



# Impact assessment of the support under Priority Axis IV Environment-friendly energy and Priority Axis V Energy efficiency and low-carbon economy in the ROP LV 2014-2020

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## Purpose of the research

Identification and comprehensive effects evaluation of the support under Axis IV Environmentally friendly energy (IP 4a) and Axis V Energy efficiency and low-carbon economy (IP 4b, 4c, and 4e) of the Regional Operational Programme for the Lubelskie Voivodeship (ROP LV) 2014-2020.

## Research methodology

- research approach based on theory-supported evaluation, complemented by case studies and a comparative analysis
- the analysis of programme and strategic documents, competition and project documentation, reports and thematic studies, and statistical data
- individual interviews with representatives of institutions responsible for the process of programming, project selection and implementation of the ROP LV 2014-2020, and interviews with beneficiaries
- CAWI survey with beneficiaries and a panel with branch experts.



## Scope of the research

Measures implemented under Priority Axis IV Environment-friendly energy and Priority Axis V Energy efficiency and low-carbon economy in the ROP LV 2014-2020:

- Measure 4.1 Support for the use of RES
- Measure 4.2 Production of energy from RES in enterprises
- Measure 5.1 Improvement of enterprises energy efficiency
- Measure 5.2 Energy efficiency of the public sector
- Measure 5.3 Energy efficiency of the housing sector
- Measure 5.4 Low-carbon transport
- Measure 5.5 Promotion of low-carbon efficiency
- Measure 5.6 Energy efficiency and low-emission economy for the Integrated Territorial Investments of the Lublin Functional Area

### Time-frame:

from the beginning of the ROP LV 2014-2020 implementation (2015) until June 30, 2023.

## RES DEVELOPMENT SUPPORT

(IP 4A, MEASURES 4.1 AND 4.2 OF THE ROP LV 2014-2020)

### Main Objective:

- ✓ to create a competitive market for renewable energy as an element of sustainable development in the region and to meet the growing energy needs in the Lubelskie Voivodeship

**Number of co-financed projects:** 941

**Amount of EU funding:** PLN 1,084 million<sup>1</sup>

### Key effects of projects - all projects containing res components

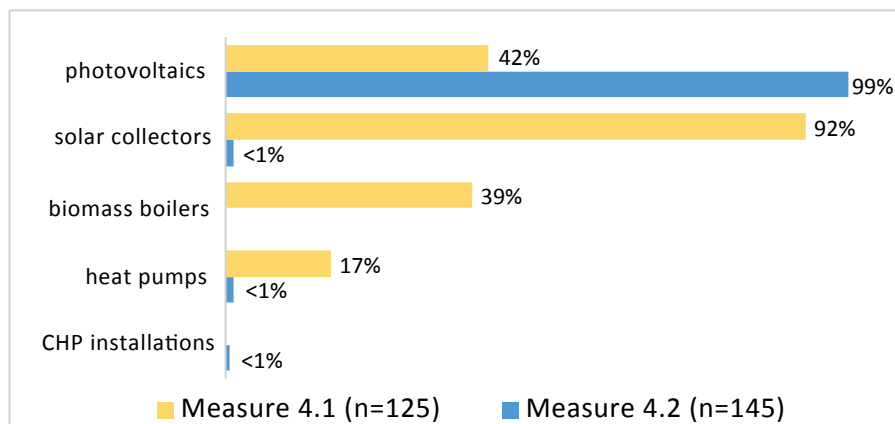


electricity production from RES: 28.42 thousand installations with a total capacity of 215.6 MWe, with an annual production capacity of 215.9 GWh



heat production from RES: 76.17 thousand installations with a total capacity of 407.6 MWt, with an annual production capacity of 320.8 GWh.

GRAPH: TYPES OF RES INSTALLATIONS IMPLEMENTED BY BENEFICIARIES UNDER MEASURE 4.1 AND 4.2 OF THE ROP LV 2014-2020



<sup>1</sup>As of April 30, 2023.

The production capacity of electricity in supported RES installations corresponds to 3.4% of the total demand for electricity in the Lubelskie Voivodeship and 15.4% of the demand for energy in households. The supported RES installations have the capacity to meet the energy needs of about 100.1 thousand households and about 305 thousand inhabitants of the Lubelskie Voivodeship, i.e. more than 90% of the inhabitants of Lublin.

## Benefits of the projects implementation:

- ✓ **a significant increase in the share of RES in the energy balance of the region** – 2-fold increase in electricity generation capacity from RES when compared to 2016
- ✓ **a considerable increase in the potential for heat production from RES** – an increase of approximately 24% in the capacity of RES sources used in individual heating when compared to 2016
- ✓ **popularisation of prosumer energy**
- ✓ **initiating cooperation for the development of RES** on the local level – stimulating the development of **civic energy** based on RES

## Good practices:

- **activating the public** and involving them in project activities: RES micro-installations (**umbrella projects**)
- **adaptation of financing rules** to the changing RES market conditions
- **emphasis on counteracting energy poverty**
- **well-defined catalogue of indicators** to monitor RES projects' effects

## IMPROVEMENT OF ENERGY EFFICIENCY

(IP 4B AND 4C, MEASURES 5.1, 5.2, AND 5.3 OF THE ROP LV 2014-2020)

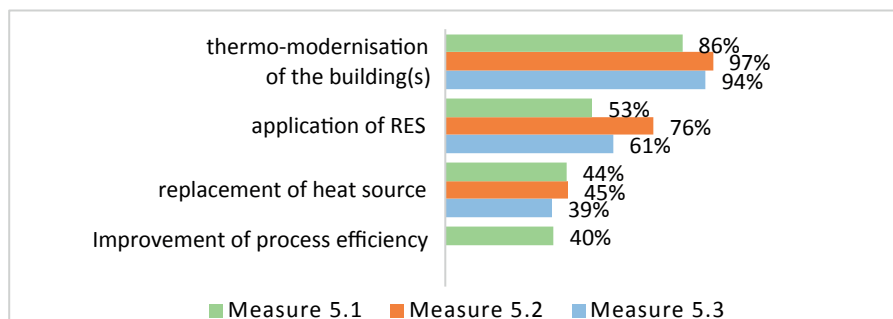
### Main objective:

- ✓ to reduce energy consumption in the economy and in the public and residential sectors, in order to reduce operating costs and improve the environment

**Number of co-financed projects:** 569

**Amount of EU funding:** PLN 646.7 million

GRAPH: MAIN TYPES OF ACTIVITIES AIMED AT IMPROVING ENERGY EFFICIENCY IMPLEMENTED BY BENEFICIARIES UNDER MEASURES 5.1, 5.2 AND 5.3 OF THE ROP LV 2014-2020



### Key effects of the projects:



**energy modernisation of 1179 buildings**

with a total useful floor area of 1.74 million m<sup>2</sup>



**heat savings**

of approximately 974,795 GJ/year



**electricity savings**

of approximately 124,676 MWh/year

## Additional benefits of the projects implementation:

- ✓ **promotion of best practices** in improving the energy efficiency of buildings in the business and public sectors
- ✓ **quality improvement of public spaces** and contribution to the preservation of historic buildings
- ✓ in case of businesses – **the improvement of market competitiveness** and the **creation of an eco-friendly image** of companies

## Good practices:

- **stimulating the comprehensive approach** to the energy efficiency improvement at the criteria level
- applying **intelligent systems for measuring, monitoring or managing energy use** in projects
- **the involvement of experts** evaluating applications in **the process of improving** the principles of project selection and assessment
- **a well-defined catalogue of indicators** to monitor the effects of activities concerning energy efficiency improvement.

## DEVELOPMENT OF LOW-CARBON STRATEGIES (IP 4E, MEASURES 5.4, 5.5, AND 5.6 OF THE ROP LV 2014-2020)

### Main objective:

- ✓ to support a low-carbon economy and thereby reduce the emissions level of greenhouse gas and other harmful substances into the environment

**Number of co-financed projects:** 107, of which:

- 97 projects related to the street lighting modernisation and 3 regarding passive buildings (Measure 5.5)
- 4 projects related to low-emission transport (Measure 5.4)
- 3 projects regarding multimodal urban mobility for ITI LFA (Measure 5.6)

**Amount of EU funding:** PLN 555.2 million

### Key effects of the projects – low-emission transport



the construction of **Integrated Transport Centre for the Lublin Functional Area**



the construction of **intelligent transport systems** in key regional centres, including the creation of **22 modern interchanges**



the purchase of **38 new units** of **low-emission public passenger transport** and **the modernisation of 19 units** (that is 12.5% of all buses in urban public transport)



the construction of **26 'Park&Ride' facilities** and **39 'Bike&Ride' facilities** with almost **487 parking spaces** and **83.7 km of cycle paths** (that is an increase by 13.2% when compared to 2016).



## Key effects of the projects - street lighting modernisation:

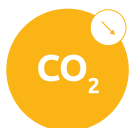


**the modernisation of 69,843 lighting points**, mainly by replacing ineffective and energy-intensive luminaries

## Other effects of the projects:

- ✓ the installation of **air quality monitoring systems** (7 projects)
- ✓ the construction of **passive technology demonstration facilities** (3 projects)

## The key environmental effect of the intervention:



**the reduction of CO<sup>2</sup> emissions** (20,86 thousand tonnes of CO<sup>2</sup> equivalent/year) and **the reduction of other pollutants emissions to the air**

## Additional benefits of the projects implementation:

- ✓ electricity savings in municipalities following modernisation of the lighting points
- ✓ positive influence on the change in mobility patterns of inhabitants, particularly in larger centres
- ✓ the popularisation of cycling as an attractive, convenient, and safe form of low-emission transport

## Good practices:

- **the application of an integrated approach** to the development of a **low-carbon transport network** in the Voivodeship
- **advance payments** and the use of simplified methods of settling expenses in selected projects

## Key recommendations:

### > In the area of supporting the development of RES:

- further stimulation of **prosumer energy development**
- regarding non-prosumer installations – **rewarding key technologies in terms of an effective energy transition** (controllable sources, energy storage)

### > In the area of energy efficiency improvement:

- targeting support for **the implementation of comprehensive projects** that simultaneously achieve the objectives of reducing greenhouse gas emissions and counteracting low emissions
- the duplication of support instruments should be avoided – **the concentration of support on selected, sensitive or particularly important** areas of intervention

### > In the area of low-carbon strategy development:

- the introduction of **a mandatory requirement** in low-carbon lighting projects to use **an intelligent lighting control system** in the project

## **Contracting authority:**

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## **Contractor:**

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