(Projects funded under the Call 2014 onwards must use this format)

LIFE Project Number

< LIFE19 GIE/PL/000398>

~~Mid-term~~ / Final Report

Covering the project activities from 01/10/2020[1] to 31/12/2024

Reporting Date[2]

<30/03/2025>

LIFE PROJECT NAME or Acronym

< LIFE_AQP_OPOLSKIE_2019.PL >

Data Project

Project location:	Poland, Opolskie Voivodeship
Project start date:	<01/10/2020>
Project end date:	<30/09/2022> **Extension date:** <31/12/2024>
Total budget:	2 729 149,55 €
EU contribution:	1 454 540,60 €
(%) of eligible costs:	53

Data Beneficiary

Name Beneficiary:	Opolskie Voivodeship
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[1] Project start date

[2] Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

This table comprises an essential part of the report and should be filled in before submission

Please note that the evaluation of your report may only commence if the package complies with all the elements in this receivability check. The evaluation will be stopped if any obligatory elements are missing.

Package completeness and correctness check	
Obligatory elements	**✓ or N/A**
Technical report	
The correct latest template for the type of project (e.g. traditional) has been followed and all sections have been filled in, in English *In electronic version only*	✓
Index of deliverables with short description annexed, in English *In electronic version only*	✓
Mid-term report: Deliverables due in the reporting period (from project start) annexed Final report: Deliverables not already submitted with the MTR annexed including the Layman's report and after-LIFE plan Deliverables in language(s) other than English include a summary in English *In electronic version only*	✓
Financial report	
The reporting period in the financial report (consolidated financial statement **and** financial statement of each Individual Beneficiary) is the same as in the technical report with the exception of any terminated beneficiary for which the end period should be the date of the termination.	✓
Consolidated Financial Statement with all 5 forms duly filled in and signed and dated *Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets + full Excel file)*	✓
Financial Statement(s) of the Coordinating Beneficiary, of each Associated Beneficiary and of each affiliate (if involved), with all forms duly filled in (signed and dated). The Financial Statement(s) of Beneficiaries with affiliate(s) include the total cost of each affiliate in 1 line per cost category. *In electronic version (pdfs of signed sheets + full Excel files) + in the case of the Final report the overall summary forms of each beneficiary electronically Q-signed or if paper submission, signed and dated originals**	✓
Amounts, names and other data (e.g. bank account) are correct and consistent with the Grant Agreement / across the different forms (e.g. figures from the individual statements are the same as those reported in the consolidated statement)	✓
Mid-term report (for all projects except IPs): the threshold for the second pre-financing payment has been reached	✓
Beneficiary's certificate for Durable Goods included (if required, i.e. beneficiaries claiming 100% cost for durable goods) *Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets)*	✓
Certificate on financial statements (if required, i.e. for beneficiaries with EU contribution ≥750,000 € in the budget) *Electronically Q-signed or if paper submission signed original and in electronic version (pdf)*	✓
Other checks	
Additional information / clarifications and supporting documents requested in previous letters from the Agency (unless already submitted or not yet due) *In electronic version only*	✓
This table, page 2 of the Mid-term / Final report, is completed - each tick box is filled in *In electronic version only*	✓

**signature by a legal or statutory representative of the beneficiary / affiliate concerned*

Instructions:

Please refer to the General Conditions annexed to your grant agreement for the contractual requirements concerning a Mid-term/Final Report.

Both Mid-term and Final Technical Reports shall report on progress from the project start-date. The Final Report must be submitted to the Agency no later than 3 months after the project end date.

Please follow the reporting instructions concerning your technical report, deliverables and financial report that are described in the document Guidance on how to report on your LIFE 2014-2020 project, available on the LIFE website. Please check if you have the latest version of the guidance as it is regularly updated. Additional guidance concerning deliverables, including the layman's report and after-LIFE plan, are given at the end of this reporting template.

Regarding the length of your report, try to adhere to the suggested number of pages while providing all the required information as described in the guidance per section within this template.

1. Table of contents

Table of Contents

2. List of key-words and abbreviations

- **AQP** – Air Quality Plan
- **BaP – benzo(a)pyrene** - a polycyclic aromatic hydrocarbon (PAH) with low acute
- toxicity and high chronic toxicity, which is linked to its ability to accumulate in the body; like other PAHs, it is a chemical carcinogen, and its mechanism of action is genotoxic, meaning that it reacts with DNA and acts upon metabolic activation
- **CEEB** – The Central Emission Register of Buildings
- **GIOŚ** – Chief Inspectorate for Environmental Protection
- **GK POP** – Municipal AQP Coordinators
- **GPOP** – Municipal Air Quality Plan
- **GPN** – Municipal Low-Emission Programme
- **GUNB** – The General Office of Building Control
- **NFOŚiGW** – The National Fund for Environmental Protection and Water Management
- **Concept** – The management concept of the regional environmental programme (AQP) at all levels of management
- **LIFE SC**– The Project Steering Committee
- **OAS** – Opole Smog Alert
- **PM10** – particulate matter PM10 - is a mixture of airborne particles of less than 10
- micrometres in diameter
- **PM2.5** – particulate matter PM2.5 - are atmospheric aerosols with a diameter of less
- than 2.5 micrometres
- **PMŚ** – State Environmental Monitoring
- **Project** – Project "Implementation of an air quality management system in local governments of the Opolskie Voivodeship" LIFE19 GIE/PL/000398 - LIFE_AQP_Opolskie_2019.Pl
- **PZP** – Public Procurement Plan
- **POŚ** - Environmental Protection Act – the act of 27 April 2001
- **WBS** – Work Breakdown Structure
- **WIOŚ** – Voivodeship Inspectorate for Environmental Protection in Opole
- **WFOŚiGW** – The Regional Fund for Environmental Protection and Water Management in Opole
- **WPGO** – Voivodeship Waste Management Programme
- **ZWO** – Opolskie VoivodeshipGovernment

3. Executive Summary (maximum 2 pages)

The main objective of the project was to enhance the capacity and effectiveness of the public administration of the Opolskie Voivodeship in addressing the corrective measures outlined in the Air Protection Programme. This was achieved through the organisation and implementation of a unified management system, as well as by increasing public awareness of air quality issues.

The project successfully prepared the regional administration for the implementation of tasks related to the Air Quality Protection (AQP) Programme for the Opolskie Voivodeship and other environmental policies. Several key objectives were accomplished, including the adaptation of good practices from other Polish regions, such as Małopolska and Lower Silesia.

A central component of the project was the development of an environmental management model, which encompassed:

- the establishment of a cooperation platform and Steering Committee for local decision-makers,
- the introduction of procedures for collaboration, reporting, and system updates.

To facilitate the effective implementation of the AQP, modern infrastructure was developed, including:

- the definition of the AQP municipal coordinator's role and the implementation of a certification system for postgraduate programme participants,
- the provision of tools to support environmental and energy consultations, such as thermal imaging cameras, wood moisture sensors, and carbon monoxide detectors,
- the creation of an IT system to support AQP management,
- the launch of a real-time air quality information system, ensuring at least one measurement point in each municipality.

AQP coordinators underwent specialised postgraduate training, covering topics such as air quality, energy efficiency, climate policy, and the technical aspects of heating systems. Each participant was required to prepare a Municipal Low-Emission Programme (GPN).

Additionally, comprehensive educational materials were developed, and extensive informational activities were carried out. Each municipal AQP coordinator conducted at least 10 training sessions and numerous individual consultations, thereby engaging local communities, teachers, civil servants, and non-governmental organisations.

The project also established a collaborative platform for AQP coordinators, facilitating the exchange of experiences and the continuous refinement of the air protection strategy. Cooperation with environmental auditors and international partners, including counterparts in the Czech Republic, contributed to aligning the AQP implementation with international standards and improving its effectiveness.

The results of the project lay a solid foundation for the continued implementation of air protection policies in the Opolskie Voivodeship, contributing to improved quality of life for residents and enhanced environmental protection.

However, several challenges emerged during implementation, leading to delays in executing the planned activities. The primary issue was staffing-related difficulties in recruiting project team members for the Coordinating Beneficiary. These challenges were largely due to a lack of suitable applicants, prolonged recruitment processes, and candidates not meeting the requirements for specific roles. The COVID-19 pandemic further exacerbated the situation by causing labour shortages, particularly among IT specialists and programmers. The project's co-beneficiaries also faced similar recruitment difficulties.

By June 2021, the Coordinating Beneficiary's project team was fully staffed, and by September 2021, 42 municipal AQP coordinators had been employed. Among other obstacles, changes in Polish legislation impacted the project's execution. Notably, the update of local regulations in the Opolskie Voivodeship—specifically, the adoption of a stricter anti-smog resolution banning non-ecological heating sources and fuels—required adjustments to planned actions.

Delays in the development of the IT system for regional air quality monitoring were mainly caused by complex public procurement procedures and unforeseen complications in the evaluation and selection of contractors.

4. Introduction (maximum 2 pages)

The main environmental issue affecting the Opolskie Voivodeship—directly impacting the largest share of its population—is poor air quality. The primary source of exceedances in particulate matter (PM10, PM2.5) and benzo(a)pyrene [B(a)P] levels is individual household heating. By 2026, emissions from this sector must be significantly reduced, presenting a major organisational and competency challenge for local governments, which must plan and coordinate the replacement of thousands of domestic boilers.

The absence of a comprehensive management system—specifically, the lack of appropriate tools and skills within local governments—was identified as a key reason for the insufficient effectiveness of AQP (Air Quality Protection) Programme implementation.

The introduction of a structured management system has significantly increased the effectiveness of air quality improvement efforts. Local government units appointed AQP Municipal Coordinators who, through professional development such as postgraduate studies, not only enhanced the implementation of the AQP but also supported residents in the boiler replacement process.

Annual air quality assessments in the Opolskie Voivodeshiphave shown measurable improvements. However, permissible levels for particulate matter (PM10, PM2.5) and the target value for B(a)P continue to be exceeded.

The core idea of the project was to promote shared responsibility and encourage greater engagement in air quality improvement efforts. The project's communication and information strategy were designed to ensure clear, effective, and consistent messaging. It focused on the efficient flow of information, strengthening cooperation among all entities involved, and ensuring the ongoing dissemination of project activities and outcomes. This also included the exchange of knowledge and best practices.

An approach based on the principle of efficient management has been adopted, as a result of expanding knowledge and building awareness, as well as expanding access to and exchange of information. In line with this approach, the following main areas, or 'pillars', of communication and promotion can be identified in the Project: a platform for mutual cooperation, communication and dissemination of knowledge, environmental education and raising public awareness.

The monitoring of the project's impact was carried out in the scope of assessing the improvement of air quality as a result of the corrective actions introduced as part of the AQP, assessing the effectiveness of public administration, assessing the socio-economic impact of the project's actions and as a result of conducting a survey of social awareness of the problem of low emissions.

In social terms, a positive effect of the project is an increase in public awareness and involvement in the knowledge, observance and enforcement of environmental regulations and standards.

The implementation of an air quality management system in local governments of the Opolskie Voivodeship is a comprehensive undertaking aimed at supporting the implementation of corrective actions to improve air quality in the region. The project, which ran from 1 October 2020 to 31 December 2024, required appropriate management using proven project methodologies such as PRINCE2, SCRUM and the hybrid method.

The regional air quality monitoring system launched in the Opolskie Voivodeship allowed for the replacement of the previous form of reporting on the implementation of tasks included in the AQP, which used active Excel forms and e-mail, with a form enabling automated work, using a dedicated ICT system and effective air quality management in the municipalities of the Opolskie Voivodeship. This resulted in consistent reports and eliminated errors.

An interactive, online map of the Opolskie Voivodeship was created, where you can check the air quality level in each municipality, measured by sensors installed as part of the programme, creating a unique system on a national scale, available to every interested resident. The system can be used to prepare reports in each voivodship or as a system tool in the country by the Ministry of Climate and Environment.

5. Administrative part (maximum 1 page)

The project was managed according to project management principles based on process-oriented, i.e. operational, work. It was carried out in accordance with the accepted legal

standards and regulations in force in the unit. A number of techniques, tools and knowledge were applied to project management, which together helped to effectively and successfully implement and complete the project.

Initiating processes – in the initial phase of the project, a team was formally created within the structure of the marshal's office to implement the project, a project manager was appointed, and the accessibility of necessary resources was secured. A number of activities were undertaken to change the structure of the office. The method of project implementation was established in the interdepartmental team together with the top management. The unit's management, i.e. the Marshal of the Opolskie Voivodeship, ZWO, and the Management of the Department of Environmental Protection of the Opolskie Voivodeship, were also involved in the process. LIFE SC was appointed, consisting of permanent members and observers.

Planning processes – the project manager defined a detailed action plan (using WBS diagrams and Gantt charts) for the project, monitored the progress of the work, and defined the organisational structure of the project team. The planning processes were based on the results of the initiation processes and adopted the project's statutes as the basis for their actions, defining the assumptions and limitations as well as the project's deliverables. The planning processes were carried out by all beneficiaries.

Implementation processes – the most important group of processes in the project, commencing after the planning phase. They contributed to the achievement of the project's deliverables. The implementation processes were carried out by all beneficiaries.

Control processes – the progress of the work was monitored on an ongoing basis – from the earliest initiating activities to the final formal acceptance of the project results. The control processes were primarily aimed at checking whether the project was being implemented according to plan and, if necessary, adjusting the course of the project. Internal control processes were carried out by the project manager, the management, the unit management, the treasurer and the audit office. They were also carried out in accordance with the approved procedures at all beneficiaries.

The project was implemented in accordance with risk management processes. Risks were identified on an ongoing basis and threats that could affect the implementation of the project were mitigated or eliminated. On the other hand, emerging problems (both at the Coordinating Beneficiary and the Co-beneficiaries) were analysed on an ongoing basis, reported to the Monitor and the unit's management, and then meetings were held to find a solution to the problem.

Deviations from the work plan: 1) related to the start and end date of certain actions; 2) related to the scope of actions - described in detail in point 6 of the Report.

Communication with the Agency/Monitor took place via email, phone calls, meetings, and online meetings. Communication with the Agency and Monitor is rated very highly as efficient and effective. All problems that arose during the project implementation were discussed on an ongoing basis with the Monitor and then with the Commission. On 20 January 2021, the first meeting with the Monitor (online) took place, where, among other things, the

implementation of the project and the problems encountered were discussed. A change to the project implementation schedule was prepared and on 16 February 2021, we received a post-monitoring report together with confirmation that the modified schedule had been accepted by the EC. On 13 April 2022, the second visit of the Monitor with all the Co-beneficiaries took place, during which, an update of the project timeline (deliverables and milestones) was prepared, along with a request for change. On 6 May 2022, we received a post-monitoring report from the EC. On 23 March 2023, the third visit of the Monitor took place, where a presentation on the implementation of project actions was given. On 18 April 2023, we received a post-audit report from the EC. A second request for change was also submitted in October 2023, which was accepted on 30 November 2023. On 24 October 2024, the last visit of the Monitor and the Financial Monitor took place. On 20 November 2024, we received a post-inspection report from the EC. The amendments to the agreement concerned the change of the project end date.

6. Technical part (maximum 25 pages)

6.1.Technical progress, per Action

6.1.1. A.1. Formatting the Project Team - UMWO

Foreseen start date: 09/2020 Actual start date: 09/2020

Foreseen end date: 11/2020 Actual end date: 06/2021

A1 DELIVERABLES

Name	Deadline
Equipment purchased as part of action A 1	04/2021

A1 MILESTONES

Milestones	Deadline
Staff employed at UMWO as additional project staff	06/2021
Project team established at UMWO	06/2021

A project team was established and assembled within the Marshal's Office of the Opolskie Voivodeship(UMWO). For this purpose, UMWO appointed a project manager with several years of experience in project implementation. His competence ensured that the project was delivered within the agreed time frame and budget, and with the required quality and expected deliverables. Resolutions of the CCA regarding the appointment and authorisation of the project manager were adopted.

Project Team Composition:

1. Project Manager - secondment
2. Project Assistant - secondment
3. Municipal AQP Coordinator - secondment
4. Training Organisation Specialist - secondment, replacement employment
5. Junior IT Specialist - external recruitment

6. Financial, HR, Procurement and Reporting Officer - external recruitment - external recruitment
7. Financial, HR, Procurement and Reporting Officer - external recruitment - external recruitment
8. Intern (not funded from LIFE project resources).

Due to the termination of the agreement with the project assistant on 30.08.2021, a full-time employee with several years of experience in project implementation (serving as the deputy project manager) was seconded as of 01.10.2021 for the duration of the project. In addition, as of 09.08.2021, a training organisation specialist was hired as a replacement due to the absence of the previous employee.

Due to difficulties in hiring IT staff/programmers for the project, the project team was reduced to 7 members, including one programmer. As one of the project deliverables was the creation of an IT system to ensure the reliability and quality of work in this area, the programmer was employed under a full-time employment contract. The programmer's responsibilities included liaising with external company/companies carrying out assignments in the IT area. Due to a shortage of specialised programmers, it was assumed that the IT system would be acquired as an external service.

Due to difficulties in recruitment, changes were made to the staffing of both permanent and additional personnel, while maintaining compliance with the 102% rule (the issue affected both the Coordinating Beneficiary and the Co-Beneficiaries). To streamline project implementation, two full-time specialists were hired for financial, HR, procurement, and reporting tasks, instead of four staff members employed at 0.5 FTE each.

During project implementation, the agreement with the project manager was terminated as of 30.09.2022. The vacant position was filled by the Municipal AQP Coordinator as of 01.10.2022. Subsequently, in February 2023, another change in the LIFE project manager position occurred. In July 2023, the employment relationship with the Municipal AQP Coordinator ended. The vacant position was filled by another member of the LIFE Team in November. In October and December 2023, employment relationships with two other members of the Team were terminated. In August 2024, the agreement with the project manager was terminated. The vacant position was then filled by the Municipal AQP Coordinator, while the project assistant was reassigned to the role of Municipal AQP Coordinator.

After these changes, two full-time positions remained within the Team (Project Manager and Municipal AQP Coordinator). As most of the project activities had already been completed, there was no need to hire additional staff, particularly in view of the project's conclusion on 31.12.2024. This did not pose any threat to the successful implementation of the LIFE Project.

Purchase of computer hardware with software:

- A price survey was prepared, changes were made to PZP 2020, tender documents were drafted, and the tender was announced – the bid opening took place on 26 January 2021. Five bids were received. A Contractor was selected, and an agreement was signed for the supply of computer equipment: laptops with office software. The equipment was delivered by the Contractor, and the invoice was paid.
- Computer equipment was received: 12 laptops with office software for staff on the UMWO side, who were involved full-time (100%) in the project. This constituted individual workstations to support the performance of duties and tasks assigned within the project.
- As one of the project deliverables was the development of an IT system to ensure the reliability and quality of work in this area, a programmer was hired under an employment

contract. The programmer's responsibilities included liaising with external company/companies carrying out assignments in the IT area. Due to a shortage of specialised programmers, it was assumed that the IT system would be procured as an external service.

The action was 100% implemented in line with the updated timeline and scope, as agreed with and submitted to the European Commission in the change request, and accepted by the EC.

6.1.2. A.2. Preparation of the management concept of the regional environmental programme (AQP) at all levels of management - UMWO

Foreseen start date: 09/2020
Foreseen end date: 12/2020

Actual start date: 11/2020
Actual end date: 07/2021

A2 DELIVERABLES

Deliverables	Deadline
Document of the concept of management of the regional environmental programme (AQP) at all levels of management	07/2021

A2 MILESTONES

Milestones	Deadline
Approval of the concept of the regional environmental programme management system (AQP) at all levels of management	07/2021

Due to changes in Polish law, the process of developing the concept—particularly in relation to IT system integration and coordination with project partners—had to be extended. The need for additional arrangements arose internally between departments, and externally between Co-Beneficiaries, including the Opole University of Technology, and with GUNB (General Office of Building Control), which was responsible for the concept of the ICT system. Additional coordination was also required with providers of expert support services for the implementation of the project titled Integrated Low Emission Reduction System (ZONE).

The revision of the task related to the inventory of heating appliances in buildings resulted from the introduction of the nationwide Central Emissions Register of Buildings (CEEB). As a consequence, the originally planned inventory for the regional database was replaced by an inventory aligned with the central register. A dual inventory—both regional and central—was deemed unjustified and therefore not implemented.

In designing the management system, many years of experience in air quality improvement management were utilised, and methods specific to management sciences were applied—namely, a systemic approach, mapping of relationships between system stakeholders (taking into account connections with other systems operating in their environment at the national and European levels, including legal requirements and standards), and a process-based approach. Simultaneously, the concept was grounded in resource management analysis, assuming that the lack of resources—broadly understood to include competences, tools, methods, etc.—is the primary source of deficits in system functioning.

Such a systemic approach to the implementation of the air protection programme at the voivodeship level has not yet been undertaken in Poland. As a result, an innovative method of environmental programme implementation has been developed, which also meets the innovation criteria defined in the Oslo Manual. If this approach proves successful, it will represent significant European added value, providing a transferable model for the effective implementation of regional environmental policies aimed at addressing major environmental challenges (e.g. climate change, improvement of resource efficiency, etc.), which increasingly reflect the practical application of European policy frameworks.

Preparation of a management concept for the regional environmental programme (AQP) at all management levels:

- A price survey was prepared, the task was listed in PZP 2021, documents related to the request for proposals were developed, and the request for proposals was announced – the bid opening took place on 14 May 2021. Two bids were received. The Contractor for the external service (Preparation of the concept for the system management of the regional environmental programme – AQP) was selected. The offer that met the conditions of the request for proposals and received the highest number of points was selected. Following the resignation of the initially selected Contractor from signing the agreement for the service "Preparation of a concept for the management of the regional environmental programme (AQP) at all levels of management" (hereinafter: the concept), within the framework of the LIFE Project, another Contractor was selected through the public procurement procedure. An agreement was concluded with the new Contractor for the delivery of the service, which included both the preparation of the concept and the draft content of the description of the object of the contract concerning the design, construction, and implementation of the IT system for managing the regional environmental programme (AQP). The concept was delivered by the Contractor and the invoice was paid. The AQP regional environmental programme management concept document at all management levels was prepared, and the management system concept for the AQP at all levels was formally approved by the Coordinating Beneficiary, including the Opolskie VoivodeshipMarshal's Office (ZWO).
- Once the concept was approved, a consultation process with the Co-Beneficiaries was initiated. Comments, requests, and suggestions on the concept were collected. Following the consultation phase, a revised version of the concept was prepared and presented during the 4th meeting of the LIFE Project Steering Committee.

The action was 100% implemented in accordance with the updated scope, as agreed and presented during the Monitor's visit on 20.01.2021. Confirmation of the acceptance of the modified schedule was received from the European Commission in a letter dated 15.02.2021. The updated deadline was delayed by one month due to the withdrawal of the initially selected Contractor. The task was completed in accordance with Annex 1 to the EC Grant Agreement.

6.1.3. A.3. Preparation of the IT system project - UMWO

Foreseen start date: 01/2021. Actual start date: 01/2021.
Foreseen end date: 03/2021. Actual end date: 03/2023.

A3 DELIVERABLES

Deliverables	Deadline
Document of IT system project along with the inventory database project	02/2023

A3 MILESTONES

Milestones	Deadline
Approval of the IT system project	03/2023

As part of the action, the Coordinating Beneficiary prepared, planned, and organised a series of meetings on the integration of IT systems—namely, the air quality management system and the dispersed air quality monitoring system. These included:

- Interdepartmental meetings (regarding the possibility of implementing the IT system within the Department of Digitisation at the Opole University of Technology),
- Coordination meetings between the Co-Beneficiaries, including the Opole University of Technology (to assess the feasibility of the IT system being developed by the staff of the Co-Beneficiary),
- Consultations with the General Office of Building Control, responsible for the concept of the IT system and for providing expert assistance services in connection with the implementation of the government project titled *Integrated System for Low Emission Reduction (ZONE*).

These meetings aimed to ensure that the IT system would be coherent and aligned with the assumptions of the national ZONE project.

Due to challenges in employing IT specialists/programmers—exacerbated, among other factors, by the COVID-19 pandemic—the work originally planned to be carried out by internal staff was outsourced entirely via a tender procedure, conducted in accordance with the Public Procurement Act. Consequently, the preparation of the IT system design was combined with the construction of the IT system for monitoring, reporting, and updating the AQP, as well as the integration of data input, into a single joint public procurement contract, structured into individual lots (covering actions A3 and B3). Maintaining separate procedures and preparing two separate tenders would have posed a risk of artificially dividing the contract, potentially resulting in complications during the implementation phase (e.g. involving two different contractors). Moreover, it would have significantly increased the risk of project delays due to the need to carry out two separate public procurement procedures, each involving contractor selection and agreement finalisation.

For the same reason, the tasks related to the inventory of low-emission sources—including the identification of existing municipal inventory databases, defining requirements for the execution of the inventory, and specifying the terms for contracting inventory methodologies—were also grouped within a single public procurement procedure together with Action B2: *Preparation of a database with inventories of low-emission sources and issued air emission permits*.

Buildings (CEEB), which is a national tool that enables consistent data collection across the country. The shift of responsibility for conducting the building heating inventory to CEEB stems from the nationwide rollout of the new inventory platform. Additionally, the launch of CEEB introduced a statutory obligation for residents to submit data regarding the types of heat sources in their buildings. As a result, the Marshal's Office decided to suspend its own inventory efforts to avoid the duplication of data collection for two functionally identical systems.

The changes made affected the scope of the action but did not impact the achievement of the intended objective.

Preparation of the IT system design:

- A draft of the substantive content of the description of the object of the contract for the design, construction, and implementation of an IT system for the management of the regional environmental programme (AQP), including a dispersed air quality monitoring module, was prepared. A price evaluation was carried out, the task was registered in the PZP, tender documents were prepared, and a tender was announced for both the design and development of the IT system.
- Changes to the scope of the action, involving the integration of Action A.3 (as the first stage of the procurement) with Action B.3 (Building an IT system for monitoring, reporting, and updating the AQP and feeding the system with EC data), were presented at the LIFE Project Steering Committee meeting. The actions were combined into one joint tender for a public

procurement contract consisting of separate lots. In addition, Action A.3 (IT System) was merged with Action A.4 (Dispersed Monitoring System) to streamline implementation and avoid fragmentation.

The action was 100% implemented in accordance with the updated timeline and scope, as agreed and submitted to the European Commission in the change request and accepted by the EC. The activity was carried out in compliance with Annex 1 to the Grant Agreement with the EC.

6.1.4. A.4. Preparation of a highly diffuse project for regional air quality monitoring system in near real time and air quality forecast - UMWO

Foreseen start date: 11/2020
Foreseen end date: 12/2020

Actual start date: 11/2020
Actual end date: 03/2024

A4 DELIVERABLES

Deliverables	Deadline
Project of a regional system of diffuse monitoring of air quality in near real time and air quality forecast	02/2024

A4 MILESTONES

Milestones	Deadline
Approved project of the regional system of diffuse monitoring of air quality in near real time and air quality forecast	03/2024

The preparation of the project for a highly dispersed regional near real-time air quality monitoring system (Action A4) was combined with Action B.4, covering the commissioning of the monitoring network and modelling. The integration ensured a coherent approach to implementation across all municipalities of the Opole Voivodeship. Both actions were incorporated into a single joint tender for a public procurement contract, structured into separate lots (Actions A4 and B4). This approach eliminated the risk of artificially dividing the contract, which could have resulted in procedural complications and inefficiencies in project execution.

The changes made did not affect the scope of the action and therefore did not impact the achievement of the stated objective.

As part of the action, experience exchange meetings on low-cost sensors were planned and organised with the LIFE MappingAir Project Coordinating Beneficiary, together with experts in the field.

Preliminary assumptions were developed for the design of a regional dispersed near real-time air quality monitoring system. The estimated value of the contract was assessed in the context of the required public procurement procedure, and the task was entered into the PZP. Tender documents were prepared, and a tender was announced for the development and launch of the regional near real-time dispersed air quality monitoring system. Preparation of the design of a highly dispersed regional near real-time air quality monitoring system:

- Preliminary assumptions were prepared for the design of a regional dispersed system for near real-time air quality monitoring.
- The contract value was estimated in the context of the applicable public procurement procedure, and the task was included in PZP 2021 and PZP 2022.
- Tender documentation was prepared, and the launch of the tender for the development and implementation of the regional dispersed near real-time air quality monitoring system was scheduled for Q3 2022. A market survey was conducted, and a re-estimation of the contract value was carried out.

Changes to the scope of the action were presented in relation to the integration of Action A.4—representing the first stage of the procurement—with Action B.4, which involved the launch of a network of highly dispersed regional near real-time air quality monitoring and modelling to be carried out consistently across all municipalities in the Opole Voivodeship. These changes were presented at the LIFE Project Steering Committee (LIFE SC) meeting.

The action was 100% implemented in accordance with the updated timelines and scope, as agreed and submitted to the European Commission in the change request, and accepted by the EC. The activity was implemented in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.5. A.5. Designing the competence training programme for the Municipal AQP coordinator - UMWO, Opole University of Technology

Foreseen start date: 11/2020
Foreseen end date: 12/2020

Actual start date: 11/2020
Actual end date: 07/2021

A5 DELIVERABLES

Deliverables	Deadline
Postgraduate study programme	06/2021

A5 MILESTONES

Milestones	Deadline
Post-graduate study programme approved by the UMWO	07/2021

The Opole University of Technology prepared a preliminary programme for the development of competencies of AQP Municipal Coordinators, including a curriculum structure and a matrix of learning outcomes based on the expectations and needs collected from municipalities. A group of academic lecturers was selected to teach each subject. The university's teaching staff, in accordance with the guidelines of the Coordinating Beneficiary and the provisions of the grant application, developed preliminary versions of syllabuses, including detailed breakdowns of individual classes, prerequisites, and expected learning outcomes for each subject area (Opole University of Technology).

As a result of numerous meetings with the Co-Beneficiaries, it was agreed to jointly define the competencies of the AQP Coordinator. The municipalities possess the most accurate understanding of the needs and required qualifications of the AQP Coordinator—more so than a potential contractor selected through a public procurement procedure. Therefore, the method for verifying the postgraduate study programme prepared by the Opole University of Technology was revised. The verification was conducted by the Municipal Co-Beneficiaries and the Coordinating Beneficiary. Consequently, the funds initially allocated for an external verification service by an independent body were reallocated from external costs to personnel costs.

As the Opole University of Technology purchased a printer for the organisation of postgraduate studies, an adjustment was made regarding the preparation of teaching materials: funds were redirected to cover toner cartridges, and a portion of the budget was again moved from external costs to personnel costs. Teaching materials were prepared and printed directly by the university's staff as part of their internal responsibilities.

The Co-Beneficiary, Opole University of Technology, prepared a document entitled *"Profile of the Candidate for the Position of Municipal AQP Coordinator and Initial Competencies of the Candidate for Postgraduate Studies at the Faculty of Mechanical Engineering, Opole University of Technology."* In

September 2021, recruitment for the postgraduate programme titled *"Enhancement of Competencies of Air Protection Programme Coordinators"* began. A preparatory course was held from 22 to 24 September 2021, and the two-semester postgraduate programme officially commenced on 1 October 2021. Due to requirements under Polish higher education law, the start of the programme had to be postponed by one semester (planned start: 02/2021 – actual start: 10/2021). Consequently, all related expenditures, including those planned by all 44 Beneficiaries, were automatically deferred by the same period. The Co-Beneficiary, Opole University of Technology, also specified the need for four flipchart boards (as consumables necessary for the conduct of the postgraduate programme). Due to restrictions, orders, and prohibitions introduced in response to the pandemic situation, the postgraduate studies were conducted in a hybrid format—remotely and on-site.

On 30 June 2021, the study plan and syllabus content were approved by a resolution of the Senate of the Opole University of Technology, enabling the launch of the postgraduate programme. A document entitled "*Candidate Profile for the Position of Municipal AQP Coordinator and Initial Competencies of the Candidate for Postgraduate Studies at the Faculty of Mechanical Engineering, Opole University of Technology"* was prepared.

Accordingly, the timeline of the action was adjusted. The changes made did not affect the scope of the action and therefore had no impact on the achievement of the intended objective.

The action was 100% implemented in accordance with the updated timeline and scope, as agreed and presented during the Monitor's visit on 20.01.2021. Confirmation of the adoption of the modified schedule was provided by the European Commission in a letter dated 15.02.2021.

The study schedule included both summer and winter semesters, which necessitated the postponement of the programme's start by one full semester. The programme commenced in October 2021 and continued until June 2022, as designed, over the course of two semesters. A preparatory course was conducted in September 2021.

A total of 91 students participated in the programme.

The final stage of the postgraduate programme entitled *"Improving the Competences of Air Protection Programme Coordinators"* took place from 28 to 30 June 2022 and included the defence of final theses.

A total of 84 participants took the diploma examination, and all obtained a positive result.

In July 2022, a final certification exam was held for the qualification of Environmental Standard Auditor for Residential Buildings. The exam was conducted on two dates. On the first date (15.07.2022), 57 participants sat the exam and met the required minimum criteria. On the second date (29.07.2022), 5 participants were eligible, 4 of whom took the exam, and all 4 achieved a passing result.

In total, 61 participants successfully completed the environmental auditor certification exam.

A formal certificate awarding ceremony was held on 26.08.2022, during which postgraduate diplomas and Environmental Building Standard Auditor certificates were distributed.

The action was 100% implemented in accordance with the updated timeline and scope that were agreed and submitted to the European Commission. The activity was carried out in compliance with Annex 1 to the Grant Agreement with the EC.

6.1.6. A.6. Preparation of a platform for direct cooperation of Co-Beneficiaries - UMWO

Foreseen start date: 11/2020 Actual start date: 11/2020
Foreseen end date: 12/2020 Actual end date: 07/2021

A6 DELIVERABLES

Deliverables	Deadline
Document of the seminar programme for municipal AQP coordinators	06/2021

A6 MILESTONES

Milestones	Deadline
Programme of seminars for municipal AQP coordinators approved by the UMWO	07/2021

The Coordinating Beneficiary prepared a preliminary programme of 12 seminars for Municipal AQP Coordinators, based on a survey of needs conducted across all municipalities and counties (poviats) in the Opole Voivodeship.
As a result of numerous meetings with the Co-Beneficiaries, it was agreed to define the seminar programme jointly. The project team prepared a draft seminar programme based on the expectations and needs collected from the municipalities. The external service originally planned for the preparation of the programme, including the substantive and organisational scope of the 12 seminars for Municipal AQP Coordinators, was discontinued.
The funds initially allocated for the external service related to the preparation of the programme and the substantive and organisational scope of the 12 seminars for Municipal AQP Coordinators were therefore reallocated from external costs to personnel costs.
Delays in the implementation of the action were primarily due to the late signing of the grant and co-financing agreement, and were further impacted by the onset of the COVID-19 pandemic.
The action was 100% implemented in accordance with the updated timeline and scope, as presented during the Monitor's visit on 20.01.2021. Confirmation of the adoption of the revised schedule was provided by the European Commission in a letter dated 15.02.2021.
The action was 100% implemented in accordance with the updated timeline and scope that were agreed and submitted to the European Commission. The activity was carried out in compliance with Annex 1 to the Grant Agreement with the EC.

6.1.7. A.7. Preparation of a comprehensive communication plan - UMWO

Foreseen start date: 11/2020 Actual start date: 11/2020
Foreseen end date: 12/2020 Actual end date: 07/2021

A7 DELIVERABLES

Deliverables	Deadline
Comprehensive Communication Plan document	07/2021

A7 MILESTONES

Milestones	Deadline
Comprehensive communication plan approved by the UMWO	07/2021

As a result of an analysis of the LIFE Project Implementation Team's competency capacity, it was decided that the Comprehensive Communication Plan would be prepared internally. The Coordinating Beneficiary possessed the most in-depth knowledge of the assumptions and communication needs of the project. Therefore, the planned external service was cancelled.

Resources originally allocated for the outsourcing of the external service—intended for information gathering, analysis, diagnosis, and the development and drafting of the document—were reallocated from external costs to personnel costs.
The action was 100% implemented in accordance with the updated timeline and scope that were agreed and submitted to the European Commission. The activity was carried out in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.8. B.1. Ensuring the required competences of the air quality management system administrator - UMWO

Foreseen start date: 01/2021 Actual start date: 01/2021
Foreseen end date: 09/2021 Actual end date: 12/2024

B1 DELIVERABLES

Deliverables	Deadline
Documented programme of completed trainings along with an assessment of their usefulness for the implementation of AQP management system administrator	12/2024

B1 MILESTONES

Milestones	Deadline
UMWO-approved training plan for the AQP management system administrator for Q4 2021	12/2021
UMWO-approved training plan for the AQP management system administrator for Q2 2022	06/2022
UMWO-approved training plan for the AQP management system administrator for Q4 2022	12/2022

The Coordinating Beneficiary prepared the requirements for the position of Municipal AQP Coordinator and launched a recruitment process. Unfortunately, the first external recruitment yielded only one applicant, who did not meet the requirements. Due to difficulties in identifying a suitable candidate, an internal search was initiated. As a result, an employee was transferred from another department to join the Project Team.
Due to the pandemic situation, the originally planned training dates had to be postponed. These adjustments affected only the timing of the action.
A draft training programme was developed, along with an assessment of its relevance and suitability for the role of the AQP management system controller.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission. The activity was carried out in compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.9. B.2. Preparation of a database with an inventory of low-emission sources - UMWO

Foreseen start date: 01/2021 Actual start date: 11/2020
Foreseen end date: 12/2021 Actual end date: 12/2024

B2 DELIVERABLES

Deliverables	Deadline
Report on the inventory of low emission sources in the Central Emissions Register of Buildings (CEEB)	12/2024

B2 MILESTONES

Milestones	Deadline
Completed low emission database - CEEB	12/2024

The obligation to conduct building heating inventories has been fully transferred to the Central Emissions Register of Buildings (CEEB), which is a national tool enabling uniform data collection across the country. The transfer of responsibility for this inventory to CEEB resulted from the nationwide launch of the new system. Additionally, the implementation of CEEB introduced a statutory obligation for residents to submit data regarding the type of heat sources in their buildings. Consequently, the Marshal's Office decided to suspend its own inventory activities to avoid duplicating data collection efforts across two parallel tools.

For the same reasons outlined in Action A3, the tasks related to the inventory of low-emission sources were included in a single public procurement procedure together with Action B3.

Due to the additional tasks associated with the CEEB, a portion of the funds was reallocated from external costs—originally intended for conducting the low-emission source inventory, preparing the inventory database, supporting quality verification of inventory results, and final acceptance of the database—to personnel costs.

Following the Annex to the Grant Agreement with the European Commission, it became possible to extend the employment of Municipal AQP Coordinators for an additional three months to support the implementation of activities related to the inventory and the CEEB database. Corresponding annexes were also signed with the participating municipalities to formalise this extension.

Meetings were planned and organised regarding IT system integration—internally between departments, with Co-Beneficiaries (including the Opole University of Technology), and with the General Office of Building Control, which was responsible for the concept of the ICT system and the provision of expert assistance services related to the implementation of the project titled Integrated Low Emission Reduction System (ZONE).

The Coordinating Beneficiary prepared preliminary assumptions regarding the methodology for conducting the inventory, estimated the contract value in accordance with the applicable public procurement procedures, and registered the task in the PZP (UMWO).

The CEEB database was completed with data submitted up to 31.12.2022, which was the statutory deadline for municipalities to input declarations from property owners and managers.

The action was 100% implemented in accordance with the updated timeline and scope, as agreed and submitted to the European Commission in the change request and formally accepted by the EC. The activity was executed in compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.10.B.3. Creating an IT system for monitoring, reporting and updating AQP and supplying the system with data - UMWO

Foreseen start date: 01/2021
Foreseen end date: 09/2022

Actual start date: 11/2020
Actual end date: 12/2024

B3 DELIVERABLES

Deliverables	Deadline
IT system for managing the AQP implementation along with the IT system documentation package	12/2024
IT infrastructure for work and system operation	12/2024

B3 MILESTONES

Milestones	Deadline
IT system prototype received - work version for Municipal AQP Coordinators	06/2024
Usable version of the IT system - for all users from the Opolskie Voivodeship	12/2024
Version ready to be scaled sent to the Ministry of Development	12/2024

As part of the preparatory action, a series of meetings were planned and conducted concerning the integration of IT systems: internally with relevant departments (exploring the feasibility of implementing the IT system within the Department of Digitalisation), with Co-Beneficiaries including the Opole University of Technology (to assess the potential for developing the system by in-house staff), and with GUNB (General Office of Building Control).
The development of an innovative IT system to manage AQP implementation—along with the integration of relevant data—was to be based on the system design prepared under Action A3. According to the original application for co-financing, this task was to be carried out by a team of IT programmers employed within the Marshal's Office of the Opole Voivodeship.
In December 2020, the first external recruitment call was published; however, no candidates applied. A second recruitment procedure followed, which resulted in only one applicant, who was hired as a junior programmer. No applications were received for the remaining six open positions. This staffing challenge was reported to the Project Monitor, and a change request was submitted proposing that the IT system be procured as an external service. This change was formally included in the project variation request submitted on 29 April 2022.
Following consultations with the Department of Digitalisation and the department responsible for public procurement, a decision was made in January 2023 to execute the IT-based quality management system as a complete solution, also incorporating the dispersed air quality monitoring module. As a result, Tasks A3 and A4, as well as Tasks B3 and B4, were consolidated into a single, comprehensive procurement package.
Consequently, personnel costs originally allocated for the employment of IT staff/programmers were reallocated to external costs, and the entire scope of the work was subcontracted.
To comply with public procurement regulations and avoid dividing the contract into parts, the costs related to author's supervision of the IT system design were included in the main contract for system development. This approach ensured the system was procured as a single external service under the design-and-build model.
Accordingly, the object of contract titled *"PROJECT PREPARATION AND CONSTRUCTION OF AN IT SYSTEM WITH A REGIONAL DISPERSED AIR QUALITY MONITORING MODULE IN THE OPOLE VOIVODESHIP"* was defined and implemented as part of the LIFE project entitled "*Implementation of an air quality management system in local authorities of the Opolskie Voivodeship"* (LIFE_AQP_OPOLSKIE_2019.PL – LIFE19 GIE/PL/000398). The task was executed under a design and build procurement formula.
The action was 100% implemented in accordance with the updated timelines and scope, as agreed and submitted to the European Commission in the change request and subsequently accepted by the

EC. The activity was carried out in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.11.B.4. Implementation of a diffuse regional monitoring and forecasting air quality network in near real time and modeling in a consistent manner in each municipality of the Opolskie Voivodeship - UMWO

Foreseen start date: 01/2021 Actual start date: 11/2020
Foreseen end date: 09/2021 Actual end date: 12/2024

B4 DELIVERABLES

Deliverables	Deadline
Report on the results of implementing the diffuse regional air quality monitoring system and air quality forecast	12/2024

B4 MILESTONES

Milestones	Deadline
Measurement launched in a diffused regional air quality monitoring system and air quality forecast	12/2024

The launch of a network of highly dispersed regional near real-time air quality monitoring and modelling across all municipalities in the Opolskie Voivodeship(Action B4) was combined with Action B3. This integration was announced through a single joint public procurement procedure, consisting of separate lots corresponding to Actions B3 and B4. Proceeding with two separate tenders, without modifying the provisions, would have posed a risk of deliberate contract division. It also could have led to implementation challenges—specifically, the risk of engaging two different contractors for closely related tasks—which in turn could have caused coordination difficulties and further delays due to the need to run two full procurement processes (including contractor selection and contract execution).
The action was 100% implemented in accordance with the updated timeline and scope, as agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The activity was carried out in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.12. B.5. Improving the air quality by increasing the ability of administration at municipal level to carry out AQP tasks - UMWO, Opole University of Technology, Municipalities

Foreseen start date: 01/2021 Actual start date: 11/2020
Foreseen end date: 12/2021 Planned end date: 07/2022

B5 DELIVERABLES

Deliverables	Deadline
Postgraduate study documentation package	07/2022
Documentation of the environmental auditor certification system for a residential building (i.a. rules for these certificates award)	07/2022

B5 MILESTONES

Milestones	Deadline
Ready work environment and competences of the municipal AQP coordinator	09/2022
Documentation of the environmental auditor certification system for a residential building (including rules of purchasing these certificates)	07/2022

Recruitment and employment of Municipal AQP Coordinators by the Co-Beneficiary municipalities in the project:

Municipal AQP Coordinators (42 full-time staff) were employed by all Co-Beneficiaries. Some were newly recruited through dedicated recruitment procedures, while others were reassigned from existing positions following agreements with their respective Employers and changes to their job responsibilities.

Due to the termination of the employment contract with an employee in the Municipality of Otmuchów (due to failure to pass preparatory service), a new recruitment procedure was launched, and a replacement was hired. In the Municipality of Dobrodzień, the employment contract was terminated by mutual agreement, also requiring a new recruitment and appointment. In the Municipality of Gogolin, a replacement was hired due to a long-term employee absence. Ultimately, all 42 Municipal AQP Coordinators were in post by October 2021. Due to the law/procedures related to the employment of persons in clerical positions, it is not possible to extend the terms and conditions of employment for a person who does not pass the preparatory service, which resulted in one of the Co-Beneficiaries re-announcing the recruitment of a Municipal AQP Coordinator in December 2021.

As a consequence of changes to the timeline for implementing Action A5, Municipal AQP Coordinators were recruited starting in August 2021 to ensure they could begin project tasks with the postgraduate programme. In September 2021, they participated in a preparatory course, and from 1 October 2021, they took part in a two-semester postgraduate programme.

The participants of the postgraduate studies included Municipal AQP Coordinators from the Co-Beneficiaries, as well as municipal and county AQP Coordinators from non-Co-Beneficiary entities, and employees of Co-Beneficiaries responsible for air protection tasks in their respective local governments.

To ensure the proper implementation of the air quality management system, the activities carried out under the project took into account the provisions of the management system concept developed in Action A2. This included the model of the AQP environmental programme management system, its components, and the designation of system administrators and system operators.

It was planned to maintain extensive cooperation with municipalities in the Opolskie Voivodeshipthat were not direct participants in the project, but acted as project partners under separate cooperation agreements and undertook activities related to project implementation.

In this context, the Coordinating Beneficiary provided 42 sets of equipment for the workstations of Municipal AQP Coordinators, consisting of a laptop with office software, a wood moisture sensor for use during inspection activities, a carbon monoxide detector to ensure safety during inspections and to support the collection of diagnostic data during the process of replacing heat sources with more environmentally friendly alternatives, a multimedia projector for use during educational and community engagement meetings with local residents, and a thermal imaging camera with licensed software for reporting the results of thermal imaging inspections of buildings.

Municipal AQP Coordinators, having acquired the necessary competencies, knowledge, and practical skills—and equipped with the required tools—were able to provide professional advice and support to residents of the Opolskie Voivodeshipon the replacement of outdated heating systems. This

contributed to increased public interest in clean heating solutions and, consequently, to improved air quality in the region.

Since the postgraduate programme was delivered in a hybrid format and most classes were conducted online, part of the originally planned travel and subsistence costs was reallocated—based on the needs of the Co-Beneficiaries—between external and personnel cost categories.

The COVID-19 pandemic restricted or, in some cases, fully paralysed the functioning of certain sectors, while also driving up the cost of goods and services. As a result, the cost of purchasing multimedia projectors increased by 30.43%.

Purchase of promotional materials/gadgets:

A price survey was conducted, amendments were made to the Public Procurement Plan (PZP) 2020, tender documents were prepared, and the procurement was launched. A Contractor was selected, an agreement was signed, the promotional materials were delivered, and the invoice was paid. The materials were intended for use by Municipal AQP Coordinators during meetings with residents, both to facilitate community engagement and to promote the objectives and visibility of the project.

Purchase of consumables for postgraduate studies – Opole University of Technology:

The following items were procured:

- Printer
- Flipcharts – 4 units (1 originally planned; 3 additional units acquired based on actual needs)
- Photocopier
- Shredder
- Multimedia projector
- Catering services for postgraduate programme participants
- Binding machine

As part of the postgraduate programme, the Opole University of Technology also organised and conducted a demonstration session on the use of a drone equipped with a thermal imaging camera and an emission sensor, aimed at enhancing the technical competencies of Municipal AQP Coordinators.

In June, a study visit was held in Głubczyce, where participants visited the Galmet company. There, they observed the production line for boiler equipment, heat pumps, and solar panels, and visited the company's laboratory where the efficiency of various heat sources (e.g. pellet boilers, heat pumps) is tested and evaluated.

On 23 June 2022, participants attended a guest lecture delivered by a foreign professor, an expert in renewable energy sources. The lecture provided insights into various electricity generation technologies and outlined future developments and planned changes in the field.

A training process for Municipal AQP Coordinators:

- A preparatory course was conducted in September 2021;
- A two-semester postgraduate course was delivered from 1 October 2021 to June 2022.

Equipment for the workstation of the Municipal AQP Coordinator:

- Purchase of computer hardware and software:
    - A price survey was prepared, amendments were made to the Public Procurement Plan (PZP) 2020, tender documents were developed, and the procurement was launched. The bid opening took place on 26 January 2021, with five offers submitted. An agreement with the selected Contractor for the supply of laptops with office software was signed. The equipment was delivered by the Contractor, and the invoice was paid. Thus, laptops with office software were procured as part of the equipment for the Municipal AQP Coordinator's workstation, constituting personal computing tools

essential for performing assigned duties and tasks. A donation agreement was concluded with the Co-Beneficiaries, and the equipment was officially handed over;

- Purchase of a thermal imaging camera with a software licence for simplified energy and environmental assessments of buildings – a tool to streamline the process of mandatory diagnostics and improve the quality of assessments and preparation of required diagnostic data during the replacement of heat sources with more environmentally friendly alternatives:
  - A price survey was prepared, amendments were made to PZP 2020, tender documents were developed. A Contractor for the supply of thermal imaging cameras was selected and an agreement was signed. The cameras were delivered, and the invoice was paid. The thermal imaging cameras, along with the licensed software for reporting building thermal imaging assessments, were handed over through donation agreements as workstation equipment for the Municipal AQP Coordinators.
- Purchase of a wood moisture sensor (for inspection activities) and a carbon monoxide detector (to ensure safety during inspections):
  - A price survey was prepared, amendments were made to PZP 2020, tender documents were developed. A Contractor for the supply of wood moisture sensors was selected and an agreement was signed. The equipment was delivered by the Contractor, and the invoice was paid. The sensors were handed over to the Co-Beneficiaries.
- Purchase of a multimedia projector (for use during educational and activation meetings with municipality residents):
  - A price survey was prepared, amendments were made to PZP 2020, tender documents were developed. A Contractor for the supply of multimedia projectors was selected and an agreement was signed. The equipment was delivered by the Contractor, and the invoice was paid. A donation agreement was signed with the Co-beneficiaries and the projectors were handed over.
- Purchase of promotional gadgets:
  - A price survey was prepared, amendments were made to PZP 2020, tender documents were developed. A Contractor for the supply of promotional gadgets was selected and an agreement was signed. Promotional gadgets were handed over to the Co-Beneficiaries.
- Purchase of consumables for the delivery of postgraduate studies:
  - printer;
  - flipchart boards;
  - photocopying machine;
  - shredder;
  - multimedia projector;
  - binding machine.

All 43 Partnership Agreements with Co-Beneficiaries and 43 Data Processing Entrustment Agreements were prepared and signed.

Following the Annex to the Grant Agreement with the European Commission, it became possible to extend the employment of Municipal AQP Coordinators for an additional three months to support the implementation of activities related to the CEEB inventory and database. Accordingly, Annexes were signed with the municipalities in this regard in August 2022.

In addition, 29 supplementary Annexes were signed with the municipalities to amend the Annex to the Partnership Agreement titled *"CO-OPERATING BUDGET UNDER THE PROJECT ENTITLED*

'IMPLEMENTATION OF AN AIR QUALITY MANAGEMENT SYSTEM IN MUNICIPALITIES OF THE OPOLE VOIVODESHIP', LIFE_AQP_OPOLSKIE_2019.PL – LIFE19 GIE/EN/000398."

The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The activity was carried out in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.13. B.6.Preparation of educational materials and consumables supporting the social activation process in thep implementation of AQP - UMWO

Foreseen start date: 01/2021 Actual start date: 01/2021
Foreseen end date: 09/2021 Actual end date: 06/2022

B6 DELIVERABLES

Deliverables	Deadline
Training materials (presentation and training synopsis) for municipal educational and information meetings in municipalities	06/2022

B6 MILESTONES

Milestones	Deadline
Approved final versions of the presentation for the training and municipal meetings and the training syllabus	06/2022

Members of the UMWO project team prepared a presentation, which was sent to the Co-Beneficiaries for use by the Municipal AQP Coordinators during training sessions, educational meetings, and community engagement activities within their municipalities. The presentation included substantive content on environmental education as well as key information about the LIFE project.
In addition to the centralised materials, each Co-Beneficiary prepared tailored presentations prior to each meeting, adapted to the specific participant group. These were reviewed and, if necessary, adjusted by the Coordinating Beneficiary to ensure alignment with the project's communication and educational standards.
A procurement procedure was conducted for the development and printing of educational materials and consumables intended to support the social activation process related to AQP implementation. The printed educational materials were distributed to the Municipal AQP Coordinators during one of the coordination meetings.
These materials were designed to enhance the effectiveness of awareness-raising and educational efforts aimed at local residents. By aligning the content with both project objectives and the specific needs of the target audience, the materials contributed to reducing public apprehension and motivating residents to actively seek support for investment measures such as heating system replacement.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and formally accepted by the EC. The activity was carried out in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.14. B.7.Performing ecological education in the field of air quality - Municipalities, UMWO

Foreseen start date: 04/2021 Actual start date: 08/2021
Foreseen end date: 03/2022 Actual end date: 12/2022

B7 DELIVERABLES

Deliverables	Deadline
Summary of the results of educational activities and their importance for increasing the interest of residents in the exchange of heating sources	12/2022

B7 MILESTONES

Milestones	Deadline
Training and consulting carried out in municipalities	12/2022

Under action B.7. as part of their role, each Municipal AQP Coordinator holds training, educational and stimulation meetings with the residents of their commune. These meetings are related to raising residents' awareness of their impact on air quality, the importance of air quality for the quality of life, and the solutions available to support remedial actions (e.g. subsidy programmes to replace heating sources with cleaner ones or for thermo- modernisation measures). The implementation of the action is closely linked to action B5. Delays in the implementation of action B5 resulted in delays in the implementation of action B7.

As part of the action, Municipal AQP Coordinators provide advice on air protection and energy efficiency, carry out educational activities, raise residents' awareness of the need to improve the energy efficiency of their houses, reduce low emissions, inform residents about possible financial resources for the implementation of air protection measures, assist residents with regard to the anti-smog resolution, provide information on programmes at regional and national level, in particular on subsidies for thermal upgrading, RES, boiler replacement, and participate in tasks related to the Central Emission Register of Buildings - CEEB.

In order to educate and support the process of raising public awareness on the improvement of air quality, the Municipal Coordinators hold individual meetings and consultations with residents, which take place in the offices of the respective Co-beneficiaries. During consultations, coordinators provide assistance in filling in, submitting and settling applications related to the replacement of environmentally unfriendly heat sources. In addition, the whole campaign is complemented by a wide range of educational activities for pre-schoolers, schoolchildren.

The implementation of educational tasks was supported by promotional activities, both to raise awareness of the tasks themselves and to promote the LIFE project as a whole. Municipal AQP Coordinators utilised a variety of communication channels, including publishing articles in the local press and broadcasting information spots on local radio and television.

In addition to commercial media, coordinators developed and distributed informational and promotional materials through municipal websites, social media platforms, local government fan pages, and public information boards located throughout individual municipalities, villages, churches, schools, and kindergartens.

As part of the educational activities, Municipal AQP Coordinators prepared detailed schedules for meetings with residents. Due to the COVID-19 pandemic, some coordinators chose to postpone meetings to ensure the safety of participants. Ultimately, 190 schedules were developed for educational activities held across the Opolskie Voivodeshipin locations commonly frequented by

residents. The majority of meetings took place in village and district community centres, fire stations, as well as schools and kindergartens.

Despite the challenging epidemiological conditions, a total of 451 meetings were conducted. For each meeting, attendance lists, reports or notes, and photographic documentation were collected. These events successfully reached 6,376 individuals with educational content. The audience represented a diverse cross-section of the population—ranging from the youngest residents (pre-school and school-age children), to entrepreneurs, and up to retirees and senior citizens, who represent a demographic particularly vulnerable to energy poverty.

Educational materials—posters, leaflets, and other resources—were distributed across approximately 2,500 locations, amounting to a total of around 39,000 individual items. These were placed in kindergartens, schools, shops, churches, and other public spaces, as well as distributed during both group events and one-on-one meetings with residents.

Municipal AQP Coordinators also conducted individual consultations with residents at the offices of their respective Co-Beneficiaries. A total of 16,500 one-on-one meetings were held, during which coordinators provided personalised advice and support to approximately 20,500 individuals. These consultations included assistance with completing, submitting, and settling applications related to the replacement of non-compliant heat sources with environmentally friendly alternatives.

As part of promotional tasks, 114 articles were prepared and published in the local press, while 652 spots were broadcast on local radio stations, including Radio Park, Radio Opole, and Radio DOXA. In addition, 90 television spots were aired. The lower number of media outputs in 2021 resulted from the implementation schedule adopted by the Co-Beneficiaries, with a strategic intensification of promotional activities occurring in 2022.

In addition to commercial promotional tools, Municipal AQP Coordinators created and published informational and promotional content on social media platforms and local government fan pages. A total of 677 social media posts were made. Furthermore, coordinators utilised publicly accessible information boards located in municipality and village offices, churches, schools, and kindergartens to disseminate key messages.

During both the information and education meetings, as well as individual consultations with residents, Coordinators provided assistance in completing approximately 3,700 applications for co-financing. These applications included funding support from both municipal budgets and the “Clean Air” Programme (Czyste Powietrze) implemented by the Provincial Fund for Environmental Protection and Water Management (WFOŚiGW) in Opole. This support resulted in the submission of approximately 2,000 applications, and the successful settlement of more than 1,000.

To enhance the attractiveness and effectiveness of the meetings, information and educational materials were purchased, serving a dual purpose—delivering educational content and promoting the LIFE project under the task of printing informational materials. Tender documentation was prepared, a Contractor was selected, and the contract was signed. Municipal AQP Coordinators then distributed educational/promotional/informational materials—including gadgets (notepads, pens, sweets, etc.), brochures, and leaflets—during meetings with residents and through popular local distribution points such as shops, churches, and municipal office buildings.

Printed informational materials:

- A price survey was conducted, amendments were made to the Public Procurement Plan (PPL), and tender documents were prepared.
- A Contractor was selected, the agreement was signed, and the contract was executed.
- The materials were delivered and distributed to the Co-Beneficiaries.

The responsibilities of the Municipal AQP Coordinator also included inspection tasks outlined in the Air Quality Protection Programme (AQP) for the Opole Voivodeship. These inspections were carried out by authorised municipal office employees in cooperation with the municipal police. In addition to verifying compliance and identifying violations of air protection regulations, these inspections served an important informational and educational role for residents.

According to the provisions of the AQP, each Co-Beneficiary municipality was required to carry out the following minimum number of inspections annually:

- Rural municipalities: minimum 10 inspections per year
- Urban-rural municipalities: minimum 20 inspections per year
- Urban municipalities: minimum 50 inspections per year

Municipal AQP Coordinators also contributed to the inventory of low-emission sources by supporting the data collection process using the Central Emissions Register of Buildings (CEEB) platform.

Purchase of carbon monoxide detectors as promotional materials - 1500 pieces: The Marshal Office of the Opolskie Voivodeshippurchased gadgets to motivate meeting attendees to participate, which included the preparation of a price survey, tender documents and the selection of the Contractor. The materials were distributed to the Co-Beneficiaries.
Purchase of 45 project roll-ups and a project wall: UMWO conducted a price survey, prepared tender documentation, and issued a request for proposals. A Contractor was selected for the preparation of the roll-ups, and an agreement was signed. The roll-ups were delivered by the Contractor, and the invoice was paid. A donation agreement was concluded with the Co-Beneficiaries, and the roll-ups were formally handed over. To ensure appropriate visual identification during meetings organised by the Coordinating Beneficiary—such as LIFE Steering Committee meetings, coordination meetings, seminars, and conferences—an additional project wall and two roll-ups containing key project information were also procured.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The activity was carried out in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.15. B.8. Transfer of the method of preparing and updating AQP to the electronic form - UMWO, Municipalities

Foreseen start date: 04/2021 Actual start date: 06/2022
Foreseen end date: 03/2022 Actual end date: 12/2024

B8 DELIVERABLES

Deliverables	Deadline
GPN documents	06/2022
Reports from municipalities on the implementation of AQP for 2021	02/2022
Reports from municipalities on the implementation of AQP for 2022	02/2023
Summary of the impact of the first system use of an IT tool (for the purpose of transferring results and further improving the AQP management system)	12/2024
Replication and transfer plan	12/2024

B8 MILESTONES

Milestones	Deadline
40 GPOP (GPN documents)	06/2022
40 Reports from AQP implementation for 2021	06/2022
40 Reports from AQP implementation for 2022 made in the IT system	12/2024

In connection with the adoption of the new Air Quality Protection Programme (AQP) for the Opole Voivodeship, it was necessary to postpone the deadline for municipalities to submit their AQP implementation reports. According to the AQP provisions, entities responsible for implementing corrective actions are required to submit reports by 15 February each year for the previous reporting period. The Marshal's Office then prepares a consolidated report for the entire voivodeship, to be submitted by 31 March annually.
Due to delays in the development of the dedicated IT system, reports for 2022 were submitted electronically using a specially prepared spreadsheet. Additional delays stemmed from the postponement of interrelated activities affecting the implementation of Actions B3 and B4.
According to the adopted project assumptions, municipal GPOP/GPN (Municipal Low-Emission Programmes) were to be developed using the dedicated IT system, which was intended to support air quality management and monitoring—specifically, the planning and management of corrective actions under the AQP. However, due to the innovative nature and technical complexity of the system, combined with changes in the Public Procurement Law, the final version of the IT system was not delivered until after the completion of the postgraduate programme by the Municipal AQP Coordinators. As a result, it was not possible to implement the GPOP/GPN directly within the dedicated IT system.
Instead, municipal GPOP/GPN documents were developed using general-purpose tools, including text editors and spreadsheet, database, GIS, and air pollution modelling applications.
The dedicated IT system was developed to integrate these functionalities and support comprehensive air quality management in the Opole Voivodeship, as described in the application for project funding. The air quality management system, including the regional dispersed air quality monitoring module, was officially delivered on 28 August 2024. Once configured and implemented across all municipalities in the Opole Voivodeship, the system enabled the collection of AQP implementation reports for 2022. By December 2024, a total of 71 AQP implementation reports for the years 2022 and 2023 had been submitted via the new system.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The task was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.16. C.1. Public awareness - a survey - UMWO

Foreseen start date: 09/2020. Actual start date: 11/2020
Foreseen end date: 09/2022. Actual end date: 12/2024

C1 DELIVERABLES

Deliverables	Deadline
Report on the results of the first public awareness survey on air quality	05/2021
Report on the results of the second public awareness survey on air quality	12/2024

C1 MILESTONES

Milestones	Deadline
The results of the public awareness survey on air quality at the beginning of the project were obtained	05/2021
The results of the public awareness survey on air quality at the end of the project were	12/2024

Milestones	Deadline
obtained	

Public awareness survey:
A price survey was prepared, amendments to the Public Procurement Plan (PZP) were made, documents related to the execution of the contract were prepared, and a request for proposals was issued. A Contractor was selected, and an agreement was signed for the delivery of the Low Emission Public Awareness Survey.
The first survey was conducted in May 2021. The research questionnaire was prepared by the Contractor, and the first invoice was paid. The Contractor's work resulted in a report containing the initial findings of the air quality awareness baseline survey.
The second edition of the survey was conducted in August 2024. Its purpose was to analyse and evaluate the level of public awareness in the project area and to determine the extent of change in awareness and readiness to act among residents, as compared to the baseline results from the initial survey.
The surveys provided a valuable tool for assessing the impact of project activities—particularly educational and informational efforts—on public perception and knowledge. The results clearly indicated an upward trend in social awareness regarding air quality issues among the inhabitants of the Opole Voivodeship.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and formally accepted by the EC. The activity was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.17. C.2. Assessment of air quality improvement as a result of the implemented corrective actions resulting from the implementation of AQP - UMWO

Foreseen start date: 01/2022 Actual start date: 02/2021
Foreseen end date: 03/2022 Actual end date: 04/2023

C2 DELIVERABLES

Deliverables	Deadline
Report on the number and type of replacement of non-ecological heating sources and achieved ecological effects for 2021	04/2022
Report on the number and type of replacement of non-ecological heating sources and achieved ecological effects for 2022	04/2023

C2 MILESTONES

Milestones	Deadline
Assessment of air quality improvement for 2021	04/2022
Assessment of air quality improvement for 2022	04/2023

The Coordinating Beneficiary prepared a report on the number and types of non-environmental heat source replacements as part of the preparation of the AQP Implementation Report.

Following the adoption of the updated Air Quality Protection Programme (AQP) for the Opole Voivodeship, it became necessary to postpone the deadline for municipalities to submit their annual AQP implementation reports. As stipulated in the AQP, entities responsible for implementing corrective measures are required to submit their reports by 15 February each year, covering the previous calendar year. The Marshal's Office then has until 31 March to compile and submit a consolidated report for the entire voivodeship.

The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and subsequently approved by the EC. The activity was completed in full compliance with Annex 1 to the Grant Agreement with the EC.

6.1.18. C.3. Monitoring the increase in efficiency of public administration - UMWO

Foreseen start date: 09/2020
Foreseen end date: 09/2022
Actual start date: 02/2021
Actual end date: 12/2024

C3 DELIVERABLES

Deliverables	Deadline
Report with evaluation results after the first year of the project	10/2021
Report with evaluation results at the end of the second year of the project	10/2021
Report on evaluation results at the end of the project	12/2024

C3 MILESTONES

Milestones	Deadline
Assessment of improving the efficiency of public administration - 1	02/2021
Assessment of improving the efficiency of public administration - 2	06/2021
Assessment of improving the efficiency of public administration - 3	10/2021
Assessment of improving the efficiency of public administration - 4	06/2022
Assessment of improving the efficiency of public administration - 5	09/2022
Assessment of improving the efficiency of public administration - 6	12/2022
Assessment of improving the efficiency of public administration - 7	06/2023
Assessment of improving the efficiency of public administration - 8	06/2024

The action began in December 2020. A formal request was sent to the entities responsible for implementing the corrective actions defined in the AQP, requesting them to submit the relevant data. According to the provisions of the newly adopted Air Quality Protection Programme, these entities had until 15 February 2021 to provide the required information.

The new Air Quality Protection Programme—a legally binding act of local law—was adopted by Resolution No. XX/193/2020 of the Sejmik of the Opolskie Voivodeshipon 28 July 2020, entitled “Air Protection Programme for the Opolskie Voivodeship” (Official Journal of the Opolskie Voivodeship of 2020, item 2186), and entered into force on 20 August 2020. The Programme was subsequently updated in 2023.

The evaluation of the improvement in the effectiveness of public administration was conducted on the basis of:

- An analysis of changes introduced in municipal co-financing programmes for the replacement of heating sources;
- An assessment of whether there was an increase in the rate of replacements and improved prioritisation of replacements;
- An evaluation of improved access to up-to-date and reliable data on replacement outcomes.

Monitoring activities included a series of surveys conducted as follows:

- February 2021 – First survey on public administration effectiveness. Two questionnaires were prepared and distributed to all municipalities and counties (poviats) in the Opole Voivodeship;
- June 2021 – Second survey conducted, with updated questionnaires sent to all municipalities and poviats;
- October 2021 – Third survey carried out; a comprehensive report was prepared evaluating administrative performance after the first year of project implementation;
- June 2022 – Fourth survey conducted across all municipalities and poviats;
- September 2022 – Fifth survey conducted;
- December 2022 – Sixth survey conducted;
- June 2023 – Seventh survey conducted;
- June 2024 – Eighth and final survey conducted.

These recurring surveys served as a key tool to measure progress in administrative efficiency, particularly in the context of air quality management and implementation of the AQP at the local level. The action was 100% implemented in accordance with the updated timelines and scope agreed upon and submitted to the European Commission as part of the change request, and formally accepted by the EC. The activity was executed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.19. C.4.Monitoring the socio-economic impact of the project actions - UMWO

Foreseen start date: 09/2021 Actual start date: 07/2021
Foreseen end date: 09/2022 Actual end date: 12/2024

C4 DELIVERABLES

Deliverables	Deadline
Final report with the results of monitoring the socio-economic impact of the project's actions	12/2024

C4 MILESTONES

Milestones	Deadline
Assessment of the socio-economic impact of the project's actions - 1	09/2021
Assessment of the socio-economic impact of the project's actions - 2	12/2024

An assessment of the local socio-economic impact of the project was carried out by September 2021. The resulting report, which constitutes the deliverable for this action, was developed as a

comprehensive study consolidating relevant data and results gathered during the project period. Information was analysed, i.e.: changes in the incidence rate, direct or indirect employment growth in renewable energy producers, energy suppliers and IT service providers. A second assessment of the local socio-economic impact of the project was carried out in December 2024.
The action was 100% implemented in accordance with the updated timelines and scope agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The activity was carried out in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.20. C.5. Monitoring and measurement of performance indicators - UMWO

Foreseen start date: 09/2021 Actual start date: 03/2021
Foreseen end date: 09/2022 Actual end date: 03/2025

C5 DELIVERABLES

Deliverables	Deadline
Information on progress regarding performance indicators - Progress report	05/2022
Information on progress regarding performance indicators - Final report	03/2025

C5 MILESTONES

Milestones	Deadline
Assessment of the progress in project performance indicators	05/2022
Assessment of project performance indicators	03/2025

Due to the non-expenditure of the full amount of the first advance payment, the preparation and submission of the Mid-Term Progress Report was postponed until May 2022 at the earliest. This postponement was formally accepted by the European Commission.
In connection with the extension of the project duration, the final settlement, based on the Final Report and the Evaluation of Project Performance Indicators, has been postponed until 31 March 2025.
The action is 100% implemented in accordance with the updated timelines and scope, as agreed and submitted to the European Commission in the change request and formally accepted by the EC. The activity is being implemented in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.21. D.1. Planning and implementation of the dissemination of knowledge and deliverables - UMWO

Foreseen start date: 10/2020 Actual start date: 11/2020
Foreseen end date: 12/2024 Actual end date: 12/2024

D1 DELIVERABLES

Deliverables	Deadline
Videos promoting the project	12/2024
A set of materials from the dissemination of	12/2024

knowledge and deliverables of the project (conference materials, press releases, interviews, reports, photos in the media	
The layman's report	12/2024

D1 MILESTONES

Milestones	Deadline
Project opening conference	04/2021
Project closing conference	12/2024

The Coordinating Beneficiary prepared the documentation for the selection of the company that will prepare the website (in December the estimation of the contract value was carried out). Due to the shortages of the staff necessary to launch the procurement procedure and the short time limit for the contract implementation, it was decided to set up a website in the office; The website (www.powietrze.opolskie.pl) is updated on an on an on-going basis and supplemented, including with new functionalities, and is maintained by the project team. A social networking profile on FB has been created entitled "LIFE - Air Quality Management System in the Opole Voivodeship", which is also maintained by the project team.

Design and construction of 44 project information boards: The Coordinating Beneficiary prepared a price survey, the documents related to the request for quotation and announced the request for quotation. A Contractor was selected and contracted for the preparation of information boards and an advertising board. The equipment was delivered by the Contractor and the invoice was paid. A donation agreement was signed with the Co-Beneficiaries and the information boards were handed over.

A project opening conference was organised in April 2021, while the closing conference of the LIFE project took place on 27 November 2024.

One-day coordination meetings at the UMWO in Opole:

A total of 16 coordination meetings were held on the following dates: 10.08.2021; 17.09.2021; 20.10.2021; 30.11.2021; 18.01.2022; 04.02.2022; 23.03.2022; 13.04.2022; 27.04.2022; 17.05.2022; 08.06.2022; 26.08.2022; 28.09.2022; 21.10.2022; 10.11.2022; and 29.11.2022.

Twelve seminars were organised as part of knowledge dissemination and capacity-building activities for Municipal AQP Coordinators and other stakeholders:

- 24 January 2022 – I Seminar: "Local law on air protection – practical aspects"
- 24 March 2022 – II Seminar: "Environmental education – the importance of awareness and education in improving air quality"
- 04 October 2022 – III Seminar: "Innovative solutions for air protection"
- 05 October 2022 – IV Seminar: "Good practices in innovative solutions for security needs"
- 28 November 2022 – V Seminar: "Getting funding for air protection actions"
- 9 March 2023 – VI and VII Seminars: "Emission permits with compensation proceedings" and "Environmental decisions as an element that can contribute to emission reductions at the planning stage"
- 13 April 2023 – VIII Seminar: "Obligations of local authorities in the field of air protection – inspections"
- 25 May 2023 – IX and X Seminars: "The role of local authorities in the fight against smog" and "Technical aspects of carrying out air protection inspections"

- 25 October 2023 – XI and XII Seminars: “Sources of funding for air protection actions” and “Air protection programme and NGO actions”

UMWO project logo:

A price survey was conducted, and based on its results, the contract value for the project logo order was estimated. A request for proposals was issued, a Contractor was selected, and the LIFE project logo and logo book were designed and prepared. The invoice was paid, and the logo materials were distributed to all Co-Beneficiaries. The design of the project logo was included as an additional activity. On the occasion of the 30th anniversary of the LIFE Programme, the logo was modified under internal project tasks.

Catering services for 16 coordination meetings, 12 seminars, and the LIFE Project Steering Committee meetings at UMWO: A price survey was carried out, and the contract value was estimated accordingly. A request for proposal was prepared, a Contractor was selected, and the agreement was signed. Due to some meetings being held in an online format, the scope of the catering service was extended to include working meetings, such as seminars, conferences, and forums. As a result of the pandemic and difficulties faced by catering providers—including rising service costs—the budget for this activity was increased accordingly.

A number of meetings, conferences, and seminars were attended and participated in by project representatives. In addition, several activities were carried out by the Co-Beneficiaries related to the production of 10 promotional video spots highlighting the project and the activities of the Municipal AQP Coordinators, which were broadcast in local media outlets within the municipalities and villages of the project participants.

In summary, the following promotional and dissemination activities were carried out:

- Sponsored articles printed in 15 local newspapers;
- Online advertising campaign conducted via the project website and Facebook platform;
- Publications in regional daily newspapers;
- Thematic radio programmes broadcast to promote air quality awareness and project actions;
- Graphic advertisements published on the websites of regional daily newspapers;
- A promotional video was produced and distributed via the official website, Facebook, and presented at both the LIFE Project Summary Conference and the HungAIRy LIFE International Conference;
- A Layman’s Report was prepared and made available.

In addition to the above, as part of this task, the LIFE project team presented the project’s results at the HungAIRy LIFE 2024 conference and organised the official project closing conference in Opole in November 2024.

The action was 100% implemented in accordance with the updated timelines and scope agreed and submitted to the European Commission in the change request and accepted by the EC. The activity was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.22. D.2. Networking with other LIFE and other air quality management projects - UMWO

Foreseen start date: 04/2021 Actual start date: 12/2020
Foreseen end date: 12/2024 Actual end date: 12/2024

D2 DELIVERABLES

Deliverables	Deadline
Conference presentations, reports, photos	12/2024

D2 MILESTONES

Milestones	Deadline
Project results transferred to other areas and other beneficiaries	12/2024
Collected comments on the presented project supported by the experience of coordinators of already implemented Life projects	06/2022

prepared a report including comments on the presented project supported by the experience of coordinators of already implemented projects. The report is currently the subject of communal consultations.

Cooperation with other projects: Cooperation was established with LIFE integrated projects (LIFE-IP MALOPOLSKA, LIFE-IP EKOMALOPOLSKA, IFE-IP AQP-SILESIAN-SKY) and within the LIFE-MAPPINGAIR/PL project. As part of the exchange of information, we had a presentation at a meeting of POWERTY partners and experts - where, among other things, good practices were discussed in the field of renewable energy sources and financial solutions that had proven to be an effective tool to fight energy poverty in countries such as: Spain, France, Lithuania and Poland; Spain, France, Lithuania and Poland; A speech with a presentation in English at the meeting: Interregional thematic seminar of POWERTY: Renewable energies for vulnerable groups; Participation and a speech at the 12th meeting of the Czech-Polish Working Group on Air Quality; Participation and presentation at the 3rd Scientific Conference “Air Quality and Health” organised by the Department of Climatology and Atmospheric Protection at the University of Wrocław implementing the LIFE-MAPPINGAIR/PL project “Do you know what you are breathing? Education and information campaign for cleaner air.” Numerous conferences and meetings were also held with representatives of various projects in Poland and abroad, primarily with Czech partners.

As part of networking between LIFE projects, the LIFE Team participated in the International Enviro 2023 Conference in Ostravica, located in the Moravian-Silesian Region of the Czech Republic, in May 2023. In June 2023, at the invitation of IOŚ-PIB, the team attended a meeting of LIFE project beneficiaries in Poland. In July 2023, the project was presented at the JPAZ 2023 Scientific Conference in Wrocław.

Within the framework of Action D2, the LIFE project team took part in the Silesian Climate Convention – Climate-Con in October 2023 and delivered a presentation at a cooperation meeting held in Ostrava. In November 2023, the team also participated in a scientific conference in the Olomouc Region of the Czech Republic.

In January 2024, a delegation from Ukraine visited the Marshal’s Office to establish cooperation and exchange experiences between Ukrainian civic initiatives and non-governmental organisations under the international programme “Green Bridges”.

The project team further strengthened cooperation with project partners from the Olomouc Region and Moravian-Silesian Region by participating in jointly organised events and inviting these partners to the LIFE project closing conference held in Opole on 27 November 2024.

On 25–26 September 2024, the Second International Conference on Air Pollution – Towards Clean Air for Europe was organised as part of the LIFE IP HungAIRy project. During this event, the results and summary of the Opolskie LIFE project were presented, along with the promotional video produced under the project.

The action was 100% implemented in accordance with the updated timelines and scope submitted to the European Commission in the change request and accepted by the EC. The activity was implemented in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.23.E.1. Project management - UMWO

Foreseen start date: 09/2020 Actual start date: 11/2020
Foreseen end date: 12/2024 Actual end date: 12/2024

E1 DELIVERABLES

Deliverables	Deadline
Summary of the project management methodology for the implementation of the AQP implementation management system	12/2024
Package of project plans	12/2024

E1 MILESTONES

Milestones	Deadline
Review of the project implementation status after the first half of the year along with the project plan update	03/2021
Review of the project implementation status after the first year along with the project plan update	09/2021
Review of the project implementation status after 1.5 years along with the project plan update	03/2022
Review of the project implementation status after 2 years along with the project plan update	10/2022
Review of the project implementation status after 3 years along with the project plan update	10/2023
Summary of the project implementation	12/2024

As part of project management, the Coordinating Beneficiary developed project implementation plans and schedules. Consequently, the external cost originally foreseen for the preparation of tools, input data, and procedures for updating the project plan and improving real-time project monitoring was reallocated to personnel costs.
In support of project coordination, guidelines were prepared for the Co-Beneficiaries, including the document titled “Guidelines for the accounting system and description of accounting documents generated in the LIFE_AQP_OPOLSKIE_2019.PL project”, developed in response to queries from project partners. This document formed the basis for the prepared “Accounting System and Description of Documents.”
Throughout the project, project management, risk management, team coordination, and ongoing collaboration with Co-Beneficiaries were carried out effectively.
Applications for reimbursement were submitted to the National Fund for Environmental Protection and Water Management, with funds successfully disbursed as follows:

- 1st application – by 30 June 2021
- 2nd application – by 30 November 2021
- 3rd and 4th applications – by 16 August 2022
- 5th application – by 01 December 2022

The project status was continuously monitored and reviewed, and two official change requests were submitted to the European Commission as part of the update process.

The Mid-Term (Interim) Report was prepared and submitted on 3 June 2022. In addition, Progress Reports were developed for the second and third years of the project.
A Project Management Methodology Summary Report was produced, along with a summary of the initial effects of using the IT tool developed under the project (used to transfer results and support further development of the AQP management system). A complete Package of Project Plans was also prepared.
The action was 100% implemented in accordance with the updated timelines and scope agreed/submitted to the European Commission in the change request and accepted by the EC. The activity was implemented in compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.24.E.2. Establishment and work of the Project Steering Committee - UMWO

Foreseen start date: 09/2020 Actual start date: 11/2020
Foreseen end date: 12/2024 Actual end date: 12/2024

E2 DELIVERABLES

Deliverables	Deadline
Notes from meetings of the Steering Committee	12/2024

E2 MILESTONES

Milestones	Deadline
Steering Committee meeting - 1	01/2021
Steering Committee meeting - 2	04/2021
Steering Committee meeting - 3	07/2021
Steering Committee meeting - 4	10/2021
Steering Committee meeting - 5	01/2022
Steering Committee meeting - 6	04/2022
Steering Committee meeting - 7	07/2022
Steering Committee meeting - 8	10/2022
Steering Committee meeting - 9	01/2023
Steering Committee meeting - 10	04/2023
Steering Committee meeting - 11	11/2023
Steering Committee meeting - 12	08/2024
Steering Committee meeting - 13	11/2024

On 29 December 2020, the Board of the Opolskie Voivodeshipformally appointed the LIFE Project Steering Committee (LIFE SC). The LIFE SC consisted of permanent members, including representatives of the Marshal's Office of the Opolskie Voivodeship(UMWO), all 42 participating municipalities and cities, a representative of the Opole University of Technology, the project partner – Ministry of Climate and Environment, the Chief Inspector of Building Control, and representatives from the Czech regions (Moravian-Silesian Region and Olomouc Region). The Committee also included members from other institutions and organisations: the Voivodeship Fund for Environmental Protection and Water Management (WFOŚiGW) in Opole, the Opole Smog Alarm, representatives of the business sector – Opole Business Centre Club (BCC) – as well as observer members such as other municipalities and district (poviat) authorities.
Thirteen Steering Committee meetings were held at the UMWO premises on the following dates: 11.01.2021; 24.04.2021; 28.07.2021; 27.10.2021; 27.01.2022; 28.04.2022; 23.06.2022; 20.10.2022; 18.01.2023; 31.05.2023; 29.11.2023; 28.08.2024; 27.11.2024.

Each time for the SC meeting a procedure for the selection of a contractor for interpreting services in Czech language was prepared and conducted - as one of the additional services specified in the schedule.
The action was 100% implemented in accordance with the updated timelines and scope agreed and submitted to the European Commission in the change request and subsequently accepted by the EC. The activity was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.25. E.3. Independent project control - UMWO

Foreseen start date: 01/2021 Actual start date: 11/2020
Foreseen end date: 12/2024 Actual end date: 03/2025

E3 DELIVERABLES

Deliverables	Deadline
Results of the independent financial audit of the project	03/2025
Results of the project audit	12/2024

E3 MILESTONES

Milestones	Deadline
Independent financial audit	03/2025
Project audit - 1	07/2022
Project audit - 2	11/2024

On 20 January 2021, a meeting was held between the Project Monitor and all Co-Beneficiaries, officially launching the LIFE project implementation audit. During the audit, an update to the project schedule (outputs and milestones) was prepared.
A post-visit letter from CINEA was received on 16 February 2021, which included a recommendation to revise the number of audits under Action E3. In accordance with this recommendation, the number of internal project audits was reduced from four to two.

- Audit 1 of project implementation was conducted between February and July 2022.

The process concluded with a formal audit protocol prepared by the Control and Audit Office of the Marshal's Office of the Opole Voivodeship, carried out by personnel with appropriate experience and qualifications in the field of auditing.

- Audit 2 of project implementation took place from August to November 2024 and was also concluded with a protocol drawn up by qualified staff of the Control and Audit Office of the Marshal's Office.

In addition, an inspection by the National Fund for Environmental Protection and Water Management (NFOŚiGW) was conducted from 29 November to 2 December 2022.
An independent financial audit of the project, carried out by a chartered accountant, took place between January and March 2025. The resulting Financial Audit Report is included in the Final Report of the LIFE project submitted to the European Commission. The audit documentation forms part of the official project settlement.
No comments or irregularities were identified during any of the control or audit procedures mentioned above.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and accepted by the EC. The activity was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.1.26. E.4. Preparation of the After-Life Plan - UMWO

Foreseen start date: 09/2022 Actual start date: 06/2023
Foreseen end date: 12/2024 Actual end date: 12/2024

E4 DELIVERABLES

Deliverables	Deadline
After-LIFE Plan	12/2024

E4 MILESTONES

Milestones	Deadline
Approved and announced by UMWO After-Life Plan	12/2024

An After-Life Plan has been developed to ensure the continuation, sustainability, and dissemination of knowledge and information regarding the outcomes of the actions carried out under the LIFE project.
The After-Life Plan outlines the strategy and measures through which the Coordinating Beneficiary and project partners intend to continue activities beyond the project's duration. It focuses on the utilisation of the knowledge gained, the experience accumulated, and the practical value of the project deliverables, ensuring that the benefits of the LIFE project are maintained and further developed in the post-project phase.
The action was 100% implemented in accordance with the updated timelines and scope that were agreed and submitted to the European Commission in the change request and accepted by the EC. The activity was completed in full compliance with Annexes 1 and 2 to the Grant Agreement with the EC.

6.2. Main deviations, problems and corrective actions implemented

Delays are also a consequence of the later signing of the Grant Agreement with the EC (4 November 2020) and the Co-Financing Agreement (27 October 2020), which took place after the formal start date of the project. Both the Co-ordinating Beneficiary and the Co-beneficiaries, as public bodies, could not formally start the project before signing these agreements for the EC grant and for the co-financing from NFOŚiGW.

Delay in implementation of planned project actions due to COVID-19 pandemic

During the implementation of the project, a number of problems arose, resulting in delays in the execution of planned actions. The primary issue concerned staffing difficulties, particularly in recruiting personnel for the project team at the Coordinating Beneficiary. In total, three external recruitment procedures, one internal recruitment, and numerous discussions regarding internal transfers/secondments were conducted. In most cases, the difficulties in forming the project team stemmed from a lack of interested candidates, lengthy recruitment procedures, or the failure of applicants to meet the qualification requirements for the advertised positions. Additionally, the COVID-19 pandemic caused significant staff shortages in the labour market, particularly in the IT sector. Similar staffing issues were experienced by the project's Co-Beneficiaries. The Opole University of Technology—one of the Co-Beneficiaries and a regional centre for educating future IT professionals—was engaged in the project at an early stage (Action A1). Recruitment efforts included presentations to students and graduates, a dedicated lecture on the project, and participation in the

12th Academic Job Fair at the University. Despite these efforts, recruitment of IT specialists and programmers was ultimately unsuccessful.

As a result, several actions carried out by the Co-Beneficiaries had to be rescheduled, including the organisation of postgraduate studies and activities related to environmental education on air quality.

These delays were a direct consequence of the unforeseen epidemic, which could not have been predicted at the proposal stage, including in the original schedule. Although the project timetable was updated in January 2021, the subsequent waves of the pandemic and recurring absenteeism continued to affect staffing and implementation capacity.

The pandemic necessitated an immediate transition to remote working, which involved substantial organisational effort and increased costs. Staff required adequate IT equipment, and systems had to be adapted to ensure secure and efficient work from home. For the public administration sector—including all Beneficiaries—this represented a major challenge that was gradually overcome. However, these circumstances caused further delays and, in some cases, the need to reschedule project activities.

Given the ongoing uncertainty caused by the pandemic, it was necessary to extend the originally planned project duration by 15 months in order to fully and effectively implement all intended activities.

The implementation of large-scale projects often involves multiple suppliers and contractors. The pandemic significantly reduced the operational capacity—or, in some cases, caused the complete shutdown—of some service providers, while also driving up the cost of services and materials. Procuring suitable contractors for major project components presented additional risks and difficulties. For smaller tasks, especially those requiring direct contact with residents, the organisation of meetings and seminars was temporarily hampered or impossible, necessitating the development of new implementation methodologies.

A substantial portion of the promotional activities, meetings, conferences, and even participation in postgraduate studies had to be held in hybrid or remote formats, or postponed altogether due to public health restrictions. In Poland, legal acts were passed establishing states of emergency and epidemic, along with numerous restrictions, orders, and bans. These included the closure of nurseries, kindergartens, and schools; bans on gatherings and events; and requirements for remote work in public institutions.

As a result, larger meetings and seminars could not be held as originally scheduled, and the staffing issues were further exacerbated. However, the gradual lifting of restrictions and the adaptation of institutions and residents to sanitary protocols eventually allowed for in-person events to resume—an important development, as in-person meetings were shown to be the most effective form of communication and engagement.

The logic underpinning the project was that all its components—including education, information, and coordination—would contribute to improving air quality, increasing awareness among target groups, and stimulating interest, competence, and commitment to replacing outdated heating sources. These improvements were expected to lead to increased investment in clean technologies, such as the replacement of high-emission, non-ecological boilers.

All project actions were essential to achieving the final objective: creating conditions to enhance public awareness and establish a system capable of effectively supporting AQP implementation and eliminating existing barriers. One of the most significant barriers remains the lack of awareness, particularly among the segment of the population most responsible for pollution. Therefore, the intensity of soft measures—particularly direct engagement with residents—is critical to creating momentum for the more challenging interventions that lead directly to measurable air quality improvements.

Armed conflict on Poland's eastern border

Since February 2022, there has been armed conflict in Ukraine, with which Poland directly borders from the east. The consequences of military action in our neighbouring country are disruptions to public and private services, supplies. Poland and, by extension, the people of the Opolskie Voivodeshiphave become fully involved in helping Ukraine by organising material aid, accommodation and tremendous support for the people. The meetings with the residents organised in the communes as part of the project implementation had to be postponed, as most of the society is directly involved in helping the people of Ukraine. In addition, there was an absence of staff implementing project activities due to calls for military exercises.

Amendments to Polish legislation

The reason for the delay also lies in the amendments to Polish legislation (necessary alignment and integration of national solutions) and, above all, in the enactment of the Act of 28 October 2020 amending the Act on support for thermal upgrading and renovations and certain other acts (Polish Journal of Laws of 2020, item 2127), which entered into force on 1 January 2021, the solutions of which are relevant to the implementation of the project.

The Act, which requires property owners and managers to register in the CEEB database - the Central Emission Register of Buildings - by 30 June 2022. The CEEB database contains information on the type of heating source. Therefore, the task planned in the project consisting in the inventory of low emission sources had to be modified in terms of the timing and scope of the task. The CEEB database has been entrusted to GUNB - Main Office of Building Control, with which the Coordinating Beneficiary has a signed agreement on cooperation in the thematic scope related to the project implementation, and currently the content of the agreement is being updated. In order to find the best possible solution, a number of meetings have been held with both Co-Beneficiaries and partners. With a view to achieving the project objectives, as well as disbursement of public funds in the context of changing Polish legislation on air protection issues, it was necessary to modify these measures so that there was no risk of double financing.

In addition, changes in other provisions of Polish law, most notably related to the enactment of the Public Procurement Law of 11 September 2019 (Polish Journal of Laws of 2019, item 2019, of 2020, item 288, as amended), which also came into force on 1 January 2021, caused delays in the implementation of the project.

The provisions of the aforementioned Act are intended to comprehensively regulate the issue of public procurement, which are agreements of a payable nature, concluded between contracting authorities and contractors, the object of which is the purchase by the contracting authority of works, supplies or services from a selected contractor. The Act introduces new solutions based on maximum efficiency and transparency in the award of public contracts and increases the transparency and consistency of public procurement regulations. As a result of the changes, new procurement procedures had to be prepared at the office level in public entities. The main delays were caused by the public procurement procedure [actions A3, A4 – design of a highly dispersed regional near real-time air quality monitoring system and actions B3, B4 – system for reporting and updating Air Protection Programmes].

Implementation of updated actions planned in the new AQP

Opolskie Voivodeshipalso saw the need to extend the project by 15 months due to changes in local law on Air Protection Programme implementation.

The implementation of the project has had a significant impact in terms of the environmental outcomes achieved. Thanks to the organisation and implementation of a unified air quality management system in the region, as well as the cooperation of Municipal AQP Coordinators and other project partners, a number of actions were carried out that directly contributed to improving air quality. Municipal AQP Coordinators have facilitated the replacement of a significantly higher

number of low-efficiency heating systems, and residents have shown increasing willingness to take advantage of the available funding schemes.

The tasks set out in the AQP are to be carried out from 2020 and completed by 2026, and their successful implementation requires substantial effort and commitment from municipalities, the Marshal's Office, and other state institutions. However, these actions require ongoing supervision by experienced staff, whose capacity has been ensured by the project.

Procurement procedure

The main reasons for delays in the project to build an IT system with a module for regional dispersed air quality monitoring in Opolskie Voivodeshipwere complicated public procurement procedures and unforeseen difficulties in the evaluation and selection of the contractor. Due to the prolonged tender procedure, associated with the need to postpone the deadline for the submission of tenders, resulting from the large number of questions from contractors regarding the tender documentation and the filing of an appeal by one of the contractors against the selection of the most favourable offer, the deadline for the conclusion of the agreement with the IT system contractor was extended. On 28.11.2023, an agreement was signed with the contractor HyperView Sp. z o.o. for the design and implementation of an IT system including a dispersed air quality monitoring module. As part of the task, design documentation and the IT system were produced. The work on the system was completed on 28.08.2024. The implementation of the agreement with regard to the IT system was 82 days late due to the fault of the contractor.

6.3. Evaluation of Project Implementation

Action	*Foreseen in the revised proposal*	*Achieved*	*Evaluation*
A.2, A.3, A.4, A.5, A.6, B.1, B.2, B.3, B.4, B.5, B.7	Objectives: Implementation of an air quality management system Expected results: Model of regional environmental programme management	100%	A model for the management of the regional environmental plan was created and an integrated information system tested and customised.
A2, A3, B3	Objectives: Implementation of an air quality management system Expected results: Percentage of residential buildings in Opolskie Voivodeshipwith specified in the AQP voivodeship database: type of heating, emission source parameters and volume.	80%	The result was 100% achieved against the target. The filling rate of the CEEB base is 80%. This has been confirmed on the basis of data provided by the municipalities.
A5, B5	Objectives: Implementation of an air quality management system	42	The result was 100% achieved against the target. As part of the project, postgraduate studies were conducted for individuals from public

Action	*Foreseen in the revised proposal*	*Achieved*	*Evaluation*
	Expected results: Number of certified AQP implementation coordinators in municipalities in Opolskie Voivodeship		administration, including Municipal AQP Coordinators. All coordinators completed the programme and obtained a certificate as environmental auditors for residential buildings. Thanks to the education they received, these individuals can continue to share their knowledge with the residents of their municipalities.
D1	Objectives: Implementation of an air quality management system Expected results: project website	1	The result was 100% achieved against the target. The website https://powietrze.opolskie.pl/ has been set up
A3	Objectives: Implementation of an air quality management system Expected results: hardware and database server for AQP management	75	The result was 100% achieved against the target. Server infrastructure equipment was purchased to support the IT platform as part of project implementation (72 SSDs, 3 disk shelves)
B3	Objectives: Implementation of an air quality management system Expected results: The number of active users of the IT system for managing and reporting AQPP results	82	The result was 100% achieved against the target. All municipalities in the Opole Voivodeship, i.e. 71, are included in the air quality management information system. The number of active users of the system is 71 municipalities and 11 poviats, for a total of 82 entities.
B7	Objectives: Increased public awareness among residents Expected results: Number of training sessions carried out for AQP Voiv. inhabitants	766	The result was 100% achieved against the target. Information obtained from reports from the municipalities.
C3	Objectives: Increased public awareness among residents Expected results: Increased proportion of municipalities in the Opolskie Voivodeship implementing the AQP, including those operating a subsidy scheme for the	100%	The result was 100% achieved against the target. The AQP is an act of local law applicable to the Opole Voivodeship.

Action	*Foreseen in the revised proposal*	*Achieved*	*Evaluation*
	replacement of heat sources with more ecological alternatives.		
C1	Objectives: Increased public awareness among residents Expected results: ncreased awareness, measured by the percentage of inhabitants of the Opolskie Voivodeshipdeclaring their intention to switch to a more environmentally friendly heat source or those who have already replaced their heat source.	31.60%	The result was 100% achieved against the target, based on the Low Emission Public Awareness Survey conducted for the LIFE Project. Considering the total number of respondents (i.e. 1,000 people), one in three (31.6%) stated that they were planning to replace the heat source in their household.
C2	Objectives: Increased public awareness among residents Expected results: Increased number of individual heat sources replaced with cleaner alternatives	18,716	The result was 100% achieved against the target. Indicator calculated on the basis of information contained in the reports on the implementation of the Air Protection Programme sent by the municipalities. Total sum of individual heat sources listed.
B7, C2, D1, D2	Objectives: Increased public awareness among residents Expected results: Avoided (reduced) annual PM10 dust emission in 2022 from the municipal and housing sector in the result of the corrective actions carried out in AQP	1,068.76 Mg/year	While the result was 1,068.76 Mg/year, we are unable to confirm that the reduction in emissions from the municipal and residential sectors in the Opolskie Voivodeshipresulted directly from the implementation of the LIFE project. The reduction in pollution was influenced both by the educational actions carried out under the LIFE project and by other independent factors, such as fuel access restrictions at the onset of the war in Ukraine and cross-border pollution from neighbouring voivodeships and the Czech Republic.
B7, C2, D1, D2	Objectives: Increased public awareness among residents Expected results: Reduction in annual CO_2 emissions in 2022 from the	50,070.61t CO_2/year	The result was 50,070.61 t CO_2/year; however, we are unable to confirm that the reduction in emissions from the municipal and residential sectors in the Opolskie Voivodeshipresulted directly from the implementation of the LIFE project. The reduction in pollution was influenced both by the educational

Action	*Foreseen in the revised proposal*	*Achieved*	*Evaluation*
	municipal and residential sectors as a result of corrective actions implemented under the AQP		activities carried out under the LIFE project and by other independent factors, such as fuel access restrictions at the onset of the war in Ukraine and cross-border pollution from neighbouring voivodeships and the Czech Republic.

The following evaluation techniques were used in the evaluation study: desk research, surveys, interviews and observation. Each of these methods has its advantages and disadvantages. Quantitative methods were used - CATI and CAWI techniques. Methods related to the analysis of desktop data, surveys and observations are methods that generate less costs on the one hand, and require more time investment from the project team on the other. Desktop data analysis has many advantages, e.g. variety of documentation (formal, informal, working documents, action deliverables); accessibility (usually collected in one place) and ease of analysis. The disadvantage is the risk of over-simplified interpretation of the data and hasty generalisations. In the case of questionnaires - opinion polls, fact-finding (from the participant's perspective) the advantage is that a large group of people were surveyed, which included freedom of expression, no suggestions from others and anonymity, and ease of implementation and data analysis with a large number of participants. The disadvantages are that respondents are bored with the method and there is little flexibility - the most important issues may be missed because there is no question in the survey to address them. In the case of interviews - opinion polls, fact-finding (from the participant's perspective) the advantage is that complex and detailed issues can be raised, a view on reality from the participants' perspective. On the other hand, the disadvantages are the time- consuming implementation and the complexity of the analysis, the reluctance of the participant to express his or her, especially critical, opinions directly and the high costs of the surveys. The advantages of observation are that it examines actual and undeclared behaviour and facilitates the interpretation of the events/behaviour being analysed. The disadvantage is the limited range of observation due to the position occupied and the danger of influencing the course of events and the behaviour of those observed.

Each of these research methods has brought tangible benefits to the implementation of the actions.

Among the aforementioned results, those directly related to the achievement of the objective related to the implementation of the air quality management system are immediately visible.

The extension of the project and the proposed changes constituted a necessary corrective measure to achieve the intended results and, consequently, the overall project objectives.

The main policy barriers identified included changes in Polish legislation that impacted the implementation of actions planned under the project. A number of internal and external meetings were held to address and overcome this barrier.

Outreach to local communities was carried out through the AQP Municipal Coordinators. The responsibilities of the Municipal AQP Coordinator, the standardised competencies provided by the postgraduate studies, and the environmental certification system for buildings were clearly defined. As part of the information campaign, materials were collected to enable the individual evaluation of the approach and its influence on public awareness.

One of the key deliverables is the development of a model for managing the regional environmental programme at all levels of governance, ensuring more effective compliance with and enforcement of EU environmental legislation, particularly in the areas of air quality, climate protection, and energy efficiency.

Of significant value is the AQP management information system (including low-emission source accounting, support for municipal implementation of low-emission programmes, and result reporting), which serves the entire Opole Voivodeship.

Given that the need to strengthen administrative capacity for AQP implementation and increase stakeholder engagement is also recognised in other Polish regions—as well as in many other European regions—the project's approach and outcomes have strong potential for replication and transfer.

6.4.Analysis of benefits

The prepared management model, database design and IT tools can be used in other regions of Poland (in local governments, at national level) and in other countries. Project deliverable products have a high potential for replication and transfer. Above all, the deliverable products will be handed over to Main Office of Building Control. After evaluating the usefulness of the solutions developed in the Opole Voivodeship, the Main Office of Building Control may adapt them to national solutions, constituting a national low emission elimination management system, using also its legislative powers.

The regional air quality diagnosis system, based on a distributed measurement network with monitoring points in each municipality, can be considered a pilot initiative preceding the potential development of a similar system at the national level.

The replication action involves the implementation of an IT system for monitoring, reporting, and updating the Air Quality Programme (AQP), and making environmental information available to the public—covering emissions, air quality data, corrective action plans, and their implementation—across other municipal governments in the Opole Voivodeship.

A platform for information exchange and cooperation among local governments in the Opolskie Voivodeshipin the area of air quality measures has also been established. As part of the replication process, municipalities and district governments not participating as Co-Beneficiaries were invited to participate in meetings. It is planned to maintain this cooperation and information-sharing platform beyond the project's completion, and under the framework of transfer, to expand its scope to include other environmental aspects (e.g. climate change prevention and adaptation). Replication also includes the distribution of air quality assessment methods developed under the project—based on low-cost measurement techniques and methods for controlling the quality of burned fuels—to local authorities in the Moravian-Silesian and Olomouc Regions.

The project's main achievement is the implementation of systemic changes in the management of air quality improvements (notably the reduction of PM10 and PM2.5 emissions through the replacement of inefficient heat sources). Reducing the use of solid fuels in individual combustion sources contributed not only to lower CO_2 emissions but also to the reduction of other air pollutants. As a result, the project generated a clear synergistic effect in terms of emission reductions. The final deliverable of the project is a management model for the regional environmental programme and a customised, integrated information system. This system will be maintained beyond the project duration and will support the continued implementation and monitoring of the AQP, which is planned through at least 2026.

In total, 46 FTEs (skilled professionals) were hired by local governments to support AQP implementation. These employees are entitled to social benefits, contributing positively to employment and public health. One significant benefit of employing coordinators in the municipalities is their contribution to improving air quality in local areas, as well as increasing residents' environmental awareness—particularly regarding air protection—through their direct outreach and educational efforts.

The likelihood of project replication is high. Several replication-related activities began during the project's implementation phase, as the air quality management system developed for the Opolskie

Voivodeshiphas already been made available not only to Co-Beneficiaries but also to 29 municipalities not formally involved in the project, as well as to the district offices across the voivodeship.

The project draws on good practices in AQP implementation developed under projects funded by the LIFE Programme, such as “Implementation of the Air Quality Plan for Małopolska – Małopolska in a healthy atmosphere” implemented by the Małopolska Voivodeship , “Air pollution and biometeorological forecast and information system – LIFE-APIS/PL”, “Do you know what you breathe – information and education campaign for clean air”, as well as the LIFE MAPPINGAIR project implemented in the Lower Silesian Voivodeship. For example, methodologies for conducting educational and promotional actions were applied in the organisation of meetings with residents, and experience in the use of low-cost sensors for measuring air quality in environmental monitoring systems was adopted.

The project introduced a number of innovative solutions aimed at improving air quality. A high level of cooperation among local decision-makers in air quality actions was developed and maintained through the creation of a cooperation platform and the LIFE Project Steering Committee. A standard for the position of the Municipal AQP Coordinator, including a defined scope of responsibilities and competencies, was established. A two-semester postgraduate study programme was delivered, including a certification system for participants. Workstations of both provincial and municipal AQP Coordinators were equipped with tools and equipment supporting the control process (e.g. laptops, wood moisture meters, carbon monoxide detectors, and thermal imaging cameras). The roles and responsibilities of the system controller – the AQP Coordinator for Opolskie Voivodeship – were clearly defined.

The implementation of the project has been highly beneficial in terms of the environmental results achieved. Thanks to the establishment and implementation of a unified air quality management system in the region and the cooperation between Municipal AQP Coordinators and other project partners, a wide range of actions were carried out that directly contributed to air quality improvements. Municipalities employing AQP Coordinators carried out a significantly higher number of low-efficiency heating source replacements – accounting for approximately 79% of all replacements completed in the Opolskie Voivodeship. Their residents were also more willing to utilise available forms of financial support.

The project assumed that all integrated components – education, awareness-raising, system development – would positively influence policies to improve air quality, raise awareness among target groups, and increase interest, competence, and engagement in the topic of replacing inefficient heating sources. As a result, one of the project’s main goals was to stimulate green investments, particularly the replacement of high-emission, non-ecological boilers. These measures were necessary to achieve the project’s ultimate outcome: to create the conditions for increasing public awareness and to develop an efficient system for the implementation of AQP-related tasks, while addressing current barriers. At present, the primary barrier is not the lack of available financial resources to support the replacement of heat sources, but the insufficient awareness – particularly among segments of the population most responsible for air quality deterioration.

Another major challenge lies in the lack of adequate support to help overcome obstacles associated with implementing heat source replacement projects. Therefore, the intensity of soft actions – particularly those involving direct engagement with residents – is essential to create a strong impetus for the successful implementation of measures that directly improve air quality. These include activities related to the development and rollout of the AQP management system, the training and deployment of qualified Municipal AQP Coordinators to support residents, and the implementation of an air quality information system. All of these actions are critical to effectively stimulate and support measures with direct environmental and climate impacts.

The project has successfully delivered many of the environmental and climate-related benefits that were planned and anticipated.

ECOLOGICAL INDICATORS

The submitted factual reports of the Municipal AQP Coordinators and reports on the implementation of the Air Protection Programme for the Opole Voivodeship, in force since 28 July 2020, show that at the end of 2021, as a result of the replacement of inefficient individual heat sources, a reduction in emissions of individual pollutants was achieved at the level of:

Material effect in the form of replacement of individual heat sources, calculated (estimated) on the basis of indicator(s) for monitoring the progress of the implementation of the corrective measure during the year of implementation of the air protection programme:

I. Boiler replacement without thermo-modernisation

1. Area of premises where the heating method has been changed [m2] – 1 793 475,10

2. Number and area of buildings, including single-family and multi-family dwellings or premises where:

a) inefficient individual heat source using solid fuels was liquidated and the building was connected to the district heating network [pcs.] and [m2] – 192 / 14 861,41

b) inefficient individual solid fuel heat sources was replaced by gas heating [pcs.] and [m2] – 3 796 / 553 186,79

c) inefficient individual solid fuel heat sources were replaced by renewable energy sources [pcs.] and [m2] – 3 862 / 674 411,64

d) inefficient individual solid fuel heat sources were replaced by a coal-fired boiler meeting eco-design requirements [pcs.] and [m2] – 853 / 335 889,43

e) inefficient individual solid fuel heat sources were replaced by a biomass boiler meeting eco- design requirements [pcs.] and [m2] – 2 404 / 357 975,51

f) inefficient individual solid fuel heat sources were replaced by electric heating [pcs.] and [m2] – 358 / 41 143,27

g) inefficient individual solid fuel heat sources were replaced by oil heating [pcs.] and [m2] – 17 5 947,70

II. Boiler replacement together with building thermo-modernisation

1. Area of premises where the heating method has been changed [m2] – 454 230,58

2. Number and area of buildings, including single-family and multi-family dwellings or premises where:

a) inefficient individual heat source using solid fuels was liquidated and the building was connected to the district heating network [pcs.] and i [m2] – 71 / 4 116,53

b) inefficient individual solid fuel heat sources were replaced by gas heating [pcs.] and [m2] – 783 / 118 774,45

c) inefficient individual solid fuel heat sources were replaced by renewable energy sources [pcs.] and [m2] – 1 016 / 142 734,64

d) inefficient individual solid fuel heat sources were replaced by a coal-fired boiler meeting eco-design requirements [pcs.] and [m2] – 174 / 42 000,31

e) inefficient individual solid fuel heat sources were replaced by a biomass boiler meeting eco- design requirements [pcs.] and [m2] – 588 / 72 880,01

f) inefficient individual solid fuel heat sources were replaced by electric heating [pcs.] and [m2]– 62 / 6 710,59

g) inefficient individual solid fuel heat sources were replaced by oil heating [pcs.] and [m2] – 7 / 925,70

III. Building thermo-modernisation without boiler replacement

1. Number and area of buildings, including single-family and multi-family buildings or units, in which thermal modernisation was carried out without replacing heat sources or with a change in the heating method [units] and [m^2] – 931 units / 187,277.59 m^2

Reduction of pollutant emissions and number of boilers replaced

Reduction in annual emissions of specific air pollutants as a result of replacing 4,757 inefficient individual heat sources during the implementation of the Air Protection Programme (in Mg/year):

PM10 – 1,113.58

PM2.5 – 1,097.84

B(a)P – 0.72

Number of boiler replacements in the years 2021–2024: 14,296 units

According to the reports submitted by the Municipal AQP Coordinators and the implementation reports of the Air Protection Programme for the Opole Voivodeship, as of the end of 2021, educational activities were carried out at the following level:

Number of educational institutions covered by environmental education [units] – 1,750

Number of campaigns conducted [units] – 1,167

Number of school initiatives implemented [units] – 2,285

Number of conferences organised [units] – 473

Number of individuals reached through information and education activities [persons] – 970,032

Number of educational materials prepared [units] – 256,476

The degree to which the environmental effect is achieved is due to the increased area of project implementation through the increased number of project Partners who, as a result of participation in the training programme for Municipal AQP Coordinators, influence the increased scope of possibilities to implement project activities, thereby contributing to the achievement of the assumed objectives.

The scope of promotional activities carried out by the Coordinating Beneficiary and Municipal AQP Coordinators covers the entire area of Opole Voivodeship, contributing to the involvement of communes which are not project Co-Beneficiaries and influence the improvement of environmental awareness of all inhabitants of our voivodeship.

Number of inspections carried out

Checks on compliance with the requirements set out in the anti-smog resolution referred to in Article 96 of the Act of 27 April 2001 - Environmental Protection Law:

Number of inspections carried out [pcs:] 5 072

Number of offences committed [pcs]: 182

Number of instructions given [pcs]: 778

Number of fines issued [pcs]: 55

Number of cases referred to court [pcs]: 1

Checks on compliance with the ban on burning waste in non-designated facilities:

Number of inspections carried out [pcs]: 4 803

Number of offences committed [pcs]: 343

Number of instructions given [pcs]: 571

Number of fines issued [pcs]: 184

Number of cases referred to court [pcs]: 6

Checks on compliance with the b ban on burning plant residues on land and grass and meadows:

Number of inspections carried out [pcs]: 1 602

Number of offences committed [pcs]: 644

Number of instructions given [pcs]: 467

Number of fines issued [pcs]: 307

Number of cases referred to court [pcs]: 8

7. Key Project-level Indicators

KPIs

1.5 Area of environmental/climate implementation actions (e.g. development, testing, demonstration, application of best practices/innovations)

Target value: 9412 km^2

Final value: **9412 km^2**

The rate of achievement of the indicator: 100%

Opolskie Voivodeship area based on Statistical Office in Opole: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://opole.stat.gov.pl/vademecum/vademecum_opolskie/portret_wojewodztwa/wojewodztwo_opolskie.pdf

1.6 Persons who may have been affected by project actions aimed at dissemination or awareness raising (outreach)

Target value: 15 000,00

Final value: **15 000,00**

The rate of achievement of the indicator: 100%.

The number of participants in training and educational meetings for the inhabitants of the Opolskie Voivodeshipconcerning air quality was estimated based on attendance lists from meetings organised by the Municipal Coordinators of the Air Quality Programme (AQP) – 7,257 participants.

A significantly larger number of people were reached through the awareness campaign, but this figure cannot be calculated precisely. The value provided represents a minimum estimate, based on the awareness-raising tools used.

1.6 Persons whose lives were directly and positively affected by the MAIN environmental actions of the project

Target value: 20 000

Final value: **750 366**

The rate of achievement of the indicator: 100%.

Based on data from the Central Statistical Office, the population in the 42 municipalities included in the project was taken into account. The residents of the participating municipalities were informed about the meetings with the Municipal AQP Coordinators. They received informational materials and had the opportunity to have their buildings examined with a thermal imaging camera. Additionally, the equipment purchased under the programme was used to inspect combustion sources, providing further education and support in the replacement of outdated heating appliances. The project also contributed to improving air quality in these municipalities.

1.6 Persons whose skills or knowledge have been improved through project actions

Target value: 42

Final value: **84**

The rate of achievement of the indicator: 100%.

This figure is based on the number of Municipal AQP Coordinators employed under the LIFE agreement and the energy auditor certificates they obtained through postgraduate studies. The project delivered postgraduate studies for public administration employees involved in air protection activities. A total of 84 people completed the programme, 61 of whom were certified as environmental auditors for residential buildings. With the knowledge they acquired, these individuals are now able to share their expertise with residents of their respective municipalities. Indicator 12.2 reflects the number of people trained by the AQP Coordinators.

1.6 Other persons under the influence

As recommended, persons who came into contact with the project through social media were not included.

4.1.3 Other. Energy production from renewable sources

Due to the lack of data received from the municipalities regarding the capacity of the renewable energy sources used, it is not possible to report this indicator.

6.1 B(a)P, PM 10, PM 2.5

It is not possible to confirm that the reduction in emissions from the municipal and residential sectors in the Opolskie Voivodeshipresulted directly from the implementation of the LIFE project. The reduction in pollution was influenced both by the educational activities carried out under the LIFE project and by other independent factors, such as restricted access to fuels at the onset of the war in Ukraine or the cross-border flow of pollution from neighbouring voivodeships and the Czech Republic.

8.1.1 Buildings/housing/domestic appliances. Reduction of greenhouse gas (GHG) emissions CO_2

It is not possible to confirm that the reduction in emissions from the municipal and residential sectors in the Opolskie Voivodeshipresulted directly from the LIFE project. The reduction in pollution was influenced both by the educational activities carried out under the LIFE project and by other independent factors, such as restricted access to fuels at the onset of the war in Ukraine or the cross-border flow of pollution from neighbouring voivodeships and the Czech Republic.

10.1.1 Public entities

Target value: 42

Final value: **82**

The rate of achievement of the indicator: 100%.

The LIFE project covered 42 municipalities in Opolskie Voivodeship— partnership agreements were signed with each of them. However, all municipalities in Opole Voivodeship, i.e. 71 in total, are covered by the Air Quality Management Information System. They are obliged to report on the implementation of the Air Protection Programme through the established system. The number of active users of the system is 71 municipalities and 11 poviats, making a total of 82 entities. According to the provisions of the Air Protection Programme (AQP), which is an act of local law, 71 municipalities and 11 poviats are obliged to take action.

10.2 NGO

Target value: 3

Final value: **3**

The rate of achievement of the indicator: 100%.

NACE S94.9 - Activities of other membership organisations

Participation in Steering Committees and Seminars, which included submitting comments, suggestions, and original ideas that contributed to the development and adjustment of the programme to the specific needs of the region:

- Opole Smog Alert
- Opolska Loża Business Centre Club (BCC - Under Polish law, it is a non-governmental organisation.
- Opole Centre for Supporting Non-Governmental Initiatives

10.2 Public body/bodies

Target value: 4

Final value: **9**

The rate of achievement of the indicator: 100%.

NACE O84 - Public administration and defence; compulsory social security

Participation in Steering Committees and Seminars:

- Ministry of Development, Labour and Technology
- Ministry of Climate and Environment
- General Office of Building Control
- Regional Directorate for Environmental Protection in Opole
- National Fund for Environmental Protection and Water Management in Warsaw
- Voivodeship Fund for Environmental Protection and Water Management in Opole

P85.4 - Higher education:

Participation in Steering Committees and Seminars:

- University of Opole
- University of Bydgoszcz
- University of Wroclaw

11.1 Website. Number of unique visits

Target value: 6 000

Final value: **174 721**

The rate of achievement of the indicator: 100%.

The website is continuously updated and will be maintained on the servers of the Opole Voivodeship. Data is based on the number of visits to the site: https://powietrze.opolskie.pl/.

11.2 Other tools for reaching/raising awareness among the general public - Number of events/exhibitions organised

Final value: **12**

The rate of achievement of the indicator: 100%.

The seminars were held according to the schedule and were available to every resident of the region. The participation of the municipal Coordinators was mandatory. The lecturers were experts in the field of air protection.

11.2 Other tools for reaching/raising awareness among the general public - Other distinct media products created (e.g. different videos/broadcast/leaflets)

Final value: **32**

The rate of achievement of the indicator: 100%.

3 films were created and placed on websites. 10 types of presentations were prepared for meetings of municipal coordinators with residents, which were adapted depending on the topic of the meeting. 5 types of information leaflets and 5 types of brochures were designed and produced. 9 radio broadcasts were broadcast on local radio stations.

11.2 Other tools for reaching/raising awareness among the general public - Number of articles in print media (e.g. newspaper and magazine articles)

Final value: **15**

The rate of achievement of the indicator: 100%.

The LIFE project team prepared a promotional and information campaign for the project, which was published in 15 local newspapers.

11.2 Other tools for reaching/raising awareness among the general public - Number of different displayed information created (posters, information boards)

Final value: **2**

The rate of achievement of the indicator: 100%.

Two types of posters were prepared, one of which was used by municipal coordinators during their meetings with residents. The other was distributed among residents of the municipalities.

11.3 Other. Number of individuals surveyed who are aware of the environmental and/or climate action issue addressed

Target value: 300

Final value: **316**

The rate of achievement of the indicator: 100%.

Based on the Low Emission Public Awareness Survey carried out as part of the LIFE Project, considering the total number of respondents (i.e. 1,000 people), one in three (31.6%) admitted that they plan to replace the heating source in their household. The awareness survey was conducted among the inhabitants of municipalities participating in the LIFE Project only in the Opole Voivodeship.

11.3 Surveys carried out on the awareness of the environmental/climate problem concerned (mandatory only for information and awareness projects). Individuals

Target value: 1000

Final value: **1000**

The rate of achievement of the indicator: 100%.

Based on the Low Emission Public Awareness Survey for the LIFE Project, a sample of 1,000 people was surveyed. The awareness survey was conducted among the inhabitants of the municipalities participating in the LIFE Project in the Opolskie Voivodeshiponly.

12.1 Networking (mandatory). Members of interest groups / lobby organisations

Target value: 3

Final value: **27**

The rate of achievement of the indicator: 100%.

Representatives of the following organisations and groups (professionals and laypeople):

- Olomouc Region (Czech Republic) – 1 person
- Moravian-Silesian Region (Czech Republic) – 1 person
- LIFE project “Silesia. Bringing back the blue” – 5 people
- LIFE project “Do You Know What You Are Breathing?” – Education and Information Campaign for Cleaner Air – LIFE-MAPPINGAIR/EN – 2 people
- Air Protection Working Group of the Ministry of Climate and Environment – 16 people
- LIFE project “Implementation of the Air Protection Programme for the Małopolska Voivodeship – Małopolska in a Healthy Atmosphere” – 2 people

Conferences, meetings, workshops, and seminars were held—targeted both at residents of the region and environmental professionals. NGO activists also took an active part.

12.2 Training or professional education. Members of interest groups / lobby organisations

Target value: 6000

Final value: **7257**

The rate of achievement of the indicator: 100%.

Raising awareness. The number of participants in training sessions and educational meetings for residents of the Opolskie Voivodeshipconcerning air quality was estimated based on attendance lists from meetings organised by municipal Air Quality Programme (AQP) coordinators.

13 Jobs. No. of FTE

Target value: 31,5

Final value: **44**

The rate of achievement of the indicator: 100%.

The number of Municipal Coordinators employed under the LIFE project is 42, plus 2 persons in the LIFE team. In each municipality, there is a person responsible for air protection and for assisting residents in this matter.

14.1 Running costs/operating costs during the project and expected in the case of continuation/replication/transfer after the project period

Target value: *EUR* 3,017,260.00

Final value: ***EUR* 2,729,149.55**

Total project expenditure as shown in the financial statements of all Co-Beneficiaries and the Coordinating Beneficiary.

14.3 Future funding

Further funding for follow-up actions will come from the budget of the Opolskie Voivodeshipor from potential projects implemented by the Opolskie Voivodeship, as set out in the After-Life Plan. Funding for the positions in the municipalities is provided by municipal budgets, while the maintenance of the IT system and the Provincial AQP Coordinator is financed from the budget of the Opole Voivodeship.

14.4.1. Entry into new entities/projects - Continued

Further financing of follow-up actions will come from the Opolskie Voivodeshipbudget or from potential projects implemented by the Opolskie Voivodeship, as outlined in the After-Life Plan. The continued replacement of inefficient heat sources will be co-financed through internal projects and national programmes implemented within the Opole Voivodeship.

8. Comments on the financial report

8.1.Summary of Costs Incurred

PROJECT COSTS INCURRED				
	Cost category	*Budget according to grant agreement in EUR**	*Costs incurred within the reporting period in €*	*%***
1.	*Personnel*	*1 273 804*	*1 334 570,87*	*105%*
2.	*Travel and subsistence*	*133 817*	*38 847,97*	*29%*
3.	*External assistance*	*946 573*	*904 402,12*	*96%*

4.	*Durable goods: total cost, not depreciated*			
	- Infrastructure (sub-category)			
	- Equipment (sub-category)	*103 970*	*49 956,32*	*48%*
	- Prototype (sub-category)			
5.	*Consumables*	*270 009*	*209 869,70*	*78%*
6.	*Other costs*	*127 459*	*55 938,57*	*44%*
7.	*Overheads*	*161 628*	*135 564,00*	*84%*
	TOTAL	**3 017 260,00**	***2 729 149,55***	*90%*

*) If the Agency has officially approved a budget modification through an amendment, indicate the breakdown of the revised budget. Otherwise this should be the budget in the original grant agreement.
**) Calculate the percentages by budget lines: e.g. the % of the budgeted personnel costs that were actually incurred

8.2. Accounting system

The accounting system of the Coordinating Beneficiary is implemented on the basis of internal procedures entitled “Accounting principles (policy) of the Marshal Office of Opole Voivodeship”. The Accounting Policy sets out, inter alia, the rules for keeping the accounts, the manner in which the accounts are to be kept and the system for protecting data in the entity.

The accounting books of the Office are kept using the “KSAT 2000i” financial and accounting computer software (version 2.0...), developed by COIG S.A. from Katowice. The software ensures that the individual sets of accounts are linked into a single whole reflecting the journal and the general ledger.

The Office's accounts comprise a set of accounting entries, turnovers and balances which form:

- a journal,

- a general ledger (synthetic records), where each operation must be recorded according to the double-entry principle,

- subsidiary ledgers (analytical records),

- trial balances of the general ledger accounts and the subsidiary ledger accounts.

The short procedure for the approval of costs is in accordance with the Instructions for the circulation of financial and accounting documents at the Marshal Office of the Opole Voivodeship.

Every external financial and accounting document, especially the one documenting budget expenditures, is subject to substantive and formal and accounting verification, pursuant to the provisions of the order of the head of the unit on financial control procedures with respect to processes related to the accumulation and distribution of public funds. A financial and accounting document described in a substantive manner by a competent substantive unit is verified by an employee of the unit’s accounting department with regard to formal and accounting requirements and is subject to account assignment and qualification for inclusion in the books of account. Account assignment of accounting evidence (documents) involves preparation of documents for posting, indication of the month and method of entry of the evidence in the books in accordance with the principles set out in the order of the head of the unit on the company chart of accounts. A number of relevant independent workstations are involved in checking the accounting records, with the result that documents have to be passed between the various workstations. Individual accounting records

have different routes of circulation. Regardless of the type of document, the aim should always be to circulate it via the shortest route. To this end, the following rules for the circulation of accounting evidence should be applied:

1) principle of timeliness - respecting the time limit for transferring documents between links, reducing to a minimum the time taken by individual links to process documents,

2) principle of regularity - performing activities related to the circulation of documents in a systematic/regular, continuous manner, preventing periodic piling up of work, which increases the possibility of errors,

3) principle of accountability - handing over documents only to those links which actually use the data the documents contain and are competent to verify the documents,

4) principle of circulation self-control - individual cells control each other and enforce a continuous circulation movement.

External financial and accounting documents may arrive at the unit in the following ways:

1) a document is received by the General Mailroom, it is stamped with its receipt stamp and then forwarded to the relevant substantive unit and confirmed with that unit's receipt stamp,

2) a document reaches the substantive unit directly, it is stamped with the receipt stamp of this unit,

3) a document is directly received by an employee of the unit, who confirms the date of receipt on the document. Subsequently, the employee immediately forwards the accounting document to the substantive unit.

Every expenditure incurred under the LIFE project is clearly linked to the project both in the accounting system (separate code) and in the description of accounting documents. Invoices have on their first page information on the expenditure under the LIFE project (either in the title of the invoice or in the comments). In addition, invoices are printed with a detailed description of the expenditure and appropriate labelling is used.

The working time recording system in the office is defined by internal regulations. Daily rosters of project team members are manually completed by signature and attendance is then approved by the project manager. On the last day of the month, the attendance list is approved by the Director of the Department of Environmental Protection and forwarded to the Administration and Organisation Department. In addition, a detailed electronic record of staff working time is kept daily at the secretariat of the Department of Environmental Protection.

All Project Beneficiaries are public bodies and are required to apply national public finance legislation.

8.3. Partnership arrangements (if relevant)

Payments between beneficiaries are governed by the provisions of the Partnership Agreement. In accordance with the aforementioned Agreements signed with the Co- Beneficiaries, the following payments are scheduled: 1. First instalment of the advance payment, 2. Second instalment of the advance payment, 3. Reimbursement.

The first instalment of the advance payment was transferred to the Co-Beneficiary within 30 days of signature of the Partnership Agreement by the Co-Beneficiary. The second instalment of the advance payment was transferred to the Co-Beneficiary within 30 days of receipt of the funds paid by the Agency/Commission. The final payment re-funds or covers the remainder of the eligible expenditure incurred by the Co-Beneficiary for the purpose of implementing the Project and will be transferred to the Beneficiary within 30 days of receipt of the funds paid by the Agency/Commission. The aforementioned time limits may be extended in justified cases in accordance with the provisions of the agreement.

Beneficiaries pursue the financial policy in accordance with the Public Finance Act and in accordance with their internal procedures. Project implementation was defined in the financial plan of the units concerned for the given year and in the multi-annual financial forecast. Whenever the revenue and expenditure plans were amended, they were updated on an ongoing basis. Financial reporting by Beneficiaries was carried out in accordance with the provisions of the Grant Agreement, Partnership Agreement and in line with the guidelines prepared for the Co-Beneficiaries, entitled "Guidelines for the accounting system and description of accounting documents generated in the LIFE_AQP_OPOLSKIE_2019.PL project" and guidelines entitled "Accounting and document description system".

The consolidated cost statement is verified on the basis of the beneficiaries' individual reports in the context of the data defined in the accounting system and the accounting documents provided. The statement of expenditure from the accounting system is also verified against the project budget.

8.4. Certificate on the financial statement

Not applicable.

8.5. Estimation of person-days used per action

Action type	Budgeted person-days	Estimated % of person-days spent
All projects when applicable Action A: Preparatory actions	356	162
NAT and CLIMA projects Action B: Purchase/lease of land and/or compensation payment for payment rights	-	-
ENV projects Action B: Implementation actions	-	-
GIE projects Action B: Core actions	24	93
NAT projects Action C – Concrete conservation actions	-	-
CLIMA projects Action C: Implementation actions	-	-
ENV and GIE projects Action C: Monitoring of the impact of the project action	-	211
NAT and CLIMA projects Action D: Monitoring and impact assessment	-	-
ENV and GIE projects Action D: Public awareness/60ommunication and dissemination of results	1238	75
NAT and CLIMA projects Action E: Communication and Dissemination	-	-

of results		
ENV and GIE projects Action E: Project management	1850	71
NAT and CLIMA projects Action F: Project management (and progress)	-	-
TOTAL	28134	91

9. Envisaged progress until next report (this section should be included only for the Mid-term report)

Not applicable