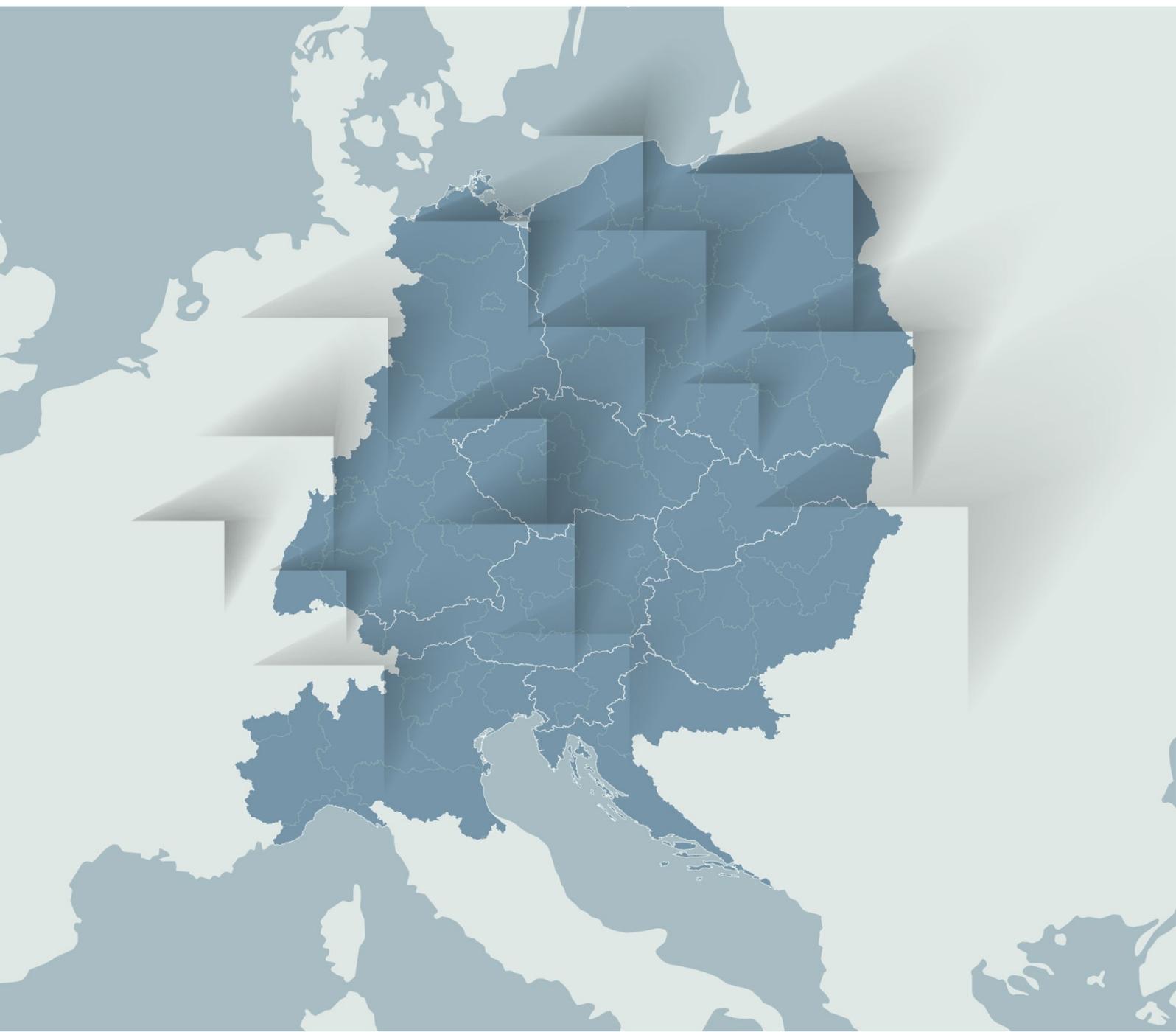




## D.T4.2.2 Analysis of the political and legal framework and the examples Country Report Poland



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## A. General Aspects Concerning Urban Lighting

### I. Ownership, Maintenance, and Operation

#### Ownership

Ownership structures in Poland for street and urban lighting can vary diversely; generally being split into three different categories of property owners which include energy distribution companies, companies established by energy companies, and municipalities. At times though, there are instances where lighting structures have shared ownerships. For example, there are cases where light poles and their accompanying infrastructure belong to an energy company, but the actual light points (lamps) belong to the municipality in which it stands.

#### Maintenance

Maintenance costs for street and urban lighting structures owned by municipalities belong solely to the municipality. When street lighting is owned by energy companies, the bearing of the costs for maintaining the light points is carried out based on the tariff contained in the service charge, and not based on any separate agreements. Maintenance costs are solely comprised of the normal operating costs for light points, excluding costs associated with modernization.

#### Operation

Street lighting and urban lighting systems are either operated by municipalities, municipal utility companies, energy distribution companies, or companies established by energy companies. Energy companies operate their own lighting systems, and are also occasionally hired by a municipality if the municipality does not have the resources to operate its own lighting.

### II. Political Strategies and Targets

Political strategies, programs, and action plans for making urban lighting more energy efficient and climate friendly in Poland include the **Act of 20 May 2016 on Energy Efficiency** and the **National Action Plan on Energy Efficiency**.

The first is the national energy policy which is developed and revised every four years by the Minister for Energy; it is now valid and recognized as "Polish Energy Policy until 2030". The latter is a drafted framework plan for the supply of heat, electricity, and gas fuels developed for municipalities for at least 15 years; it has been valid since October of 2014, and is to be again updated in 2017, as it must be updated at least once every three years.

**Polish Energy until 2030** and the **National Action Plan on Energy Efficiency for Poland 2014** both include final energy savings targets to be achieved by the year 2020. The general target for Poland is to achieve 20% savings in primary energy consumption.



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### III. Actors and Stakeholders

In Poland, the main actors and stakeholders in the field of dynamic public lighting are Ministries, Regulatory Agencies, Manufacturers and Suppliers, Operators and Owners, as well as others that fall into varying categories. The following subsections below list the actors and stakeholders involved.

#### Ministries

- Minister of Transport and Maritime Economy
- Ministry of Energy
- Ministry of Finance
- Ministry of Construction, Spatial Planning and Development

#### Regulatory Agencies

- The Energy Regulatory Office and President of the Energy Regulatory Office
- Mayor/City President
- District Governor
- Urban and Architectural Commissions
- Regional Water Management
- Regional Director for Environmental Protection

#### Operator/Owner

- Administrator of Municipal, County, Provincial and National Roads
- Energy Companies

#### Manufacturer/Supplier

- Suppliers of Materials & Technology

#### Others

- Landowners
- Consumers
- Interested organizations
- NGOs

### IV. General Legal Background

This section details the general legal background in Poland and the relevant guidelines referring to dynamic public lighting.

#### Road Traffic Law

- The Act of the 21<sup>st</sup> March 1985 – Public Roads, Art. 4, item 1, as amended.



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- The Act of the 10<sup>th</sup> April 2003 – on specific rules for the preparation and realization of investments in public roads.

### Civil Law

- The Act of the 23<sup>rd</sup> April 1964 - Civil Code, as amended.

### Public Law

- The Act of the 29<sup>th</sup> January 2004 – Public Procurement Law, as amended.
- The Act of the 19<sup>th</sup> December 2008 – on public-private partnership (PPP), as amended.

### Further Remarks

- The Act of the 10<sup>th</sup> April of 1997 – Energy Law, Art. 18, item 1, points 2 & 3, as amended.
- The Act of the 8<sup>th</sup> March 1990 – Local Government, Art. 7, item 1, point 3, as amended.
- The Act of the 3<sup>rd</sup> October 2008 – on the provision of information about the environment and its protection, public participation in environmental protection and environmental impact assessments
- The Act of the 7<sup>th</sup> July 1994 – Construction Law



## B. Public and Private Procurement

The following sections on public and private procurement describe the various aspects involved with the procurement of dynamic public lighting facilities in Poland on international and national levels, as well as green procurement. Topics addressed are the currency used in the country, general legal aspects ranging from the EU level to the national level, national thresholds, central databases utilized and the methods in which lighting systems are acquired.

### I. National Public Procurement

#### Currency

Poland does not use the Euro. The national currency in Poland is the Złoty (PLN).

#### General Aspects

Laws in Poland regarding urban lighting that have been implemented due to a legal act on an EU level include Directive 2014/23/EU – on the award of concession contracts, Directive 2014/24/EU – on public procurement, and Directive 2014/25/EU – on procurement by entities operating in the water, energy, transport and postal services sectors.

#### National Public Procurement rules for values above the EU thresholds

The public procurement rules regulate The Act of 29 January 2004 - Public Procurement Law - as amended.

The Act of 22 June 2016. Amending the Act - Public Procurement Law and some other acts. This act implements to national law EU directives mentioned above: Classic Directive (Directive 2014/24/EU), Sectoral Directive (Directive 2014/25/EU) and Directive 2014/23/EU.

The new regulation of the Prime Minister was published on 29 December 2015, on the value threshold of contracts and design contests which imposes an obligation for the dispatching of notices to the Publications Office of the European Union. The Regulation provides for the following EU thresholds, also applicable from 1 January 2016:

- I. for construction works regardless of the ordering: 5,225,000 EUR,
- II. for supplies and services:
  - a) classical contracting: 135 000 EUR,
  - b) sectoral contracting and in the fields of defense and security: 418 000 EUR,
  - c) for other authorities: 209,000 EUR.

The new Regulation of the Prime Minister was published on the 28<sup>th</sup> of December 2015 on the average exchange rate of the zloty against Euro being the basis for converting the value of public contracts. According to this Regulation, euro exchange rate for determining the estimated value of - 4.1749 is obligatory from 1 January 2016.



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The most important changes of the Public Procurement Law resulting from these directives:

I. Simplification of procedures for the award of contracts and their flexibility; better use of negotiations as a means to clarify the terms of contracts with contractors in order to obtain services; new rules also reduce the formal duties at the stage of applying for the award of the contract - the contractor has to only submit a statement about fulfilling conditions for participation in proceedings and no grounds for exclusion, then only the selected entity will present other documents (mandatory above the EU thresholds and, optionally, other procedures);

II. Promotion of non-economic public objectives such as the environment, social integration and support for innovation. In this regard, the amendment focuses on multiple values of the choices and not only the prices or cost. The amendment also introduces Innovation Partnerships, which is designed to acquire products and services that are not yet available on the market. The new regulations also promotes the employment of disadvantaged people who may be disabled or homeless, ultimately fighting unemployment rates.

III. Providing better access for small and medium-sized enterprises to the market and the introduction of the upper ceiling of the conditions of participation in the proceedings, regarding economic capacity (average annual turnover, which the contracting authority may require, shall not exceed twice the estimated value of the contract);

IV. The introduction of more flexible solutions to modify public procurement contracts - new evidence making it possible to modify the terms of contracts or the termination of contracts;

V. Simplification of procedures for the award of social contracts and other services including legal, hospitality, gastronomic, cultural, and health services.

### **National Public Procurement rules for values below the EU thresholds**

In the case of public contracts which have a value below the EU thresholds, the contracting authority may award a contract on general principles, which is one of the modes already foreseen in the Public Procurement Law, with the simultaneous possibility to use some simplifications, or on the basis of their specific procedure that meets the minimum requirements set out in Public Procurement Law, the course of which should correspond to the general rules governing proceedings for the award of a public contract, taking into account the specifics of dealing with its own rules introduced by the contracting authority.

### **Relevant National Laws in regard to general obligations and procurement**

The most important legislation applicable in the system of the public procurement:

- The Act of 29 January 2004 - Public Procurement Law;
- Regulation of the Minister of Development of 26 July 2016 on protocol of the procedure for public procurement;
- Regulation of the Prime Minister of 28 July 2016 on the list of services in the fields of defense and security a priority and non-priority;
- Regulation of the Minister of Development of 26 July 2016 on the model notices placed in the Public Procurement Bulletin;



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- Regulation of the Minister of Development of 26 July 2016 on the types of documents that may require ordering from the contractor;
- Regulation of the Minister of Development of 26 July 2016 on the list of works;
- Regulation of the Prime Minister of 28 December 2015 on the value threshold of contracts and design contests which imposes an obligation of dispatching the notices to the Publications Office of the European Union;
- Regulation of the Prime Minister of 28 December 2015 on the average exchange rate of the zloty against Euro being the basis for converting the value of public contracts.

### Legal protection below threshold values

Contracts below the threshold are not subject to the Public Procurement Law. According to Article 4 Section 8 of the Public Procurement Law, PPA does not apply to contracts and contests, whose value does not exceed the PLN equivalent of EUR 30 000.

### Central, National, and Regional Databases for Public Procurement

There is a central national database for public procurement – The Public Procurement Bulletin which is conducted by the Public Procurement Office.

There is also The Public Information Bulletin, created for the universal access to public information in an electronic form. Newsletter consists of Web sites on which public authorities and other entities performing public tasks make public information required by the Polish law.

There are also public procurement portals that lead database on public procurement:

- [www.portalzp.pl](http://www.portalzp.pl)
- [www.przetargi.info](http://www.przetargi.info)
- [www.zamowienia20.pl](http://www.zamowienia20.pl)

### Method of Lighting System Acquisition

The purchase of lighting systems by public authorities is mainly acquired through public procurement.

## II. International Procurement

### Agreement on Government Procurement (GPA)

Poland has ratified the Agreement on Government Procurement (GPA). On 6 April 2014, the revised WTO Agreement on Government Procurement entered into force. By this agreement, the parties have committed themselves to applying the basic rules of public procurement, ensuring transparency and competitiveness. It covers contracts for goods, services and major construction projects in the area indicated by each of the Member States. The aim of the GPA is to ensure the widest possible opening of public procurement markets to international competition. This stems from the extension of the scope of the GPA to the entities at the central and sub-central level not covered by it (over 200 additional ministries, government agencies and other entities), as well as the



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extension of the scope of the available orders. The revised text of the Agreement is largely modeled on the EU directives on public procurement and ensures consistency between these directives and the international commitments of the EU.

For the Polish authorities that participate in the GPA, it means that the contract notices published in the Official Journal of the European Union each have to contain the information on whether a particular contract is in accordance with the GPA.

### **Other international procurement rules**

In accordance with Art. 4 paragraph 1 point a) of the Act of 29 January 2004 - Public Procurement Law (PPA), this law does not apply to contracts awarded on the basis of the particular procedure of an international organization different than that specified in the Act. It is the result of the implementation into Polish law regulations provided for in Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 - on the coordination of procedures for the award of public works, supplies and services.

If the contracting authority awards a contract to the public, using a special procedure provided for by the internal regulations of an international organization, it may depart from the provisions of the Public Procurement Law if the application procedures of international organizations is mandatory.

In practice, the use of different arrangements provided by international organizations is often a condition for obtaining funds from entities such as the European Bank for Reconstruction and Development, European Investment Bank, Council of Europe Development Bank and the World Bank.

## **III. Private Procurement**

### **Private procurement laws**

The public entities and others specified in the Public Procurement Law (personal scope) are mandatorily subject to provisions of the Act.

Other entities may award a contract on general principles, which is one of the modes already foreseen in the Public Procurement Law with the simultaneous possibility to use some simplifications, or on the basis of their specific procedure that meets the minimum requirements set out in Public Procurement Law, the course of which should correspond to the general rules governing proceedings for the award of a public contract, taking into account the specifics of dealing with its own rules introduced by the contracting authority.

The legal basis for private entities can also be provisions of the Art. 70<sup>1</sup> of the Civil Code and not the provisions of the Public Procurement Law (so-called civil tender) (The Act of 23 April 1964 - Civil Code).

### **Differences between private and public procurement in country/region**



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According to Art. 2 Section 13 of the Act of - Public Procurement Law, the public contract must be understood chargeable contract between the contracting authority and the contractor, the subject of which are services, supplies or works.

Therefore, referring to the definition of a public contract, it can be concluded that the requirement for payment of public procurement means that public procurement is only such an agreement, under which the services, supplies or works (provision of contractors) are carried out in return for payment from the contracting authority.

Additionally, the definition of a public contract resulting from Art. 1 Directive 2004/18 /EC does not contain any reference to the identity of the beneficiaries of the services or the origin of funds from which payment is contractual. To recognize the agreement as a public contract is sufficient, therefore, that the contracting authority includes the consideration in writing, even if it is a contract to a third party.

**Private procurement** - the order made by private entities, not specified in the Public Procurement Law and the subject of which is excluded from the Act. Increasingly popular is the institution of public-private partnership.

**Public - private partnership** (PPP) involves the cooperation of the public entity with private entities. In Poland, the public - private partnership is regulated by the Act of 19 December 2008 on public-private partnership (PPP).

- The private partner is an entrepreneur or foreign entrepreneur. A public entity is mainly a public sector unit or other specified in the Act.
- The subject of public-private partnership is the joint implementation of the project based on the division of tasks and risks between the public entity and a private partner (Art. 1, paragraph 2 PPP).
- That project such as the following: the construction or renovation of a building; provision of services; the execution of the work; others.
- If the private partner is entitled to receive benefits from the subject of public-private partnership, together with the payment of a sum of money, the private partner selection is made using the provisions of the Act of 9 January 2009 on concessions for construction works or services, taking into account the provisions of the PPP act.
- In other cases, the selection of a private partner is carried out using the provisions of the Act of 29 January 2004 - Public Procurement Law, taking into account the provisions of the PPP act.

### Private procurement experience with lighting systems

The purchasing of lighting systems is mainly acquired through public procurement by public authorities, the contractor is usually a private entrepreneur, meeting the Terms of Reference, and the increasingly popular form is public-private partnership (PPP) agreement.



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## IV. Green Procurement

### National Green Procurement rules/plans

Green public procurement is a policy under which public entities include the ecological criteria and/or requirements which go into the procurement process, and are looking for solutions to minimize the negative impact of goods and services on the environment while also taking into account the entire life cycle of products, thus affecting the development and dissemination of environmental technologies.

In the **Act of 29 January 2004 - Public Procurement Law**, key issues concerning the environmental aspects of public procurement procedures were regulated in **Art. 7, 29 - 31, 36, 91**. The Act provides that the contracting authority may use not only the criterion of price, but also other criteria related to the contract. The law, in particular, draws attention to the quality, functionality, technical parameters, use of the best available technologies in terms of environmental impact, operating costs, service requirements, and the date of the contract.

### Legal institutions / standards for the "green" public procurement:

#### 1. Environmental Management Systems

- a) **ISO 14000** - voluntary ISO 14001 standard is a series of ISO 14000 standards designed to assist companies and other organizations to improve their business in the field of environmental protection. These standards were developed by the International Organization for Standardization, based in Geneva.
- b) **EMAS** - Community eco-management and audit system (EMAS), as well as ISO 14001 is a voluntary system. The rules of its operation establishes the EMAS regulation. The purpose of this regulation is also continuous improvement the organization in the field of environment and to provide relevant information to the public and other interested parties.

#### 2. Eco-label:

- a) **Ecolabel** - the aim is to promote products which have limited negative impacts on the environment compared with other products in the same group throughout the life cycle and contributes to the efficient use of natural resources while maintaining a high level of environmental protection.
- b) **Eco-design** - energy-using product must take into account environmental aspects in order to improve the environmental characteristics of energy-using products during the entire life cycle.
- c) **Energy Star** - signs of energy efficiency for devices - participation in the Energy Star program is voluntary.
- d) **EU Energy** - EU Energy is a labelling system which classifies products according to their energy efficiency. The framework of the energy labeling system regulates an EU Energy Directive. The purpose of this Directive is to enable the harmonization of national measures on the publication, particularly by means of labeling information on products such as the consumption of energy and other essential resources, and additional information concerning certain types of household appliances, thereby encouraging consumers to choose energy-efficient devices.



- e) **The labelling of organic production** – indication of organically produced goods and agricultural products and the guidelines for the production of agricultural products and foodstuffs was introduced uniform for the whole of the EU label for organic production. The aim was to improve the reliability of food produced organically and its identification on the market.

### European Green Procurement plans

The **National Action Plan on Sustainable Procurement 2013-2016** focuses on stimulating the incorporation of environmental and social policy goals in public procurement activities. The new plan, The **National Action Plan on Sustainable Procurement 2017-2020**, is designed but not yet approved; it will be the fourth consecutive document, based on which promotional and educational activities are to be carried out for representatives of public authorities and control institutions. Adopted in 2016, the plan for responsible development establishes new directions of the state and new impulses to ensure the stable development of the Polish economy, while highlighting the importance of the role of public procurement in support of responsible development, taking into account social responsibility and environmental issues. These objectives are to be achieved, among others, by building a system of intelligent public procurement.



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## c. Development of Lighting Facilities

The following section and its subsections on planning and authorization, refinancing sources/mechanisms, construction, and cost relevant aspects with regard to dynamic public lighting in Poland describes the relevant aspects in respect of law, the general planning process before official administrative processes begin, technical standards, the authorization process, the role of land use plans, opportunities for public, civil and other stakeholders' participation in administrative processes, and the possibilities to review authorizations once they have been granted.

### I. Planning and authorization

#### Relevant aspects in respect of law

The following regulations are considered relevant for the planning authorization:

- The Act of 10 April 1997 - Energy Law
- The Act of 27 March 2003 on Spatial Planning and Development
- The Act of 3 October 2008 on the provision of information about the environment and its protection, public participation in environmental protection and environmental impact assessments
- The Act of 10 April 2003 on specific rules for the preparation and realization of investments in public roads
- The Act of 7 July 1994 Construction Law
- The Code of Administrative Procedure (e.g. article 49)

#### General planning process before the official administrative processes

In accordance with Article 18 paragraph 1, point 2 and 3 of the Act of 10 April 1997 - Energy Law, the municipality is responsible for the planning of the lighting of public places and municipal roads, county roads, provincial roads in the municipalities and their financing. The Energy Law (in Art. 3 pt. 22) underlines the financing costs of electrical energy consumed by lighting points and the costs of construction and maintenance.

Often there is a division of responsibilities between:

- **municipality**, which must ensure urban lighting;
- **road administration** (municipal, national, district and provincial), which during building or renovating roads must also build lighting;
- **energy company**, which is obliged to generation, transmission, distribution and trading of energy through the own devices, road administration devices or devices that belong to the municipality.

According to the Article 18, paragraph 2, point 1 - Energy Law - the municipality carries out its tasks in the field of lighting planning in accordance with the local spatial development plan (local zoning plan/local plan/ land use plan), and in the absence of such a plan - in accordance with the directions



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of the development of municipalities included in the study of conditions and directions of spatial management.

The local spatial development plan determines the use of the land, the location of public-purpose investments and land use and zoning of land. It includes the plans for the construction or reconstruction of the existing street/urban lighting with the location of the infrastructure of street/urban lighting. The local spatial development plan also must be consistent with the development plan of the region, the development strategy of the region and the national spatial development concept. The local plan defines the borders of individual areas, including borders of the public investments of local and supra-regional placed in the final decisions on the location of the national, provincial or district road.

(The Act of 27 March 2003 on Spatial Planning and Development)

### Technical standards

The public lighting design and location are largely conditioned by the existing electricity grid, as well as technical standards. The Polish Committee for Standardization introduced in Poland technical standards developed by the European Committee for Standardization - the norm EN 13201.

- PKN-CEN/TR 13201 – 1:2016 Road lighting - Part 1: Guidelines on selection of lighting classes.
- PN-EN 13201- 2:2016 Road lighting - Part 2: Performance requirements.
- PN-EN 13201- 3:2016 Road lighting - Part 3: Calculation of performance.
- PN-EN 13201- 4:2016 Road lighting - Part 4: Methods of measuring lighting performance.
- PN-EN 13201- 5:2016 Road lighting - Part 5: Energy performance indicators

The reason for the respective technical standards is for the avoidance of losses, increases in capacity, and compliance with European standards. Polish technical standards have been adapted to the standards of the European Committee for Standardization and they are in compliance with one another.

### Authorization

(The Article 29 paragraph 2 point 12) and Article 30 paragraph 1 point 2b) of the Construction Law and Article 59 paragraph 1 of the Act of 27 March 2003 on Spatial Planning and Development).

The declaration of commencement on works must specify the type, scope, and manner of the intended works as well as the date of their commencement. This should also be accompanied by the relevant projects, maps, technical descriptions, as well as permits, approvals and opinions required from relevant entities.

Building or rebuilding a road with accompanying infrastructures such as lighting requires a building permit. In order to obtain a permit, the investor must apply for an issuing decision on the environmental conditions of the investment and enclose the investment's information card. The mayor or president of the town then decides whether an environmental impact assessment is needed. If so, the relevant procedure is put in motion. The decision on the environmental conditions



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is required for construction on hard surface roads with a total length of over 1 km. For construction of motorways and express roads, and roads of four or more lanes, where such road is 10 km or more in length, an environmental impact assessment is required as part of the process of issuing a decision on environmental conditions of the investment; The Act of 3 October 2008.

There is no so called "concentration effect" in the Polish law and there is no One Stop Shop where one authority coordinates several different permits.

### Land use

According to the Article 18, paragraph 2, point 1 - Energy Law, the municipality carries out its tasks in the field of lighting infrastructure planning in accordance with the local spatial development plan. According to the Act of 10 April 2003 on specific rules for the preparation and realization of investments in public roads, the property for public roads can be acquired in a mode of expropriation. The decision on the request of the competent road administrator in respect of municipal roads, is issued by the district's governor. The decision to authorize the implementation of road investments is typically issued within 90 days of a request. The decision contains a list of properties that become the property of the municipality. Additionally, it sets a deadline for the releasing of property, no less than 120 days from the date of a decision becoming final. The authority which issued the decision is obliged to within 30 days of the final decision date, issue a decision on compensation. Payment is executed within 14 days after the validation of the decision on compensation (in the absence of an appeal against the decision).

In accordance with Article 36 of the Act of 27 March 2003 on Spatial Planning and Development, in connection with the local spatial development plan, if the use of the property or land is in an unusable state, the owner may demand compensation from the municipality for damages suffered. The municipality can also offer the owner replacement of the property. If the property value has decreased because of the damages, the owner may demand compensation from the municipality that is also equal to the difference of the lowered property value.

### Opportunities for public civil and other stakeholders' participation in the administrative process

Public participation is determined by law both during and after the planning stage. According to Article 17 of the Act of 27 March 2003 on Spatial Planning, the Mayor or President of the city makes a customary announcement via the local press as well as via a municipal website, defining the forms, locations and deadlines for submitting comments and suggestions to the plans not less than 21 from the day of announcement. It is especially important for these notifications to reach institutions and competent authorities, urban and architectural commissions, regional directors of environmental protection, and the other mayors of towns which border the areas covered and included by the plan. It is also important for the mayor to receive input and feedback from the areas electricity transmission system operator and the appropriate road administrator, in case the new project plan either affects the land near the existing electricity grid infrastructure or if it roadway traffic flow would be impacted. After obtaining opinions and comments regarding the drafted plan, a public discussion is organized on the project.



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The main objective in ensuring public participation in the administrative processes is to obtain public opinions on the process, to obtain approval for activities, to raise public awareness of the subject, and to reduce the risk of an objection at later stages in investment.

### **Possibilities to review the once granted authorization**

In accordance with the Article 35a paragraph 1 of the Construction Law, parties can send a complaint to the administrative court against the decision allowing construction work to begin. The court then can suspend the execution of the decision and the court also has the ability to make its decision after the submission of the applicant's deposit to secure the claims of the investor because of the suspension of execution of the decision. If the complaint is legitimate, the deposit is returned, and if the complaint is dismissed, the deposit shall be allocated to satisfy the claims of the investor.

In accordance with the Article 36a of the Construction Law, significant deviations from the approved construction design or other conditions of decisions allowing construction work to start is permitted after obtaining the appropriate decision. In the case of insignificant changes, such a decision is not required.

The main risk associated with the reviewing of authorizations are the delays in the construction process and ultimately the failure to meet the deadlines in place, which brings about financial consequences in the form of penalties.

## **II. Refinancing sources/mechanisms**

The costs arising from the construction of new facilities are carried by the contractor, and only the contractor; they are not passed on to the end consumer. There are also additional ways of financial support to incentivize investments such as project loans under favorable conditions as well as government subsidies on energy efficient lighting structures.

## **III. Construction**

The main barriers/risks associated with proceeding with the construction of new lighting infrastructure include:

- The possibility of protest to the tender and selection of a contractor,
- Delays in obtaining permission to start the investment,
- Protests from property owners,
- Protests of environmental protection,
- The occurrence of adverse weather conditions,
- The occurrence of force majeure.

There are 3 important and basic steps in the construction process and these are: 1) obtaining the appropriate permits; 2) excavations, ballasts and backfilling; and finally 3) the laying and installation of lighting cables, poles, and luminaires. There are settled timeframes for the completion of construction and the duration of the works and their deadlines are specified in the contract



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established between the contracting authority and the contractor. Often, the contracting authority agrees on extending the term of the contract in the event of adverse weather conditions that prevent the execution of works. The circumstances of force majeure (fire, flood, war, embargo) entitle the parties to be able to withdraw from a contract.

There is a control/supervision mechanism to ensure compliance with the terms and conditions of the authorization in execution. The contractor of construction works must have a person who has the authority to manage construction works in accordance with the provisions of the Act of 7 July 1994 Construction Law, specializing in the installation of networks, systems and electrical and energy equipment. In addition to the construction manager, the contractor may hire a supervision inspector. The supervision inspector is responsible, among others, for the monitoring and controlling of compliance with the construction project or building permit, technical regulations and standards. The supervision inspector also has the power to demand corrections or suspend further work (Article 25 and 26 of the Act of 7 July 1994 Construction Law).

#### IV. Cost relevant aspects

There are several cost relevant aspects to consider when looking at investments into lighting infrastructures such as irregularities with regulatory frameworks, construction, missed deadlines, compensation claims, financial damages, and financial risks that accompany the failure of meeting technical standards. The main reason for investing in street/urban lighting is to improve the overall quality in terms of energy efficiency and maintenance costs, as well as to meet the needs of residents.

Cost overruns linked to construction are paid by the contractor. Concerning construction, the consequence for a missed deadline to finish the construction work is to pay a contractual penalty to the contracting authority for delays in the execution of works, and a percentage of the specified salary in the contract is paid for each day of delay. Claims for damages and administrative fees are also incorporated with the missing of deadlines for construction. The conditions of a claim are fixed in the contract between the contracting authority and the contractor (specific conditions), as well as in the Civil Code (general conditions). If the penalty does not cover the damage suffered, the parties may seek compensation under the general conditions set out in the Civil Code. The penalty must be paid by the party who violated the terms of the agreement within a specified period from the date of the request for payment. It is also possible to deduct a given amount of the salary of the contractor.

There are also financial risks when technical standards are not met, which can be expensive. Financial risks for not meeting technical standards are carried by the contractor according to both the contract and law, as they agree to use materials, equipment and devices corresponding to the respective regulations, norms and standards. If the contractor fails to comply with these conditions, they are obliged to pay a penalty.



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