

Project No. PGI05889 LCA4REGIONS – Improved Environment and Resource Efficiency through Use of Life Cycle Instruments for Implementation of Regional Policies of the European Union

PEER REVIEW FROM LODZKIE REGION (POLAND)

POLICY INSTRUMENTS AND REGULATORY FRAMEWORK

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Policy instruments and legal framework of the Lodzkie Region

Country: Poland

Capital of the region: Lodz

Population of the region: 2 400 000 inhabitants (2020)

NATIONAL LEVEL

Poland's key document in the area of medium- and long-term economic policy is the **Strategy for Responsible Development for the period up to 2020** (including the perspective up to 2030). Strategy indicates directions for changing the current approach to waste perception to one that treats waste as a source of resources and strives to implement an economic model based on circularity. Actions in the strategy until 2030 include recycling of waste and striving to maximize the use of waste as raw materials. As the main goal for Poland, the Strategy indicates the development of a sustainable economy based on more efficient use of resources, respect for the environment and achieving higher competitiveness through the use of technology with lower demand for raw materials and energy and enabling the use of secondary raw materials and renewable energy sources. Among the proposed actions are the implementation of the principles of eco-design of products through the selection of appropriate materials: promoting materials with a significantly lower environmental impact as assessed by a full LCA analysis.

The document that further specifies the Strategy for Responsible Development with regard to environmental protection is **The 2030 National Environmental Policy**. Its main objective is to develop the potential of the environment for the benefit of citizens and entrepreneurs. It diagnoses that there is still a low level of implementation of the concept of a circular economy in Poland, which should cover all stages of the life cycle and affect both the social and economic spheres. It also recognizes the need to go beyond traditional environmental management tools, which should support the development of new business models, the growth of the service sector and ways of substituting currently used raw materials, production and consumption. The document identifies structural and investment funds as a source of financing for this process.

The 2030 National Environmental Policy provide the implementation of the measure "Striving to maximize the use of waste as raw materials" which consists in:

- support for R&D and implementation works in the field of innovative environmental technologies and new business models concerning recovery and use of secondary raw materials and waste management;
- support for the implementation of investments related to the processing and use of recycled raw materials;
- support for undertakings in the field of implementation of circular waste management at the municipal level;
- the development of guidelines to stimulate the implementation of measures for CE in the public finance sector (green public procurement).

Waste management goals and actions are detailed in **the National Waste Management Plan 2022**, which is the primary planning document at the national level. It makes numerous references to LCA

and identifies eco-design, i.e. the systematic consideration of environmental aspects in product design with the aim of improving the environmental performance of the product throughout its whole life cycle and the implementation of eco-design research projects, as one of the waste reduction measures.

Another national document dealing with waste issues is **National Waste Management Plan (2014-2022)** - it also indicates the necessity of introducing ecodesign principles and LCA analyses as a predicted and recommended direction in which changes in Poland in waste prevention should proceed.

The issue of circular economy and LCA is widely covered in **"Roadmap towards the Transition to the Circular Economy"** (2019-2023), a document developed by the Ministry of Enterprise and Technology and adopted as a Resolution of the Council of Ministers in 2019. The document contains a set of legislative and non-legislative tools which, once implemented by the Polish administration, should contribute to the introduction of CE model in Poland. The document contains measures that will primarily contribute to waste reduction, in particular: diversified industrial production (including environmental life cycle assessment), sustainable consumption, circular bioeconomy and new business models.

The currently operating national Operational Programmes concern mainly projects of supra-regional nature and do not directly support LCA, although some references to CE can be found in them.

Operational Programme Infrastructure and Environment 2014-2020

It is the largest national operational programme related to environmental protection and provides support in the following areas, among others:

- waste prevention infrastructure;
- infrastructure for selective waste collection systems;
- installations for recycling and recovery of particular material fractions of waste.

Bearing in mind the provisions of the strategic documents created in the last few years, it can be expected that in the operational programmes for 2021-2027, which now are at development stage, the LCA methodology will be supported in a more distinct and direct way.

REGIONAL LEVEL

All national legislation and strategies apply at regional level as well, but each region has its own more detailed strategy and its own regional operational programme.

Development Strategy for the Lodzkie Region 2030

The Development Strategy for the Lodzkie Region 2030 is the most important document of the regional government that defines the vision and goals of the regional policy in the economic, social and spatial dimension, as well as the actions necessary to achieve them. The document identifies circular economy as one of the development trends, the basic idea of which is the use of waste generated in the production process for another process. The concept presented in the strategy assumes rational use of available resources by using non-renewable raw materials to the lowest possible extent, reducing the amount of landfill and minimizing the negative impact of this process on the environment, as well as extending the life cycle of products. The implementation of this concept should result in a change in the model of consumption to a more conscious and responsible one, e.g. through the development of a deposit system for packaging, or support for the creation of damaged equipment repair points,

etc. This may be an opportunity for business in the Lodzkie Region, but technological modernization is necessary for them to operate in this way. The process of industrial transformation of the region is to assume the widest possible implementation of CE.

One of the measures provided in the strategy is to increase the competitiveness of enterprises, among others through support for implementation of new business models and modern and pro-ecological solutions among SMEs, including in the field of CE, e.g. using the methodology of product life cycle assesment.

Another measure assumes the development of infrastructure towards a CE, among others, through the adaptation of the municipal waste collection system to the requirements of a circular economy, including support for the construction, extension, modernization of selectively collected waste collection points, repair points for damaged equipment; municipal waste sorting plants and reloading stations and development of a deposit system for packaging.

Territorial Plan of Just Transformation of the Lodz Region (draft)

It is a transformation plan for the Belchatow Basin, developed by the Lodzkie Region, and is linked to the launch of the Just Transformation Fund, which will support coal regions affected by negative socio-economic changes in connection with the transition to a climate-neutral economy and the end of coal mining. The plan applies to 35 municipalities in the area, representing about 20% of the region's area. One of the operational goal of the plan is "a competitive, innovative and climate-neutral economy based on smart growth, diversified industry, advanced technologies and attractive jobs".

Planned activities include the creation of new businesses related to the green low-carbon economy. The new green economy model is to be based on zero-emission and resource efficient industry implementing CE principles and using RES. Outcomes include a diversified, innovative and resource-efficient economy, including implementing CE solutions.

The second objective of the plan provides for actions related to the re-branding and skills improvement of workers in the mining and energy sectors. It includes job placement and vocational training in renewable energy, the CE sector as well as in the professions of the future. This opens up opportunities to provide training in the implementation of environmental life cycle assessment and thus build the capacity of LCA.

Regional Operational Programme for Lodzkie Region 2014-2020

The primary instrument of regional policy of the Lodzkie Region is the Regional Operational Programme for Lodzkie Region 2014-2020. Implementation of the program continues in 2021. Its aim is to improve economic competitiveness, social cohesion and spatial accessibility of the region with sustainable use of specific features of the economic and cultural potential of the region and full respect for its natural resources. It supports activities aimed at implementing the CE model, e.g.:

- Measure II.3 Improvement of the competitiveness of SMEs (Sub-measure II.3.1) - implementation of innovative products, processes of product manufacture or provision of services, including eco-innovations,
- Measure V.2 Waste management - investments in infrastructure for selective waste collection and processing (recycling, composting of waste), prevention of waste generation, promotion of reuse).

However, it does not explicitly promote life cycle assessment methods. As part of ROP LR 2014-2020, support is provided, among others, for measures aimed at improving the condition of the environment, investments related to the need to meet appropriate quality standards and the condition of the environment, as required by law, and projects involving the installation of renewable energy sources are also supported.

TRAINING SYSTEM & CAPACITY BUILDING

In the Lodzkie Region there are many nationally important higher education institutions. In 2017, a new specialization for students of commodity science emerged at the Technical University of Lodz, which prepares them for product life cycle assessment (LCA), environmental management, eco-design and working according to circular economy principles. A new optional LCA subject has been introduced in 2019. Nowadays, the subject "Fundamentals of Life Cycle Analysis" is taught in many faculties. Lodz University of Technology also provides training in LCA. The staff of this university is specialized in LCA and the university itself has participated or is participating in various LCA projects and research work, including as a stakeholder of LCA4REGIONS.

In addition, in 2021, Lodz University of Technology introduced a new specialization in the field of "Management and Production Engineering" (second-cycle master's degree studies): "products and processes in a circular economy" and a new second-cycle course: "Sustainable Bioeconomy" which includes the following subjects: "Ecological Life Cycle Assessment", "Closed Circuit Economy" and "Environmental Assessments in the Bioeconomy".

At another university from the region - the University of Lodz, since 2018 there is a new field of study called: EcoCity. Its aim is to educate professionals prepared to manage cities in accordance with the idea of sustainable development, green economy and environmental protection. This is an innovative and unique didactic offer that surely translate into building awareness of sustainability issues and life cycle assessment.

The Academy of Fine Arts in Łódź actively promotes ideas related to ecodesign as part of its events. Academy organize international scientific conference "EcoMade" devoted to ecological fashion and design. It is a form of exchange of ideas and experience, including eco-design, but also an information and promotional campaign shaping ecological attitudes among the inhabitants of the region. Universities from Lodz are building awareness and competences of future LCA specialists.

In connection with the energy transformation of the Bełchatów Basin, the Marshal of the Lodzkie Region and the President of the largest energy company in the region - PGE - initiated the establishment of a Competence Development Centre in Bełchatów in 2021. The facility is expected to provide a wide range of courses and training in renewable energy sources, offshore wind farms, CE sector, machine learning and in professions of the future, such as Big Data analyst or biotechnologist.

Knowledge of LCA is also present among entrepreneurs in the Lodzkie Region. Several companies in the construction industry have decided to commission life cycle analysis for their products. These are large companies that can afford the significant cost of the LCA certification procedure.

In general, the inhabitants of our country (and therefore our province) have positive attitude towards environmental protection and believe that it should be a priority of human activity and that they have a real influence on the preservation of the natural environment. However, this doesn't translate into consumer behavior. The awareness of the real impact of consumers on the environment in the general cross-section of our society is definitely insufficient. There is a lack of systemic consumer awareness education at all levels of education (starting with early school education) aimed at changing consumer behaviour and increasing knowledge of rights in terms of access to product and producer information¹.

¹ Report of the Polish Agency for Enterprise Development (PARP): „Ocena zapotrzebowania na wsparcie przedsiębiorstw w zakresie gospodarki o obiegu zamkniętym” ("Assessing the need for business support for a circular economy"), 2020r. p. 67-68.

Among the initiatives undertaken in this respect in the Lodzkie Region, one should distinguish the activities of the Regional Fund for Environmental Protection and Water Management, which co-finances ecological education projects carried out in schools and kindergartens, including ecological education in the field of rationalisation of waste management and prevention. There are also many non-governmental organizations dealing with ecological education of children and adults in the region.

The Lodzkie Region is also the organizer of many events influencing capacity building and raising awareness of the CE, e.g. the Business and Sustainable Development Forum 2020 conference, where one of the main topics was the circular economy, including the issue of creating awareness in creating a "fashion" for effective waste sorting. Another event organized by Lodzkie Region was a series of webinars: "Circulars in Business" organized in December 2020. At the meetings, entrepreneurs and experts analyzed the production of packaging in accordance with the idea of recycling, presented opportunities and challenges of introducing a closed water cycle in the textile industry and discussed ways to switch to more economical production methods in accordance with CE. The Lodzkie Region is also the organizer of the cyclical International Bioeconomy Congress promoting green business attitudes.

PUBLIC PROCUREMENT

Public procurement in Poland is regulated by the Public Procurement Law of 11 September 2019, which came into force on 1.01.2021. The phrase "life cycle" appears in it as many as 23 times. It introduced the possibility of using life cycle cost (LCC) criteria to evaluate offers. Life-cycle costing may to an appropriate extent include some or all of the costs incurred over the life cycle of a product, service or works. Such costs include, in particular, expenditure borne by the contracting authority or by other users in connection with acquisition, use, maintenance and decommissioning (demolition and recycling costs), as well as expenditure which is attributable to measurable environmental externalities (e.g. the cost of greenhouse gas emissions).

For several product categories, the Polish Public Procurement Office (PPO) has developed LCC calculators to calculate the life cycle cost of computers, monitors, indoor and outdoor lighting, and imaging equipment.

Moreover, the PPL Act:

- includes a provision stating that the purchasing policy of the State should take into account the purchase of innovative or sustainable products and services, taking into consideration life-cycle costing;
- makes it possible to define, in the description of the subject-matter of the contract, the characteristics of supplies, services or works with respect to their impact on the environment and climate. These characteristics may relate to a specific process, production method or other stage in their life cycle;
- provides that in the case of life-cycle costing, the contract documents shall specify the data to be provided by the contractors and the method to be used by the contracting authority to estimate life-cycle costs;
- sets out the conditions with which the method for estimating the costs attributed to environmental externalities must comply;
- refers to EU law stating that once a common life-cycle costing method becomes mandatory throughout the EU, life-cycle costing will be carried out using it;
- in the aspect of application of LCC particularly distinguishes the building sector - by means of a regulation the method of life cycle costing of buildings will be specified/updated;
- allows the solution that in the case of bids with the same cost, either the lower acquisition cost or the bid with the lower life cycle cost is decisive.

Key elements of the SWOT analysis of the Lodzkie Region.

| Strengths | Weaknesses |
|---|---|
| <ul style="list-style-type: none"> ✓ active participation in a number of international projects on CE ✓ management by the Board of the Lodzkie Region of the Regional Operational Programme ✓ ongoing contacts with the business community, stakeholders and the regional community - consultations with the public ✓ access to various statistics and databases helpful in diagnosing CE and potential opportunities for LCA e.g. Database on products and packaging and waste management, structural funds ✓ inclusion of green criteria in public tenders conducted by the Lodzkie Region in order to promote products and services with a lower environmental impact during their life cycle and to encourage entrepreneurs to apply environmental criteria ✓ large number of existing legal acts and documents at the national level (laws, resolutions, strategies, programmes) referring to CE and sustainable development, which directly affect the regions or constitute guidelines for policy-making by regional governments ✓ possibility of direct influence on regional policy by the Marshal's Office through Regional Programme co-financed from EU funds ✓ the capital city of the region is a strong academic and scientific centre | <ul style="list-style-type: none"> ✓ complex and long-lasting process of introducing changes in the regional policy instruments due to the division of competencies and participation of decision-making entities other than the Marshal's Office of the Lodzkie Region. ✓ currently there are no specific provisions referring to LCA in the regional policy apart from the criteria for green public procurement and references in SRWŁ2030 (the main regulations referring to LCA are in national documents and they also cover regions) |
| Opportunities | Threats |
| <ul style="list-style-type: none"> ✓ promoting EU policies in favour of environment and resource efficiency ✓ promotion of social activities and attitudes that favour bioeconomy and RES development in the region ✓ implementation of national policy concerning the introduction of a CE model | <ul style="list-style-type: none"> ✓ vulnerability to political change and consequent possible changes in staffing, pace, direction or priorities of regional policy development ✓ limited allocation for LCA support activities or existence of other current or future urgent |

| | |
|---|---|
| <ul style="list-style-type: none">✓ openness to changes and new ideas thanks to the recruitment of young staff in LR✓ creation of a regional development strategy by LR (e.g. Regional Development Strategy), which may include provisions concerning LCA✓ the region authorities' efforts to introduce modern and innovative regulatory instruments✓ consider including provisions relating to LCA in the criteria for awarding projects under of the regional programme for 2021-2027✓ Increased introduction of topics and subjects concerning LCA at universities, especially at the Technical University of Lodz | <p>environmental needs for which the allocation can be re-allocated</p> |
|---|---|