AFTER LIFE PLAN

LIFE Integrated Project
“Implementation of Air Quality Plan for Małopolska Region – Małopolska in a healthy atmosphere”

LIFE-IP MALOPOLSKA / LIFE14 IPE PL 021

MAŁOPOLSKA IN A HEALTHY ATMOSPHERE

Life

NFEPWM

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Kraków, December 2025

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1. Introduction

The LIFE IP MALOPOLSKA project (LIFE14 IPE/PL/021) was implemented in the years 2015–2025 by the Marshal's Office of the Malopolska Region in cooperation with partners, including municipalities, non-governmental organisations (Krakow Smog Alert), the Silesian Region, and institutions such as the National Energy Conservation Agency (KAPE), VITO, the Ministry of the Environment of the Czech Republic, the Slovak Hydrometeorological Institute, and the National Fund for Environmental Protection and Water Management (NFEPWM). Financed by European Union funds under the LIFE Programme and national funds, the project aimed to accelerate the implementation of the Air Quality Plan for the Malopolska Region (AQP), improve air quality, and combat pollution, particularly PM10, PM2.5 particulate matter and benzo(a)pyrene.

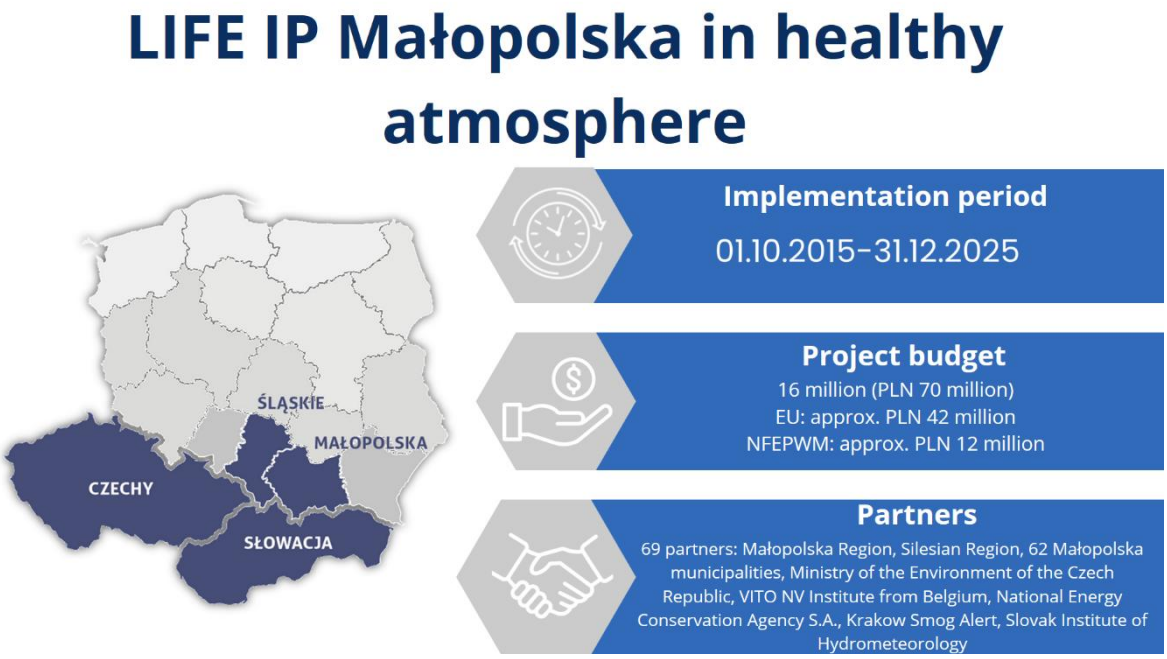

Figure 1. Graphic showing the project implementation period, budget and geographical scope.

The main challenges addressed by the project were high levels of air pollution caused primarily by old solid fuel boilers (the so-called "kopciuchy"), low environmental awareness among residents, and the lack of coordinated local actions. The project was based on four pillars: improving air quality, building competencies in air policy, education and awareness raising, and monitoring.

The AFTER LIFE PLAN describes how to maintain and develop the project's results after its completion. Activities will be continued through the project "Support for the Energy Transformation of Municipalities in the Malopolska Region", co-financed under the European

Funds for Małopolska 2021–2027 programme (types A, B, C projects), which will ensure continuity in the area of energy transformation, education, and monitoring. The plan assumes cooperation with existing structures, such as the network of eco-managers, and adaptation to new EU directives, including the AAQD Directive of 2024, which tightens air quality standards.

Objective of the plan: To ensure the sustainability of effects such as emission reduction, improved public health, and the development of a low-emission economy through systematic actions in the years 2026–2030 and beyond.

2. Project Activities

The LIFE IP MALOPOLSKA project included comprehensive implementation, educational, and monitoring activities carried out in four phases (final phase: 2022–2025). Key actions included:

- **Implementation activities (C.1–C.6):** Employment and training of eco-managers (initially 55, finally 270 across the entire region), replacement of inefficient solid fuel boilers, implementation of anti-smog resolutions (including local ones in 7 municipalities, e.g. Nowy Targ, Skawina), creation of a boiler database (inspiration for the national ZUM list) and heating source inventory (inspiration for the national Central Register of Building Emissions – CEEB). Standards for fuel and boiler quality were developed, as well as an air quality management platform in Krakow with high-resolution modelling. International cooperation was undertaken with the Silesia, Slovakia, and Czech regions in pollution modelling.
- **Competence building and air policy:** Establishment of the Excellence Centre to support municipalities in inspections, energy poverty analysis, and fundraising. Training for municipal employees, police, and municipal guards (985 people trained in hearth inspections). Studies and guidelines covered air quality analyses, emission sources, energy poverty, and practical recommendations and technical solutions supporting local government actions to improve air quality in Malopolska (e.g. inspection guidelines). Activation of NGOs (initiatives undertaken by Krakow Smog Alert) through meetings and experience exchange.
- **Education and awareness raising (E.1–E.4):** Media campaigns (regional and local), educational events (10,000 events with the participation of 820,000 residents), advice for residents (1.36 million consultations), thermal imaging surveys of buildings (6,000). The “Ekointerwencja” application for reporting violations (35,500 reports). Promotion of the project at international conferences and exchange of good practices with other EU regions.
- **Monitoring and management (D.1–D.2, F.1–F.2):** Monitoring of AQP effects (e.g. emission reduction, air quality improvement), impact on society and the economy (surveys among eco-managers and enterprises). Project management included monthly, quarterly, annual and phase reports, as well as obtaining supplementary funding (over EUR 1.48 billion for air quality improvement).

The activities were complementary to programmes such as “Clean Air”, “STOP SMOG”, “My Electricity”, the thermo-modernisation tax relief, and initiatives such as EKO TEAM or the Energy Advisory project implemented by the Regional Fund for Environmental Protection and Water Management in Krakow.

Figure 2. Project objective.

3. Results

As indicated in the prepared Analysis of the Impact of the LIFE IP Malopolska Integrated Project on the Region's Economy and Social Issues, the project exceeded its assumed targets, achieving significant environmental, social, and economic effects:

- **Improvement in air quality**: Over 118,000 solid fuel boilers were replaced. Coal consumption decreased by 37.1%, heat by 14.8%. The improvement in air quality in Krakow and the entire Malopolska Region is particularly noticeable during the heating season (October to March). Compared to winter 2014/2015 – the period before the introduction of anti-smog resolutions – the average PM10 concentration in the 2024/2025 season decreased by 45% in Malopolska. In Krakow itself, the decrease was as much as 53%, and in the rest of the region – 41%.

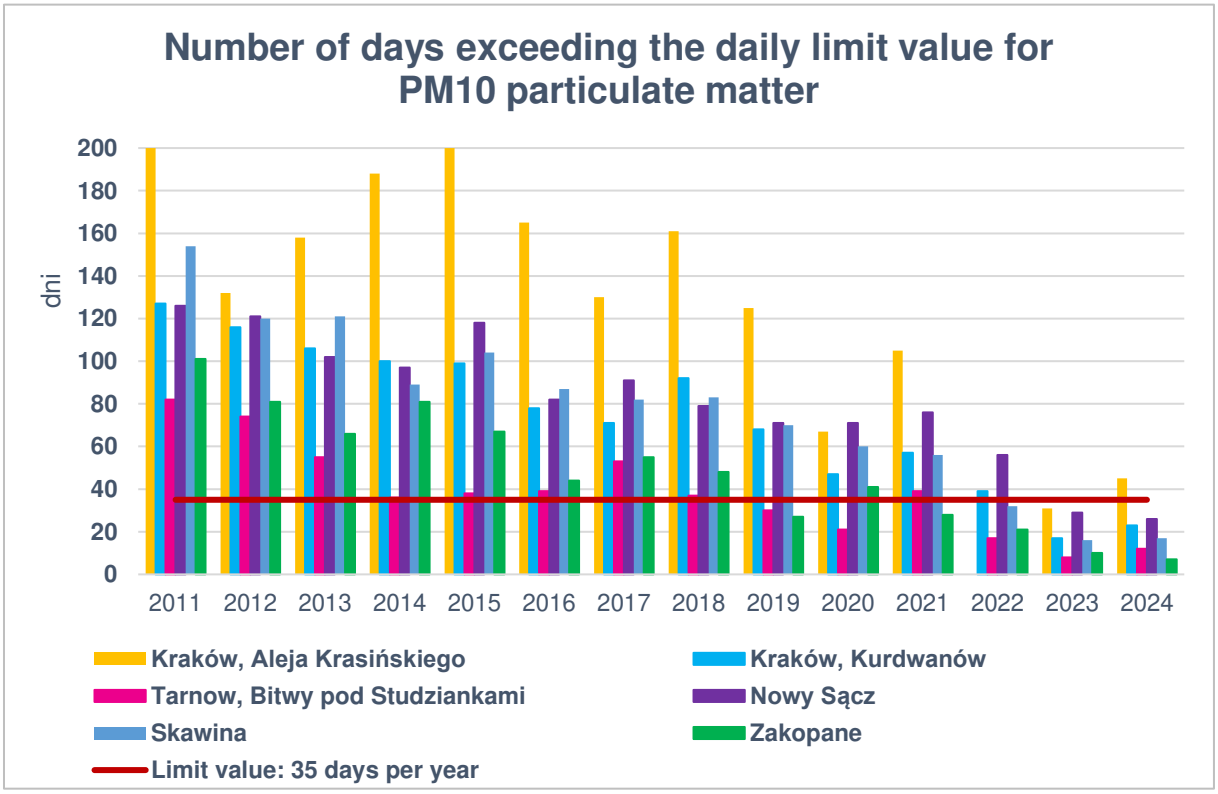

Figure 3. Chart – Number of days exceeding the daily PM10 limit.

- **Development of RES and energy efficiency**: The share of RES in heat production increased to 39.1% (a 170% increase). Photovoltaic installations, heat pumps, and solar collectors in over 30,000 homes. Thermo-modernisation of 11,700 buildings. Malopolska is the national leader in the share of low-emission heating sources (36.3% of buildings).

- **Impact on health and society**: Decrease in health benefits paid due to respiratory and circulatory diseases (by 3.2–11.9%). Reduction in deaths due to pollution by 8.5%. Increase in life expectancy (men +1.2 years, women +0.9 years). 65% of residents rate air quality as good. Increased awareness: 10,000 events with 820,000 participants.
- **Economic impact: Growth in tourism** (overnight stays +39.3%, tourists +48.2%). Development of the heating industry (retraining for heat pumps). Lower treatment and absenteeism costs. Over EUR 1.4 billion in supplementary funds obtained.
- **Institutional:** Network of 67 eco-managers expanded to 270 in all municipalities. Transfer of practices: anti-smog resolutions in 14/16 Polish voivodeships, inspiration for CEEB and the ZUM list. Recognition by the European Commission: Malopolska as an example of good practice in the 2025 European Environment Agency report.

Figure 4. Effects of the work of Eco-managers.

Results were monitored through KPIs (e.g. reduction in days with PM10 exceedances, emissions), surveys, and reports.

4. Plan – Sustainability of Results

After the completion of the LIFE IP MALOPOLSKA project in 2025, all the actions planned below aim to continue the key mechanisms implemented in the project and to maintain and further strengthen the achieved effects – in particular the improvement of air quality, emission reduction, high environmental awareness of residents, and effective enforcement of anti-smog standards.

The key continuation mechanism is the project "Support for the Energy Transformation of Municipalities in the Malopolska Region", co-financed under the European Funds for Małopolska 2021–2027 programme (types A, B, C), with an estimated budget of EUR 36,796,536.00. These actions directly extend the network of eco-managers, education, controls, and energy transformation initiated in LIFE IP MALOPOLSKA.

Continuation of key activities (all aimed at sustaining the effects of LIFE IP MALOPOLSKA):

- Maintenance and development of the eco-managers network (270 people): Focus on supporting people affected by energy poverty, seniors, and SMEs. Expansion to include climate advisors in districts and "Eco-managers for Business". Advisory support in grant applications and investment processes.
- Enforcement of anti-smog resolutions: Increased effectiveness of controls through equipping municipal/inter-municipal guards. Penalties for violations. Continuation and development of the "Ekointerwencja" application (including integration with CEEB – "Report a Smoky Boiler" function and the mObywatel application).
- Replacement of remaining boilers (approx. 120,000 classless devices and 95,000 class 3 and 4 boilers according to CEEB): Grants for RES (heat pumps, biomass: pellet and wood gasification boilers, photovoltaics) and thermo-modernisation. Priority: households affected by energy poverty (municipal analyses completed by 2022).
- Education and awareness raising: Regional information campaigns (combating the "smog in Krakow" stereotype). Annual training for municipalities, NGOs, and residents (min. 6 trainings per year). Actions targeted at different social groups.
- Monitoring and reporting: Annual air quality assessments (GIOŚ), summaries of AQP implementation, surveys among residents and enterprises. Integration with CEEB and AQP updates every 3 years.
- Financing and partnerships: European Funds for Małopolska 2021–2027 as the main source (type A: guard equipment; type B: functioning of eco-managers and service points; type C: education, campaigns, LED boards, sensors, postgraduate studies). Complementarity with "Clean Air", "My Electricity", and thermo-modernisation relief. Cooperation with NGOs (Krakow Smog Alert), the European Commission, and EU regions.
- Risks and challenges: Energy price inflation, social resistance to new standards (Building and Air Quality Directives). Solutions: educational campaigns, simplification of grant procedures.
- Schedule: 2026–2027: Full integration with the project under European Funds for Małopolska, training of eco-managers and guards. 2028–2030: Further elimination of "smokers", achievement of AAQD standards.

Positive impact of the planned tasks on sustaining the effects of LIFE IP MALOPOLSKA: The continuation of the eco-managers network and service points will provide direct support to residents in replacing heating sources and thermo-modernisation – directly extending the trend of emission reduction and air quality improvement (already achieved PM10 reduction of 44–53%). Increased controls and penalties will strengthen the enforceability of anti-smog resolutions, preventing a return to old heating habits. Intensive education and campaigns will maintain high social awareness (currently 65% of residents rate air quality as good), while monitoring integrated with CEEB will allow real-time response to any deterioration. As a result, the achieved environmental, health, and economic outcomes will not only be preserved but further strengthened towards full compliance with the new, tightened EU AAQD standards.

4.1. Implementation of the Air Quality Plan – Projects Co-financed by the European Union under the European Funds for Małopolska 2021–2027

4.1.1. Type A Project – Provision of Equipment for Municipal/Inter-municipal Guards for Environmental Protection Inspections

The project provides co-financing for the equipment of guards, employment of new guards (minimum 1 full-time position for 30–36 months), additional equipment, costs of expert opinions, sample analyses, information materials, and training. Maximum PLN 600,000 per municipality (multiplied for inter-municipal guards).

Support is provided in the following areas:

- Coverage of costs related to the employment of new municipal guards. Only the employment of at least 1 new municipal guard under an employment contract for 1 full-time position for a minimum period of 30 months (maximum 36 months) will be considered an eligible cost.
- Equipping municipal/inter-municipal guards with the necessary equipment to carry out inspections.
- Co-financing of costs of expert opinions, experts, and expert studies for conducted inspections and proceedings, as well as costs of sample analyses.
- Co-financing of the printing of information materials (leaflets, brochures) on legal requirements and available subsidies, addressed to residents.
- Participation of guards in training/courses on sample collection procedures, correct conduct of inspections and proceedings in the event of detecting violations, and training on the use of purchased equipment.

4.1.2. Type B Project – Functioning of Eco-managers in municipalities

Co-financing for the employment of an eco-manager in the municipality, creation/adaptation of a resident service point, local educational campaigns, the municipality's energy transformation strategy, energy poverty analysis, energy consumption management in

buildings, and the purchase of advisory equipment. Maximum PLN 500,000 per municipality (multiplied for municipal partnerships). Funds have been secured for all 183 municipalities.

Support is provided in the following areas:

- Employment of an eco-manager in the municipality – as a mandatory element of the project.
- It is required to employ at least 1 eco-manager under an employment contract for 1 full-time position for a minimum of 30 months (maximum 36 months).
- Creation, adaptation, and equipping of a stationary resident service point (operating a stationary service point in the municipality is an obligatory task of the municipality).
- Conducting local information and educational campaigns on climate protection, air protection, and anti-smog resolutions, dedicated to every social group – as a mandatory element of the project.
- Preparation and implementation of the municipality's energy transformation strategy based on applicable documents.
- Analysis, monitoring, and counteracting the problem of energy poverty in the municipality.
- Analysis and management of energy consumption in buildings, including public utility buildings.
- Purchase of equipment to support advisory, educational, and inventory activities.

4.1.3. Type C Project – Support for the Energy Transformation of Municipalities in the Malopolska Region

The project is implemented at the regional level. Project value: PLN 22,028,132.54 (EU co-financing: PLN 18,723,912.66, 85%). Period: 01.01.2025 – 31.12.2028.

Objective: Supporting sustainable development through education, promotion, and implementation of effective energy solutions.

Project activities and results:

- Various educational activities addressed to employees of local government units (LGUs) and non-governmental organisations (NGOs): training, workshops, meetings, and conferences on, among others, energy transformation. For Eco-managers and municipal employees involved in the implementation of the Air Quality Plan, two-semester postgraduate studies will be organised (3 editions). Participants will gain broad practical and theoretical knowledge in the field of energy efficiency, renewable energy sources, and air protection. In addition to postgraduate studies, 12 training sessions will be organised for Eco-managers and LGU employees on, among others, thermal imaging surveys, financing of pro-environmental activities, ecological education, and air protection. Additionally, 8 workshop meetings will be organised for chimney sweeps and municipal guards. The workshops will focus on acquiring data related to the Central Register of Building Emissions and on the control and verification of emission sources. During the project, coordination meetings will be organised to

exchange knowledge and systematise activities. The meetings will be addressed to LGU employees and Eco-managers. 4 study visits will also be organised, including 2 in Poland and 2 abroad. These will be visits to public institutions and industrial plants, allowing participants to gain practical knowledge and establish valuable contacts for the development of municipalities and the region.

- Implementation of a regional information campaign in 3 editions with 2 waves each, covering air quality, energy efficiency, and environmental topics related to the project. The campaigns will use various communication channels such as radio, press, television, and social media. In addition, annual information materials (leaflets, posters, brochures) will be developed to improve residents' education and meet the information and educational needs of all social groups. A website will be created within the project, serving as an effective information channel to help residents better understand the issue of air protection. The reach of the educational and information activities/campaigns is 3 million people.
- Launch of large-format LED boards informing about air quality, as well as the installation of 200 air quality sensors in municipalities. The project also includes the rental of a mobile laboratory for measuring pollution in Malopolska health resorts.
- Development of model/conceptual investment projects to increase the use of RES and energy efficiency. Two demonstration photovoltaic installations will be implemented in organisational units of the Malopolska Region.

Project Recipients The key recipients of the project are municipal self-governments in the Malopolska Region, covering 183 municipalities of varying size and character. Local government employees, including Eco-managers, responsible for implementing energy policies at the local level. Local communities, including residents of Malopolska municipalities, also constitute an important target group. The Malopolska Region is characterised by significant demographic and social diversity, encompassing both urban and rural areas facing problems of air quality and low energy efficiency of buildings.

4.2. Development and Dissemination of LIFE IP Malopolska Initiatives in Other Projects and Partner Activities

The LIFE IP Malopolska project not only achieved its assumed objectives in the region but also initiated solutions that are systematically developed, expanded, and replicated in other projects, programmes, and by external partners. Below are selected examples of the continuation and further development of key LIFE initiatives, which ensure the sustainability of the project's effects at the regional, national, and supra-regional levels.

Counteracting Energy Poverty – from Analysis and Pilot to Planned Comprehensive Solutions Within the LIFE IP Malopolska project, a methodology for analysing energy poverty was developed and detailed analyses were carried out in partner municipalities. The results were

used to prepare guidelines for all municipalities in the region (an obligation resulting from the 2020 update of the Air Quality Plan).

Additionally, a pilot of the “Stop Smog” programme was implemented in the municipality of Skawina – comprehensive support for thermo-modernisation and replacement of heating sources in the poorest households. The experience from this pilot was used in the preparation and implementation of the national “Stop Smog” programme, enabling the scaling of effective assistance mechanisms for people affected by energy poverty across Poland.

The continuation and expansion of these activities is planned in a new dedicated project on combating energy poverty, prepared in cooperation with the AGH University of Science and Technology in Krakow.

The overarching goal is to reduce low emissions from heating buildings of households affected by energy poverty through real, systemic support for local governments and residents.

A universal methodology for assisting people in energy poverty will be developed and tested in several Malopolska municipalities.

The Malopolska Region has submitted two applications for co-financing of this project under the LIFE programme (one was rejected, the second is awaiting a decision). Implementation of the project will further strengthen the effects of LIFE in reducing emissions from the most difficult, energy-poor households.

Continuation of Educational and Activating Activities by Krakow Smog Alert (KAS) Krakow Smog Alert, a key partner of the LIFE IP Malopolska project, continues and develops the models of educational and social activities developed during the project.

One of the flagship achievements of LIFE was the educational campaign “See What You’re Breathing” with mobile models of human lungs (several-metre installations visualising air pollution during the heating season). This model proved to be an extremely effective tool for building awareness and was disseminated by the Polish Smog Alert (PAS) – the campaign is now implemented cyclically in successive editions (already the seventh edition in 2025), reaching dozens of towns and villages across Poland.

KSA regularly organises networking meetings for local smog alerts across the country, exchanges good practices, and supports new anti-smog initiatives. These activities are financed from grant projects, including funds from the Clean Air Fund and other private and public sources. Thanks to this, the educational and mobilising momentum generated in LIFE IP Malopolska is constantly maintained and expanded on a national scale, strengthening the long-term change in social attitudes towards air protection.

Transfer of the Eco-manager Model to Other LIFE Projects in Poland and Abroad One of the most recognisable and frequently replicated achievements of LIFE IP Malopolska is the model of employing and operating eco-managers (initially 62 people in partner municipalities, ultimately 270 in all municipalities of the region). This model – based on direct, local advice to

residents, support in filling grant applications, ecological education, and coordination of anti-smog activities – proved highly effective and has been adapted in numerous subsequent integrated LIFE projects.

In Poland, the model has been implemented or developed, among others, in the following regions and projects:

- Silesian Voivodeship – LIFE IP "Śląskie. Przywracamy błękit" (LIFE19 IPE/PL/000018) – ecomenager network modelled on **Malopolska**
- Opole Voivodeship – LIFE "Implementation of the air quality management system in the local governments of the Opole Voivodeship" (LIFE19 GIE/PL/000398) – **Ecomanagers** implemented directly on the **Malopolska** model
- Podkarpackie Voivodeship (LIFE22-IPE-PL-LIFE Podkarpackie), Wielkopolska (LIFE21-IPC-PL-LIFE AFTER COAL PL), Pomerania (LIFE23-IPE-PL-LIFE Pom GOZilla.PL), Mazovia (Mazowsze bez smogu under European Funds for Mazovia 2021–2027), and others – networks of **Ecomanagers** or circular economy advisors created under national and regional programmes, directly inspired by **Malopolska** experiences
- Second Małopolska integrated LIFE project LIFE IP EKOMAŁOPOLSKA (LIFE19 IPC/PL/000005) – model significantly expanded with climate and energy advisors, business advisors ("Ecomanagers for business")

The Malopolska eco-manager model has also been adapted in LIFE projects in neighbouring countries:

- Slovakia – LIFE IP SK AQ Improvement (LIFE18 IPE/SK/000010)
- Hungary – LIFE IP "HungAIRy" (LIFE17 IPE/HU/000017)
- Bulgaria – LIFE-IP Clean Air (LIFE17 IPE/BG/000012

Thanks to this, the model of direct, field-based advisory services – developed and refined in LIFE IP Malopolska – has become one of the most recognisable and frequently copied solutions in the LIFE programme in Central and Eastern Europe. Its replication in subsequent projects ensures the sustainability and further strengthening of the effects of LIFE IP Malopolska on a national and international scale..

4.3. Impact of the Tasks of the Air Quality Plan on Sustaining the Effects of the LIFE IP Malopolska Project

The Air Quality Plan for the Malopolska Region updated in 2023, has transformed many key actions and mechanisms developed under the LIFE IP Malopolska project into permanent legal obligations for municipalities and the region. Thanks to this, the effects achieved in the years 2015–2025 (reduction of dust and benzo(a)pyrene emissions, replacement of over 118,000

inefficient heating sources, decrease in average PM10 concentration by 44–53% during the heating season, increase in the share of RES to 39.1%, improvement in residents' health, and high environmental awareness) are no longer the result of a temporary project, but a permanent element of the air protection system in the region.

How specific AQP tasks contribute to maintaining and strengthening the LIFE results:

1. **Maintaining the position of an eco-manager in every municipality**
    - Direct continuation of the network of eco-managers established in the LIFE project.
    - Provides permanent, local advice to residents on the replacement of heating sources, grant applications ("Clean Air" programme), and thermo-modernisation.
    - Maintains a high level of environmental awareness and motivation for further changes (effect: 65% of residents rate air quality as good).
    - Crucial for reaching the most difficult groups (energy poverty, seniors), preventing a return to old, high-emission devices.
2. **Conducting information campaigns on anti-smog resolutions with delivery to every address using coal/wood heating**
    - Maintains social and informational pressure at the level of individual households.
    - Prevents unintentional violations of bans (e.g. burning waste, using classless boilers after the deadline).
    - Strengthens the educational effect of LIFE (820,000 event participants, 1.36 million consultations) through systematic reminders of requirements and available support.
3. **Continuous inventory of heating sources and updating data in the Central Register of Building Emissions (CEEB)**
    - Enables precise monitoring of progress in eliminating "kopciuchy" and identification of remaining problematic installations.
    - CEEB data form the basis for planning subsequent grant calls and inspections – the mechanism developed in LIFE has become a permanent tool for emission management.
    - Ensures that the reduction of PM10, PM2.5, and benzo(a)pyrene emissions achieved in the project will not be reversed due to lack of knowledge about the actual state of heating sources.
4. **Planned and intervention inspections (within 24 hours of notification) + minimum 5% of inspections with ash sample collection**
    - Strengthens the enforceability of anti-smog resolutions – an element that proved key to real emission reduction in the LIFE project.
    - Prevents a return to illegal burning of waste and low-quality coal.
    - In combination with the "Ekointerwencja" application and the "Report a Smoky Boiler" function in CEEB, it creates a system of rapid civic and administrative response that maintains low levels of norm exceedances.
5. **Tasks of the Region – maintaining the Excellence Centre and coordination**
    - Provides continuous substantive and training support for municipalities (organising training, educational materials).

- Enables ongoing monitoring of AQP implementation and anti-smog resolutions (annual summaries, analyses, regional campaign every year).
- Thanks to co-financing from the European Funds for Małopolska 2021–2027, the mechanisms of actions undertaken within the Excellence Centre, the use of CEEB data, and the industrial emission database will be maintained – guaranteeing that Malopolska remains the leader in air policy implementation in Poland.

The tasks included in the Air Quality Plan (2023) transform the effects of the LIFE IP Malopolska project from project achievements into a permanent legal and institutional system.

Thanks to them, the network of eco-managers and advisory points operates permanently, control and enforcement of standards are mandatory and systematic, residents have constant access to information and support, and the region coordinates and monitors progress on an ongoing basis.

As a result, the achieved improvement in air quality, reduction of pollution-related deaths, increase in life expectancy, and development of a low-emission economy are permanent in nature and protected against reversal – even after the end of LIFE financing and in the face of the tightened standards of the AAQD Directive (2024).

4.4. Transfer of Good Practices to the National Level – Sustainability of Results

One of the most important long-term effects of the LIFE IP Malopolska project is the effective transfer of developed solutions and good practices to the national level. Several key mechanisms originally implemented in the Malopolska Region have been disseminated, institutionalised, and now function as mandatory or standard tools across the whole of Poland. Thanks to this, the results achieved in Malopolska (emission reduction, improvement in air quality, increase in awareness) have a permanent systemic character and are being replicated in other regions.

Main examples of the transfer and their importance for sustaining the results:

- **Central Register of Building Emissions (CEEB)** The database for the inventory of heating sources and buildings, created and developed since 2017 in the Malopolska Region as part of the LIFE IP Malopolska project, became a direct inspiration and model for the national register. Since 1 July 2021, CEEB has functioned as a statutory obligation at the national level (Act on supporting thermo-modernisation and renovations and on the central register of building emissions). Thanks to this, the mechanism of systematic data collection on heating sources, which in Malopolska enabled precise planning of "kopciuchy" replacement and inspections, is now mandatory throughout Poland. Maintaining high-quality data in CEEB (including updates of declarations by building owners) allows for further planning and monitoring of anti-smog actions on a national scale, strengthening the sustainability of the effects achieved in Malopolska.

- **Anti-smog resolutions** The Malopolska Region was the first region in Poland to adopt a comprehensive anti-smog resolution in 2017 (with subsequent tightenings – 7 local anti-smog resolutions). The experience and model provisions of Malopolska were used by other voivodeships – anti-smog resolutions are now in force in 14 out of 16 Polish regions. Thanks to this, standards for solid fuel quality, emission requirements for boilers, and deadlines for replacing inefficient devices have been harmonised at the national level. Maintaining and enforcing these resolutions in other regions directly extends and strengthens the emission reduction effects achieved in Malopolska.
- **Green Devices and Materials List (ZUM)** Since 2016, within the LIFE IP Malopolska project, a regional list of solid fuel boilers meeting eco-design and anti-smog resolution requirements was maintained. This practice became an inspiration for the creation of the national "Green Devices and Materials" list (ZUM), which has been run since 2020 by the Institute of Environmental Protection – National Research Institute (IOŚ-PIB) in cooperation with NFEMWP. The ZUM list is currently a mandatory tool when applying for subsidies under the "Clean Air" programme and other national programmes. Thanks to this, residents across Poland have access to reliable information on devices meeting the highest emission standards – the mechanism developed in Malopolska has been disseminated and continues at the national level.
- **Thermo-modernisation tax relief** In 2017–2018, the Malopolska Region, in cooperation with the then Plenipotentiary of the Prime Minister for the Clean Air Programme, played a key role in developing the thermo-modernisation tax relief. This solution, in force since 2019, allows the deduction of thermo-modernisation and heating source replacement costs in the PIT tax return. The first training on the rules for using the thermo-modernisation relief and correct documentation of expenses was organised in Malopolska for Eco-managers – by the National Revenue Administration in cooperation with the LIFE project coordinator.

The transformation of local good practices into statutory and nationwide solutions (CEEB, anti-smog resolutions, ZUM list) means that the project's key effects – systematic inventory of emission sources, gradual tightening of emission standards, and promotion of low-emission technologies – no longer depend solely on the actions of the Malopolska Region.

They have become a permanent element of the national air protection and energy transformation system.

Thanks to this, the improvement in air quality achieved in Malopolska (a 44–53% decrease in average PM10 concentration during the heating season, reduction of dust and benzo(a)pyrene emissions) has a chance to spread further across the country, and the risk of reversing the effects in the region itself is significantly reduced.

The Malopolska Region will continue to play the role of leader and "laboratory" of good practices – sharing its experience through inter-regional cooperation, conferences, and European Commission initiatives (including EEA reports and the Clean Air Forum).