of the City of Łódź cover the issues of decoupling economic growth from the use of resources, the transition to a low-carbon economy, greater use of renewable energy sources, modernization of transport and promotion of energy efficiency.

## 2 Practical use of environmental criteria in public procurement of the City of Łódź

The most capital-intensive and, at the same time, priority-related infrastructural investments in the years 2007–2017 were: Upper Route, Łódź Fabryczna Station, Piotrkowska, WZ Route, Nowe Centrum Łodzi, bicycle routes, revitalization projects: EC1, Art. Inkubator, Księży Młyn, repair projects: Mia100 Kamienic, modernization of the water and sewage system and culture: Teatr Arlekin, Centrum Dialogu.

Modernization of infrastructure in the field of water and sewage management was carried out using technological criteria. The use of trenchless technologies enabled repairs to be carried out almost without earthworks, with the use of existing inspection wells or with the use of point excavations in the places where the route turns, fittings are installed and on nodes (Jakubiec 2009, 147). Examples of such solutions together with the benefits of their use are in table 1.

Among the water-related projects, namely reclamation and renaturalization (ecological restoration) projects in Łódź, it is worth highlighting the EH-REK project "Ecohydrological reclamation of the "Arturówek" recreational reservoirs (Łódź) as a model approach to the reclamation of urban reservoirs." It was implemented in the years 2010–2016. Its beneficiaries are City of Łódź and Łódzka Spółka Infrastrukturalna Sp. z o.o. The project was financed by the European Commission and the National Fund for Environmental Protection and Water Management. The EH-REK project is an example of a model approach to the reclamation of urban reservoirs. The following provisions of environmental clauses have been included in it:

6. See: Strategia Zintegrowanego Rozwoju Łodzi 2020+. Urząd Miasta Łodzi, 20112, [@:] <https://uml.lodz.pl/dla-mieszkancow/o-miescie/strategia-lodzi-i-planowanie/strategia-zintegrowanego-rozwoju-lodzi-2020/>.

**Tab. 1.** Examples of the use of environmental technological criteria in public procurement in the field of water and sewage management in Łódź

Type of network	Technologies applied	Benefits of using
Sanitary sewerage	<ul style="list-style-type: none"> <li>• sleeve method—introduction of a sleeve soaked in ultraviolet light-cured resins</li> </ul>	<ul style="list-style-type: none"> <li>• reduction of the amount of earthwork</li> </ul>
Sewage collectors	<ul style="list-style-type: none"> <li>• applying quick-setting cement-based mortars on the collector walls, the task is to reduce water infiltration to the collector from the ground</li> </ul>	<ul style="list-style-type: none"> <li>• reduction of work time</li> <li>• reduction of the amount of fuel consumed by construction equipment</li> </ul>
Water mains	<ul style="list-style-type: none"> <li>• relining—the insertion of pipes with smaller diameters on spacer skids into existing water mains and filling the space between the pipes with foam concrete</li> <li>• cementing—in the case when there is no need to reduce the diameter of the pipe, after thorough cleaning, a cement mortar is applied to its internal walls</li> </ul>	<ul style="list-style-type: none"> <li>• reduction of vehicle traffic obstructions</li> <li>• reduction of barriers related to access to buildings, service premises, etc.</li> <li>• no need to drain excavations—elimination of the need to use energy needed for drainage and no adverse phenomena associated with the tubewell drainage in the area of works</li> </ul>
Distribution water supply network	<ul style="list-style-type: none"> <li>• static pipe bursting—cutting up and destroying cast iron pipelines and introducing new pipelines in their place; at one time, using the new equipment, the 150 m long network section can be replaced with this method</li> <li>• slip-lining technique—it involves the insertion of a new pipe, which forms an internal lining, into the existing pipe</li> </ul>	<ul style="list-style-type: none"> <li>• improvement of water flow efficiency</li> <li>• financial benefits in comparison to conventional works amounting to even more than 50%</li> </ul>

Source: Author's own compilation based on Wierzbicki (2011), and *Bezwykopowa wymiana wodociągów*, [accessed 2018.06.15], [@:] <http://www.zwik.lodz.pl/bezwykopowa-wymiana-wodociagow/>.

- reducing the costs of improving water quality in reservoirs through regulating services (self-cleaning, sedimentation, water retention, ecosystem structure and others)
- improvement of the quality of the natural environment, water and recreational values of the “Arturówek” reservoirs in Łódź
- development of a scientific basis for the reclamation of urban water ecosystems in the context of the implementation of the EU Water Framework Directive
- increasing the ecological safety of users (Jurczak, Wagner, and Zalewski 2012, 102)

It is worth noting that scientists from the University of Łódź received the highest distinction of the European Commission, the “Best of the Best” award for the development and implementation of this project. Over 60 research teams from Europe took part in the competition.<sup>7</sup>

The green criteria were also applied in several revitalization projects implemented by the Municipal Investment Management in Łódź (Wańkowicz 2010, 13–14). These projects cover social, environmental, infrastructural and housing aspects in an integrated manner, aimed at restoring specific objects or space to residents (Belniak, Głuszak, and Zięba 2013, 13–42). For example, for four projects implemented in the “design and build” system when selecting the most advantageous offer, the following weights and criteria were provided for each part of the order:<sup>8</sup>

- price—60%
- employment of the unemployed—10%
- warranty period and warranty for construction works—10%
- heat transfer coefficient of external walls—5%
- heat transfer coefficient of roofs, flat roofs under unheated attics or over passages—5%

7. See: *Oczyszczenie Arturówka najlepszym projektem w UE!* [@:] <https://biuletyn.uni.lodz.pl/archiwa/11526>.

8. See: Territorial Revitalization of the Center of Łódź I — Project 1 Reconstruction of buildings with technical infrastructure and development of real estate areas at No. 31 Rewolucji 1905 r. St., No. 45 Wschodnia St. and No. 36 Kilińskiego St., in the “design and build” system, pages 29–33; Territorial Revitalization of the Center of Łódź II — Project 1 Reconstruction and conservation of the building complex including land development and necessary technical infrastructure at No. 26 Jaracza St. in the “design and build” system, pages 25–29, Tender documentation, [accessed 2018.06.25], published at <http://zim.lodz.bip-e.pl/zim/zamowienia-publiczne>.

- heat transfer coefficient of newly designed windows and balcony doors — 5%
- heat transfer coefficient of newly designed external doors — 5%

These projects relate to the reconstruction of buildings along with technical infrastructure and development of real estate areas, and in one case also with conservation renovation. These facilities are located in the city center. In the case of another project including conservation renovation of the facade of the buildings along with the development of the area and the necessary technical infrastructure, the following provision of the offer evaluation criterion referred to ecological issues: heat transfer coefficient for newly designed windows and balcony doors and newly designed exterior doors — 20%.<sup>9</sup>

Environmental clauses as part of revitalization projects also apply to some functional and utility programs forming part of the tender documentation. In the case of area revitalization projects, the transformation of entire spaces through the selection of vegetation fulfilling a specific ecological and functional role is taken into account. The use of pro-environmental solutions in this case results in ecosystem services. In the order documentation it has been recorded as follows: “The idea of the project is to revitalize existing facilities in order to increase the aesthetic values of buildings and their surroundings, involving — e.g., redesigning unattractive courtyards space into a space with high aesthetic values with the aim of integrating the local environment and improving the comfort of property users. Planting lawns is to introduce biologically active areas into spaces which are currently completely hardened.”<sup>10</sup> These orders included general comments on requirements for plant material, shrubs, species selection and information on how to plant and maintain plants on urban lands.

In the revitalization projects implemented, attention was also paid to the preservation of bird nesting possibilities. It found its expression in the Specification of Essential Terms of the Order (“SIWZ documentation”) for the facility located in Łódź at No. 15 Rewolucji 1905 roku Street, in which it was written: “The elements of reconstructed architectural details should provide possibility of placing nesting boxes for swifts (birds), in accordance with the project “Łódź for Swifts, Swifts for Łódź.”<sup>11</sup> In addition, nesting boxes for other birds should be made — they should not be mounted on the front façade, whereas their installation is possible on the top wall of the outbuilding (partially hidden in the insulation layer) or on the wall of the annex from the side of yard, provided that they will not damage or obscure the existing architectural design.”<sup>12</sup>

In Łódź, environmental clauses are also used in municipal units and municipal companies. Due to the great importance of ecological solutions, it is worth presenting examples of two investment projects: EC1 — cultural institution and EXPO Łódź — a municipal company.

EC1 is a complex of buildings located in the revitalized and expanded complex of the first Łódź power plant (since 1907). It is an element of the New Center of Łódź project implemented by the City of Łódź since 2007. The investment is worth PLN 274 million and is planned to be completed in 2019. Solutions for the adaptation of individual buildings introduce innovations related to energy

9. Territorial revitalization of the Center of Łódź III — Project 5 — Conservation renovation of the facade of the buildings along with the development of the area and the necessary technical infrastructure at No. 106 Piotrkowska St. in Łódź in the “design and build” system pp. 25 — 28, Tender documentation, [accessed 2018.06.25], published at <http://zim.lodz.byp-e.pl/zim/zamowienia-publiczne>.

10. See: Functional and Utility Program of the public procurement. Preparation of documentation for investment tasks, including complementary actions in the area of eight priority projects of the Territorial Revitalization of the Center of Łódź in the scope of part II of the contract. Renovation and conservator renovation of the facade of the buildings together with land development and necessary technical infrastructure. Address: 90-004 Łódź, ul. Piotrkowska 106, plot no. 236/7, 235/23 (fragment), 235/24, 235/25 (fragment), precinct S-6, page 17, pages 36–37, [accessed 2018.06.20], published at <http://zim.lodz.bip-e.pl/zim/zamowienia-publiczne>.

11. See: The project “Łódź for Swifts, Swifts for Łódź” is implemented as part of the “City, mass, game” series of the Bios Amigos Foundation. It was created during classes in the studio of professor Jolanta Wagner at the Academy of Fine Arts in Łódź. Its consultant is the ornithologist doctor Tomasz Janiszewski from the Faculty of Biology of the University of Lodz.

12. See: documents available at <ftp://mapaftp.uml.lodz.pl/Rewolucji%2013,15,17%20PFU%20postepowanie%20DOA-ZP-VII.271.120.2017/Rewolucji%2013%20PFU%20wraz%20z%20za%C5%82/1.Program%20funkcjonalno%20-%20u%C5%BCytkowy/>, and <ftp://mapaftp.uml.lodz.pl/Rewolucji%2013,15,17%20PFU%20postepowanie%20DOA-ZP-VII.271.120.2017/Rewolucji%2013%20PFU%20wraz%20z%20za%C5%82/1.Program%20funkcjonalno%20-%20u%C5%BCytkowy/1.%20Program%20funkcjonalno%20-%20u%C5%BCytkowy/>.

management, specificity of materials, water management processes, waste management and work comfort and fit into the category of “ecological or sustainable construction” (Ćwik, Grzybek, and Saracyn 2012, 89–91). They mainly concern the neutralization of threats related to significant environmental degradation, including the reclamation of contaminated soil. Green public procurement in the EC1 facilities covered the following solutions:<sup>13</sup>

- solar panels for heating water throughout the building, integrated into the facade of the building from the south
- windows with LEED certificate (in 60% made of natural ingredients)
- ecological felt carpeting with GUT certificate
- unleaded paints
- using demolition bricks
- wooden floors, so-called industrial floors
- division of the building into several heating zones (unused zone is not heated)
- lighting of the building with a minimum number of lighting fittings
- green roof—grass on the roof allows partial use of rainwater, instead of draining it into the sewerage system; this is also the so-called biologically active surface
- total glazing of the communication and recreation space (winter gardens) bringing the building users closer to nature and the external environment
- large glazing surfaces from the north side, and smaller from the south, are important in the natural lighting of the building throughout the year; reducing window size from the south brings savings when using air conditioning
- rainwater, as an “educational” element used as part of the exhibition (water circulation) and for practical purposes (i.e., the flushing of toilets)

Another example of the application of environmental criteria is the construction of a multifunctional Expo-Łódź hall at No. 4 Politechniki Ave. The facility uses state-of-the-art solutions in the field of environmental protection. Thanks to the energy derived from the inside of the earth, the hall uses autonomous cooling and heating, independent of urban heat sources. Solar panels located on the roof of the building support the water heating process. In addition, the facility uses a natural lighting system which saves energy.<sup>14</sup>

The described examples demonstrate the wide possibilities of applying environmental criteria in the implementation of municipal investments under public procurement. These can be both large infrastructure projects as well as small-scale revitalization and modernization projects. For the local government, the most important are investment expenditures (so-called property expenditures), especially expenditures in fixed assets of cities (Hałaburda 2010, 20–23).

The directions of spending investment funds in the EU financial perspective for 2014–2020 the City of Łódź determined in accordance with the priorities in force in the EU and in line with the development needs of the city. This determines the tendering procedures for projects falling into individual categories. Concentration of public expenditure indicated by the City of Łódź with the participation of European funds will be allocated to projects with a component that minimizes the impact on the environment. The EU co-financing is estimated at approximately 61%. The amounts assigned to particular categories of expenditure are contained in table 2.

The analysis of the documents of the City of Łódź Office (Regulation No. 6045/VII/17)<sup>15</sup> shows that expenditure on the revitalization area which takes into account the use of environmental criteria is estimated at over PLN 1,35 billion, those explicitly referring to the application of environmental criteria, at least at the level of generating ecological effects, are investments in low-emission transport (over PLN 695 million), environmental protection (PLN 125 million) and thermo-modernization (over PLN 251 million), whose cumulative value exceeds PLN 1 billion, and including revitalization amounts to PLN 2,4 billion.

13. See: EC-1 w Łodzi — rewitalizacja przestrzeni poprzemysłowych. Last updated 2011.12.21 [accessed 2018.12.17], [@:] [https://architektura.info/architektura/polska\\_i\\_swiat/ec\\_1\\_w\\_lodzi\\_rewitalizacja\\_przestrzeni\\_poprzemyslowych](https://architektura.info/architektura/polska_i_swiat/ec_1_w_lodzi_rewitalizacja_przestrzeni_poprzemyslowych).

14. See: “Nowoczesność”, website fragment of Expo-Łódź, [accessed 2018.06.20], [@:] <http://expo-lodz.pl/index.php/#dla-organizatorow/nowoczesnosc>.

15. Document available at [https://bip.uml.lodz.pl/files/bip/public/akty\\_prawne/VII\\_6045.pdf](https://bip.uml.lodz.pl/files/bip/public/akty_prawne/VII_6045.pdf).

**Tab. 2.** The main investment areas of the City of Łódź within the framework of urban projects identified by the Managing Authorities of the EU funds in the years 2014–2020 (in PLN thousands)

Expenditure category	Amount
Revitalization	1 351 250,1
Roads	659 086,0
Low-emission transport	695 310,4
Thermomodernization	251 447,3
Environmental protection	125 000,0
Other	41 161,3
Total	3 115 255,0

Source: Author's own compilation based on the analysis of the City of Łódź Office materials.

Note: [In the journal European practice of number notation is followed—for example, 36 333,33 (European style) = 36 333.33 (Canadian style) = 36,333.33 (US and British style).—Ed.]

## Conclusions

In the analyzed period, the City of Łódź consistently implemented modernization, revitalization and development investments which can be considered generators of sustainable development. The inclusion of the criteria of green public procurement into the procedures for spending public money was an important element of these activities. The investments identified through this research have also been found to stimulate the emergence and implementation of eco-innovations. In the longer term, it can be expected that the cumulative effects of the use of green public procurement will contribute to the improvement of the natural environment in the city and the quality of life of its inhabitants. Potential benefits are also associated with the creation of new, green jobs and the development of markets for environmentally friendly goods and services. The above arguments confirm the research hypothesis formulated in the introduction, that the implementation of municipal investments using ecological criteria is an effective mechanism for the implementation of sustainable development by the territorial self-government.

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