

The Layman's Report LIFE19 GIE/PL/000398



IMPLEMENTATION OF AN AIR QUALITY MANAGEMENT SYSTEM IN THE LOCAL GOVERNMENTS OF THE OPOLSKIE VOIVODESHIP

December 2024

General information about the project:

Project name: Implementation of the Air Quality Management System in the Local Governments of the Opole Voivodeship LIFE19 GIE/PL/000398

Coordinating beneficiary: Opolskie Voivodeship

Project partners: 42 municipalities in the Opolskie Voivodeship, the Opole University of Technology, the Moravian-Silesian Region and the Olomouc Region

Project implementation period: 10.2020 - 12.2024

Total project budget: **3 017 260 €** → **ok. 12 858 656 zł**

Co-financing from the European Commission: : 55%

Co-financing from NFOŚiGW [the National Fund for Environmental Protection and Water Management]: 40%

Beneficiaries' own contribution: 5%

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Beneficiary and project partners

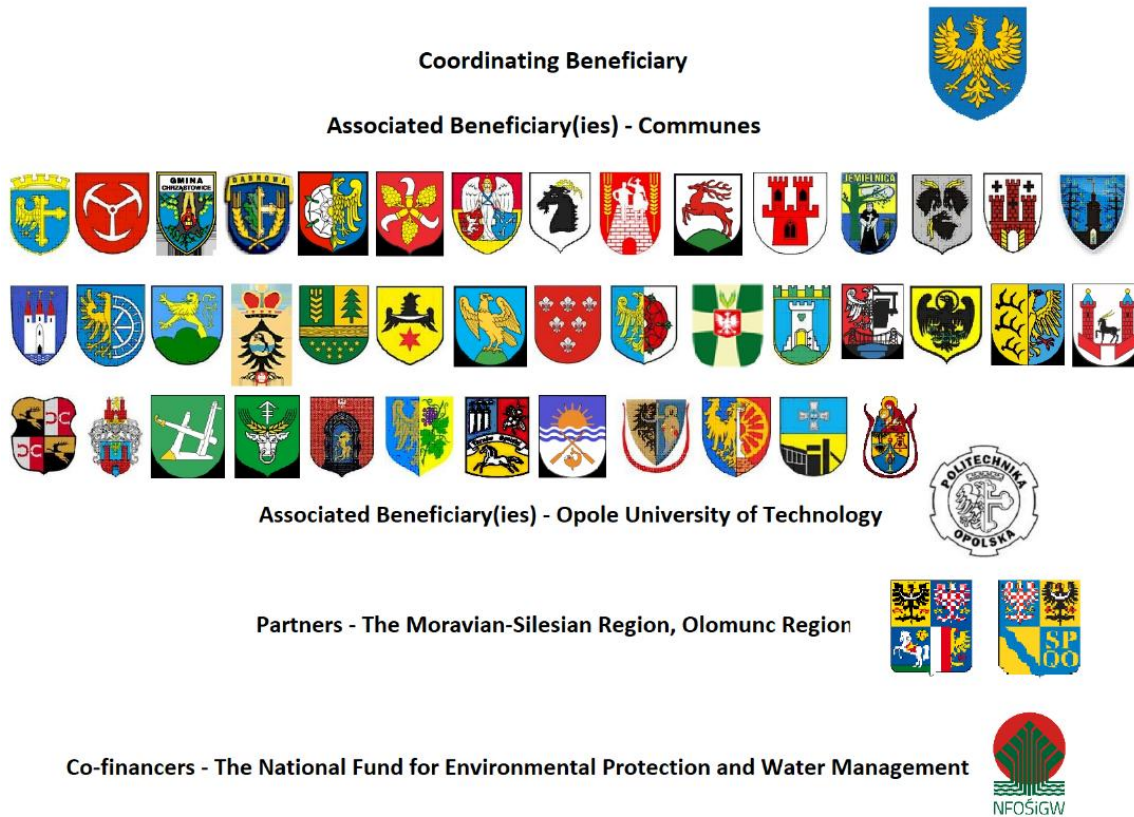


Figure 1 Beneficiary and co-beneficiaries of the project

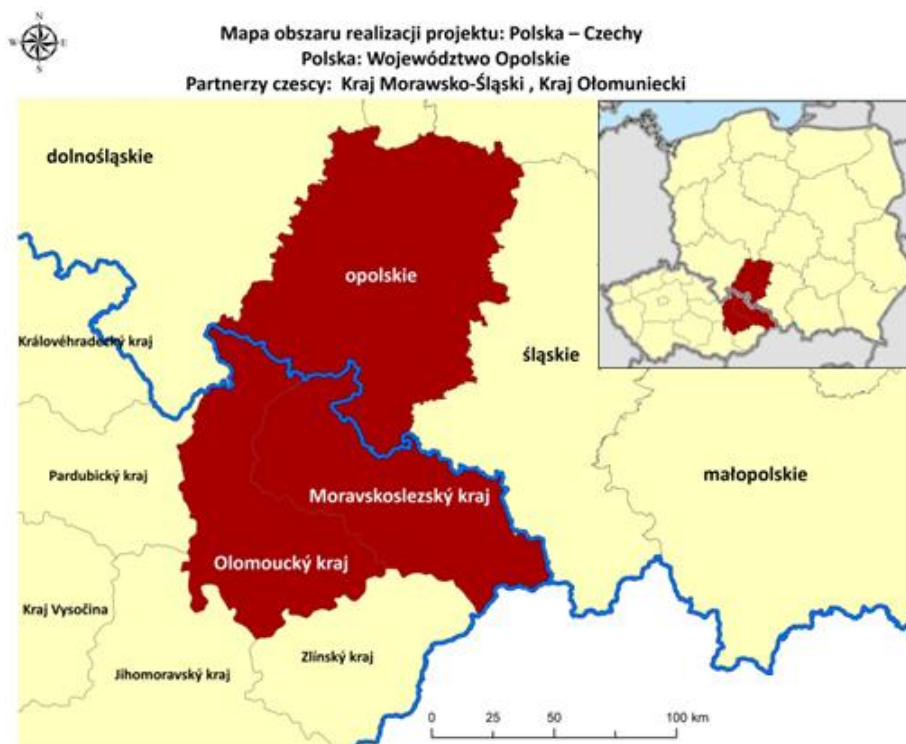


Figure 2 Map of the project implementation area Poland - Czech Republic

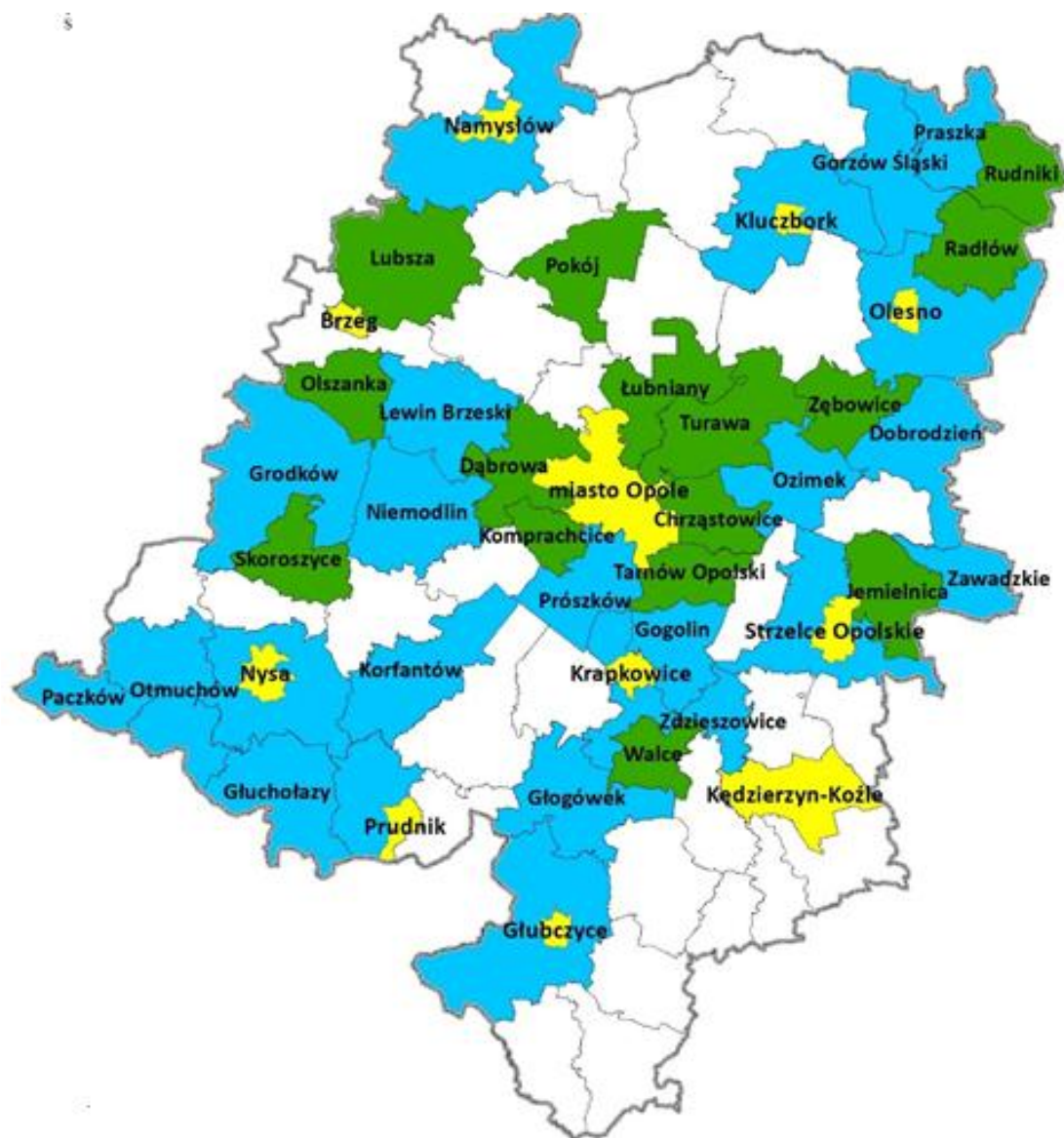


Figure 3 Map of Polish co-beneficiaries of the project.

Yellow: urban communes

Blue: urban-rural communes,

Green color - rural communes

Origins of the project

Poor air quality is a major environmental problem in the Opolskie Voivodeship, and its direct effects affect the entire population of the voivodeship. The situation is most severe in towns and cities: of the 33 municipalities with identified PM10 exceedance areas, 27 are cities, and 80% of the population exposed to above-normal concentrations of PM10 particulate matter live in the largest 10 cities in the voivodeship. The main source of air pollution, so-called 'low emissions' (particulate matter and benzo(a)pyrene) is household heating (over 70%) .

In view of the need to improve air quality in the Opolskie Voivodeship, comprehensive measures are needed to reduce the negative impact of human activities on the environment. Among the various activities undertaken here, there has been a lack of support from public administration at all levels for the corrective measures set out in the provincial air protection programme (POP).

For municipalities in the Opolskie Voivodeship, the challenge is to reduce 'low emissions' in their area by replacing tens of thousands of old coal-fired boilers and cookers with more environmentally friendly ones, among other actions.

Therefore, it was necessary to prepare and implement a uniform (digital) information system to support the implementation of Air Protection Program (APPs) in the Opolskie Voivodeship at all levels (municipality, county, voivodeship), to increase the competence of officials and to provide them with tools for monitoring and informing about air quality.

It is also extremely important to increase public awareness of air quality issues and to provide public support for corrective actions from APPs . It was assumed that the final effect of the project would be to increase the involvement of local governments, society and non-governmental organisations and local entities in the implementation of air quality improvement measures.

About the project

THE MAIN PROJECT GOAL WAS TO:

Increase the capacity and improve the quality of public administration of Opolskie Voivodeship at all levels in relation to the corrective actions defined in the Air Protection Programme (POP), through the following specific objectives:

- ✓ improving the quality of the management of actions resulting from the Air Protection Programme, increasing the efficiency,
- ✓ effectiveness and quality of public services for inhabitants in municipalities of Opolskie Voivodeship,
- ✓ increasing access to information on air quality,
- ✓ increasing the involvement of the public and providing public support for the implementation of corrective actions resulting from the APPs

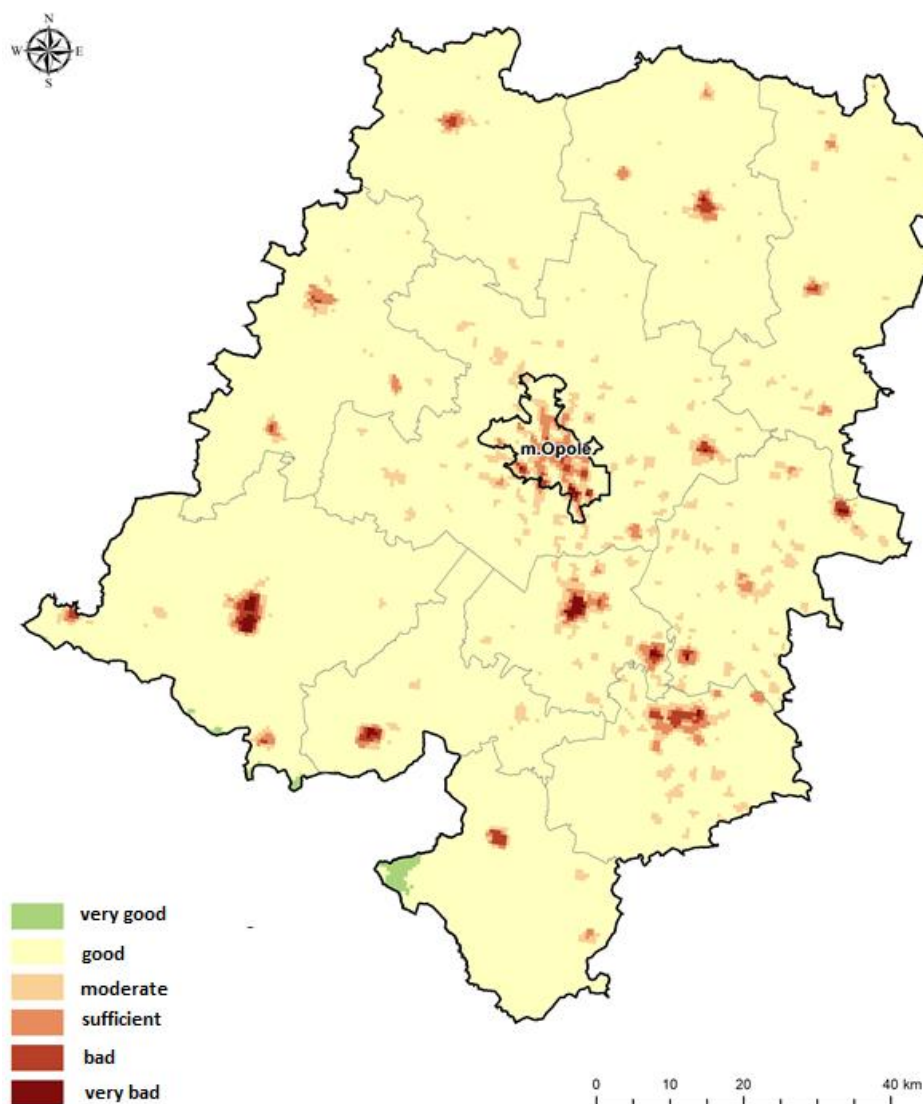


Figure 4 Indicative Levels of Population Threat Due to Poor Air Quality

KEY ACTIONS TAKEN IN THE PROJECT

Building an IT system for monitoring, reporting, planning, managing and updating the air protection programme (APP)

Description of the action:

The action consisted in the preparation and implementation of a regional ICT system (IT platform). This system can be used by any local government units across the country.

Final result of the action:

The system makes it possible to standardise and facilitate the municipalities' execution, delivery and generation of reports on the actions included in the POP (for further submission to the relevant marshal, the provincial environmental protection inspector, the Ministry) and to create a database of the actions carried out and the effects achieved. By gathering all relevant information in one place, the system also facilitates planning and decision-making regarding further actions to improve air quality in the voivodship. At the same time, the municipalities have the option of running the entire procedure of submitting and settling an application for a subsidy for residents to replace an old boiler in a selected local or government programme, e.g. 'Clean Air' or 'Warm Housing', in the IT system.

Preparation of an IT system and a regional near real-time air quality monitoring system

Extension of the existing air quality monitoring system with new measurement points in each municipality of the voivodship and linking them together.

Description of the action:

The action consisted in supplementing the air quality monitoring system in the Opolskie Voivodeship, run by the Chief Inspectorate of Environmental Protection, with additional measurement points that measure dust concentrations.

Final result of the action:

Installation of one additional sensor measuring dust in 71 municipalities in the voivodship (one sensor in each municipality). Data from the sensors, including those of the GIOŚ [by Chief Inspectorate of Environmental Protection], are available on the maps of the IT system created. This gives residents better access to local air quality information, which was not possible with only GIOŚ measuring stations.

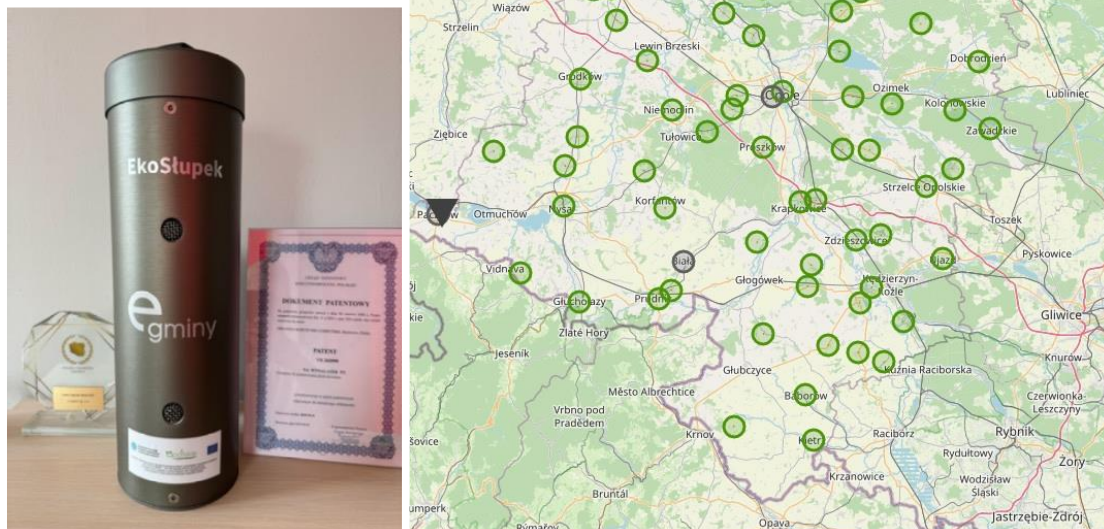


Figure 5 Arrangement of the network of measurement posts of the existing air quality monitoring system

Creation of positions for APP coordinators in 42 municipalities along with their equipment and improvement of knowledge and skills of local government administration employees in the field of air quality improvement

Description of the action:

The action consisted of setting up positions for APP coordinators in each participating municipality. The coordinators were to assist residents with information on how to reduce household emissions. In order to have adequate knowledge, the municipal coordinators completed a two-semester postgraduate course at the Opole University of Technology and participated in numerous seminars. The following equipment was also purchased to support the work of the coordinators:

- ✓ laptops with software;
- ✓ wood moisture sensors,
- ✓ thermal imaging cameras,
- ✓ carbon monoxide detectors,
- ✓ multimedia projectors.

Final result of the action:

42 APP coordinator positions were created in Opolskie Voivodeship municipalities, thanks to which assistance was provided to residents in replacing the heating source of a building or flat with a more environmentally friendly one (e.g. using RES), insulating the building, replacing lights with energy-saving ones.



Figure 6 Thermal imaging camera operation workshops

Post-graduate studies

As part of the LIFE project, **postgraduate studies** entitled ‘Improving the Competence of Air Protection Programme Coordinators’ were conducted at the Faculty of Mechanical Engineering, Opole University of Technology. They were addressed at POP coordinators employed in municipalities, poviats and voivodships in order to be well prepared to meet the project goal. The study was attended by 91 students and lasted from Oct.2021 - Jun. 2022. In addition, 61 students took the exam and were certified as an environmental auditor for a residential building.



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Figure 7 Participants of postgraduate studies organized at the Faculty of Mechanical Engineering of the Opole University of Technology

Postgraduate study programme - increasing the level of competence of local government administration

- ✓ Legal aspects of air protection
- ✓ Air protection
- ✓ Fundamentals of atmospheric physics
- ✓ Air pollution dispersion
- ✓ Low-emission combustion techniques
- ✓ Assessment of installations in buildings, thermodynamics
- ✓ Low-emission reduction plan
- ✓ Legal basis for energy certification and audits
- ✓ Project management
- ✓ Use of a UAV - thermal imaging and emissions of pollutants
- ✓ Study tours



Training courses and seminars organised in the project

As part of the project, a comprehensive programme of seminars for municipal POP coordinators was carried out. It was developed on the basis of a survey of the needs of all municipalities and poviats in Opolskie Voivodeship. Over the course of the project, a series of 12 seminars for municipal POP Coordinators were held: „Prawo miejscowe w ochronie powietrza - aspekty praktyczne”

1. "Local law on air protection - practical aspects"
2. "Environmental education – the importance of awareness and education in the process of improving air quality"
3. "Innovative solutions for air protection"
4. "Good practices for innovative solutions for protection"
5. "Obtaining funds for air protection actions"
6. "Emission permits with offsetting proceedings"
7. "Environmental decisions as an element that can contribute to the reduction of emissions at the planning stage"
8. "Obligations of LGUs in the field of air protection-controls"
9. "The role of local governments in the fight against smog"
10. "Technical aspects of conducting air protection inspections"
11. "Sources of funds for air protection actions"
12. "Air Protection Programme and NGO Activities"

Coordination meetings

16 coordination meetings were held with the municipal POP coordinators, during which experiences and good practices could be shared



Figure 8 Coordination meeting organized at the Marshal's Office of the Opole Voivodeship

Conducting environmental education of the society on air quality improvement

Description of the action:

The action involved municipal coordinators educating residents about how polluted the air is and what arises from it. Each POP coordinator conducted at least 10 training sessions and dozens of individual consultations. Leaflets and brochures were handed over during the meetings and consultations with the coordinators as part of their on-call duties at the office.

Final result of the action:

The action resulted in raising residents' knowledge and awareness of, among other aspects, the consequences of burning waste or the benefits, including financial, of replacing their old coal-fired boiler with a better one, thermo-modernising their building or using RES. Thanks to the educational action, some residents decided to carry out a comprehensive thermo-modernisation of their building or at least replace their furnace with a new one and apply for a subsidy.

Educational and promotional campaign

Each POP coordinator conducted at least 10 training sessions and dozens of individual consultations. The training sessions were attended by concerned residents, as well as teachers, civil servants, representatives of social organisations and local associations.

Informational and promotional materials

Educational materials were prepared to support community education and activation on POP implementation. Educational materials such as brochures, posters, leaflets, presentations were provided to municipal POP coordinators. The educational materials that had been designed and developed increased the effectiveness of the educational and information actions aimed at the inhabitants of the individual municipalities. The adaptation of these materials to the project goals and, at the same time, to the situation and needs of the target group translated into tangible actions by the residents by reducing their concerns and motivating them to reach out for assistance in replacing their heating sources.

Conducting environmental education on air quality issues – outcomes

504 group meetings with residents → **6,693 people**

21,624 individual meetings with residents

3,717 agreements on co-financing signed

Effects of actions taken for air quality in the Opolskie Voivodeship

Reduction of emissions

The reduction of dust and B(a)P emissions as a result of the implementation of the PEI corrective actions in the period 2020 - 2023 was on average:

328,666 (Mg/year) for PM10 dust

323,995 (Mg/year) for PM2.5 dust

0.18771 (Mg/year) for B(a)P