ENERGee Watch

THE ENERGee Watch PEER-TO-PEER LEARNING PROGRAMME

AUGUST 2023

EXECUTIVE SUMMARY

The ENERGee Watch peer-to-peer (P2P) learning programme (LP) was designed for local and regional authorities to exchange knowledge about customised practices for the monitoring, reporting, and verification of sustainable policies and measures. More specifically, the learning programme enables the timely monitoring, reporting, verification, and dissemination of participant's climate and energy data at both local and regional levels via Sustainable Energy Acton Plans (SEAPs) and Sustainable Energy and Climate Action Plans (SECAPs). Additionally, the LP's four courses allow for the transfer of knowledge and sharing of sustainable energy and climate action strategies, plans, policies, and best practices among experts, and encouraged mentees to build partnerships and mutual understanding within an intra-European network via interaction and discussions about peer's Monitoring, Reporting, and Verification (MRV) experiences, opportunities, and challenges. Alongside the activities from the learning programme, the ENERGee Watch results will serve to influence and further develop materials and guidelines supporting European SEAPs and SECAPs, ranging from more comprehensive data collection practices to the measurement and verification of climate data.

Alongside previously published ENERGee Watch materials, this report is intended for energy and climate adaptation experts, local and regional authorities as well as energy agencies to assist them in the set up and/or use of the ENERGee Watch peer-to-peer method or results. To do so, this report:

- Describes the ENERGee Watch learning programme, covering its structure, participants, learning materials and methods, as well as duration and timeline;
- Summarises the programme's monitoring process;
- Compiles quantitative and qualitative results from the 4 courses; and
- Presents lessons learned from the programme activities carried out between 2021-2023.

CONTENT

ENERGEE WATCH PARTNERS

IEECP, or the Institute for European Energy and Climate Policy, is a non-for-profit, independent research foundation working on science-based climate change adaptation and mitigation, energy poverty, as well as energy efficiency and renewable energy policy. IEECP acts as a knowledge-hub, sharing expertise and science-based research, pragmatic results, and innovative ideas to private and public decision-makers to support their work towards the energy transition.

FEDARENE is a network of agencies and regions in the European Union (EU), covering over 80 regional agencies and regions in 22 countries, which has engaged its members and its networks within the project.

UPRC is primarily represented by the Technoeconomics of Energy Systems laboratory (TEESlab). **TEESlab** is a research unit that has expertise in energy system modelling, policy analysis, and technoeconomic assessment of energy systems.

SEEA, known as the South East Energy Agency was established by the Carlow, Kilkenny and Wexford local authorities to provide sustainable energy information, advice and support to the people of Carlow, Kilkenny and Wexford, to local businesses and community groups, and to the local authorities. In 2022, the county of Waterford joined the partnership.

IDF, or the Paris Region Energy and Climate Agency, provides support and advice to local authorities for local or regional energy and climate projects. It has experience in training local authorities on best practices adaption and in implementing and financing climate change mitigation and adaptation actions.

KSSENA is an Energy Agency seasoned in the development of local energy strategies and coordination of actions for reducing energy consumption/costs/GHG emissions in public buildings and infrastructure.

CEA, or the Cyprus Energy Agency, is a non-governmental, non-profit organization providing education and vocational training for local society. It contributes actively to the conservation of energy resources, the protection of the environment, and the improvement of the quality of life. CEA also enhances the role of local authorities in sustainable energy planning, providing technical support for developing and implementing actions to mitigate and adapt to climate change.

AURA-EE is the regional energy and environment agency of the Auvergne-Rhône-Alpes region. The agency aims to promote, co-ordinate and develop programmes and actions in favour of sustainable energies in the building and transport sectors, climate change mitigation and adaptation, environment protection and sustainable development. Its activities are targeted at local and regional authorities of the public and social sectors, accompanying them through their process of project development and implementation as well as the definition of local policies and programmes.

ALEA is a non-governmental agency in Romania, contributing to the sustainable development of Alba County by improving the current situation in energy efficiency, energy management and promotion of energy from renewable sources. Its Regional Energy Observatory, known as ANERGO, offers assistance to signatories of the Covenant of Mayors in the formulation and execution of their SECAPs.

EAP, known as the Plovdiv Energy Agency, promotes the efficient and sustainable use of energy in Bulgaria. EAP has expertise covering deep energy, economic, and financial analysing, policy advice as well as consultancy for improving air quality and local energy systems, RES application, and assistance for energy saving in public and residential buildings.

ENERGEE WATCH: IMPACT IN A NUTSHELL

- The **ENERGee Watch P2P programme brought together 70 mentees from 60 regional and local organisations** around Europe, along with 18 observers, resulting in a total of 88 participants, to share and use the existing knowledge and information available on energy data for the purpose of creating better policies and sustainable action plans.

- A total of **242 participants from 125 organisation attended the 10 ENERGee Watch national replication events,** hosted by partnering energy agencies in 2023.

- The **4 EU replication webinars,** hosted as online crash courses of the P2P programme in May 2023, resulted in 342 registrations and **168 participants from 78 organisations,** mostly from local authorities and energy agencies.

- Overall, **90% of the programme's participants have evaluated all four courses to be valuable** in developing and implementing improved MRV models with energy data stakeholders in their respective regions.

- **89% of the programme's participants were satisfied with the guidance** and support given throughout the courses on data collection, monitoring, reporting, verification, indicators, and strategies on adaptation climate change.

- **55 MRV best practices were collected,** sorted, and displayed on the project website as a database.

- The ENERGee Watch **e-learning platform,** with recordings, learning materials, and more has been made available online for anyone to increase their capacity in and of the four courses on their own time.

- The ENERGee Watch repository of regional observatories brings together **20 regional observatories,** serving as a platform from which stakeholders can access existing climate datasets to use within their own sustainable actions.

- The estimated energy savings triggered by the ENERGee Watch project has been **5,870.5 GWh/year** while the estimated renewable energy production has been **6,695.5 GWh/year** with a total of **1,468 improved measures.**

1 ENERGEE WATCH'S PEER-TO-PEER LEARNING PROGRAMME

1.1 What is it?

Various forms of peer-to-peer learning, including peer-mentoring, peer-review, and peer-assessment, are increasingly used in public sectors. Peer learning or peer-to-peer (P2P) learning is a two-way mutually beneficial learning activity that involves the sharing of knowledge, ideas, and experience between peers. A peer is an individual of equal standing which belongs to the same specific societal group, thereby sharing characteristics. In ENERGee Watch, these described provincial, regional, or local authorities and their agencies working on the entire process of collecting, processing, monitoring, and verifying the data related to the implementation of sustainable energy and climate plans. Peer learning is used as an effective method for sharing knowledge about public sector reform when:

- Learning objectives are clear and peer engagements are structured to maximize these objectives;

- Peers are matched appropriately and empowered to engage effectively;

- Peers engage with each other over a medium to long run period and in multiple ways, from shared work to site visits;

- Knowledge gained by individual peers is communicated back to their organisations to ensure further peer learning and replication;

- Peer organisations commit to allowing peers attending courses as mentees to feed their learnings back into the organisations, and structure a strategy to ensure this is done regularly;

- Mentors simplify the process of peer engagement to reduce administrative demands and costs;

- Evaluation of peer learning can be carried out from initial engagement through individual learning, to organisational learning (from the peers) and final reform impact.

The learning program in ENERGee Watch was designed to meet the above criteria, and thus moved forward with the P2P method to exchange customized practices for the monitoring and verification of sustainable policies and measures. The specific objectives of the ENERGee Watch learning programme (LP) were:

A. To develop and execute a complete and easily replicable peer-to-peer learning program;

B. To create effective and productive peer-to-peer groups among regional and local authorities and agencies;

C. To build partnerships that stimulate the mutual understanding of each other's issues, situations and challenges with the aim of exploring new ideas, options and solutions;

D. To improve the replicability and comparability of measurement and verification practices by empowering mentees while strengthening their knowledge;

E. To identify and set up realistic replication mechanisms for the transfer of learning program knowledge to regions beyond the consortium network and the project's duration.

1.2 Participants and Roles

1.2.1 Mentors

ENERGee Watch identified seven knowledgeable energy agencies as potential mentors for the LP and brought them onto the project as project partners. Based on their area of expertise, fours agencies, whose skillset could reduce the knowledge gaps identified within the needs assessment survey (described in Sections 2.1, 3.1, and 3.2.2), developed the course syllabus, materials, and handbooks in the P2P programme. In the peer learning programme, mentors were also tasked with the significant role of transferring knowledge, skills, and insights related to one of the four course topics, while contributing with independent, informed feedback and advice on mentee's specific situations to aid decision making. Additionally, they collected and shared best practices for i) the monitoring, reporting, and verification of climate change mitigation measures, ii) indicators related to adaptation measures, as well as iii) policies, with mentees who would benefit from practical and strategic one-on-one advice and guidance. The mentor's full set of responsibilities is summarized below:

- Share practical experience on implementing sustainable energy and climate action projects and support mentees in overcoming various barriers;

- Help mentees identify problems and suggest areas for improvement;

- Provide structure and context for discussion including open and candid feedback;

- Be a resource and a sounding board;

- Learn from other cities and regions about successful practices implemented in the field;

- Offer assistance in compiling an implementation and replication plan using newly gained knowledge.

The ENERGee Watch peer-to-peer learning programme consisted of four courses taught within three cycles, each of which included a masterclass and action plan workshop. The four courses delivered in all cycles were as follows:

Course 1: Data collection (acquisition and treatment) - Taught by the Energy agency of Savinjska, Šaleška and Koroška region (KSSENA)

- Topic 1: Baseline Emission Inventory (BEI)
- Topic 2: Energy management
- Topic 3: Energy supply and production
- Topic 4: Transport

Course 2: Monitoring, reporting, verification: follow up on implementation of actions - Taught by the Cyprus Energy Agency (CEA)

- Topic 1: Vision setting
- Topic 2: Establishing an Energy and Climate Team
- Topic 3: Data Processing and Verification
- Topic 4: Energy Modelling and Scenarios
- Topic 5: Sustainable business model canvas and financial feasibility analysis
- Topic 6: Implementation and successful monitoring

Course 3: Indicators and strategies on adaptation to climate change - Taught by the Regional energy agency of the Ile de France Region (IDF)

- Topic 1: The fundamentals of adaptation to climate change
- Topic 2: The fundamentals of assessment for adaptation
- Topic 3: Drawing up the diagnosis
- Topic 4: Tools associated with the diagnosis
- Topic 5: Strategy development
- Topic 6: Practical exercise

Course 4: Data display, dissemination, and validation by local authorities - Taught by the Auvergne Rhône-Alpes Energie Environnement (AURA-EE)

- Topic 1: What determines effective communication of data?
- Topic 2: Identifying the information needs of the end-users
- Topic 3: Data manipulation and presentation in an effective manner
- Topic 4: Implementing data display tools,
- Topic 5: An insight into TerriSTORY®, an online tool to link territories with their energy objectives
- Topic 6: Modes of data dissemination
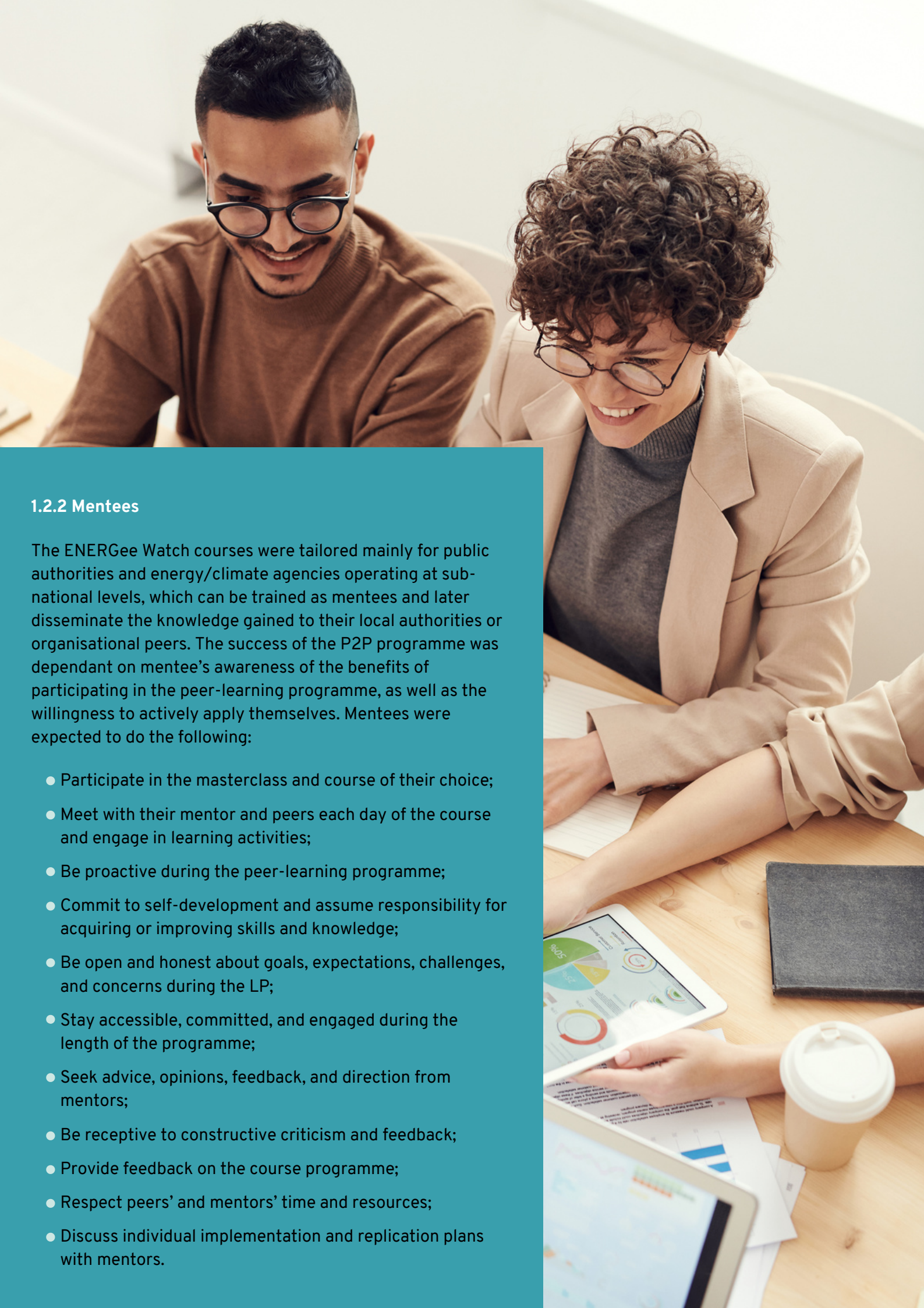
1.2.2 Mentees

The ENERGee Watch courses were tailored mainly for public authorities and energy/climate agencies operating at sub-national levels, which can be trained as mentees and later disseminate the knowledge gained to their local authorities or organisational peers. The success of the P2P programme was dependant on mentee's awareness of the benefits of participating in the peer-learning programme, as well as the willingness to actively apply themselves. Mentees were expected to do the following:

- Participate in the masterclass and course of their choice;

- Meet with their mentor and peers each day of the course and engage in learning activities;

- Be proactive during the peer-learning programme;

- Commit to self-development and assume responsibility for acquiring or improving skills and knowledge;

- Be open and honest about goals, expectations, challenges, and concerns during the LP;

- Stay accessible, committed, and engaged during the length of the programme;

- Seek advice, opinions, feedback, and direction from mentors;

- Be receptive to constructive criticism and feedback;

- Provide feedback on the course programme;

- Respect peers' and mentors' time and resources;

- Discuss individual implementation and replication plans with mentors.

1.2.3 Administrators

Within the LP, there were two types of administrators who supported the development of the peer-to-peer learning programme and in carrying out online peer learning activities, as described below.

The General Administrator – SEEA

The general administrator performed all Veri-related tasks, including:

- Offering platform technical support and ensuring an easy sign-in process on the online learning platform used exclusively by mentees, mentors, and project partners called Veri (described in Section 2.2);

- Developing the platform user guidebook;

- Ensuring that course materials were uploaded onto Veri to be accessed by mentees;

- Providing digital tools to support mentors to deliver their courses;

- Gathering and managing survey data from mentors and mentees;

- Informing mentors and mentees about schedules and links to online activities;

- Acting as the main contact point between mentors and mentees and communicating with them regarding administrative and practical guidelines.

Quality Management (QM) Administrator – IEECP

The QM administrator's tasks included:

- Ensured quality management of the LP;

- Fulfilling tasks such as the management and retrieval of data from the Veri platform;

- Development surveys;

- Verifying survey data from mentors and mentees;

- Performing the regular monitoring and evaluation of courses and project activities.

2.3 Observers

The Observers of the LP were classified as the energy agencies or other consortium partners participating in the ENERGee Watch project, but not acting as mentors during the 3 learning cycles. These included participants from ALEA, EAP, SEEA as well as any other consortium partner interested in observing any of the courses to build their organisation's capacities. Aside from attending the courses to gain new knowledge on MRV practices, observers were also asked to give feedback on the courses, provide recommendations for following learning cycles, and identify the replication potential of the learning programme to other regions.

2 STRUCTURE AND MATERIALS USED WITHIN THE LEARNING PROGRAMME

2.1 A step-by-step approach to the development and implementation of the P2P programme

Public authorities have varying levels of knowledge, skills, and capacity for sustainable energy solutions, from planning to financing and successful implementation. As such, it is important to meet the diverse needs of different public authorities and to strengthen collaboration and engagement among them. Policies and practices for the monitoring and verification of climate data are regularly formed at the national level. Cities often do not have the capacity for setting up

tailored Monitoring, Reporting and Verification (MRV) practices that consider regional characteristics and are therefore more suitable to be used, or have the resources to properly monitor the impact of their policies and implemented actions. As such, beyond the sharing of best practices, the ENERGee Watch LP was designed to enable mentees such as local authorities and energy agencies to improve existing or design new marketable projects that can be appropriately measured and verified. To design a programme that achieved these goals in the most efficient way possible, 9 steps were taken and repeated for each learning cycle, aside from step 1, which only took place once, prior to LC1.

PHOTO BY PIXABAY

Step 1: Need Assessment

To offer a targeted programme to the target audience, namely local and regional authorities as well as their energy agencies, the ENERGee Watch project carried out a **needs assessment** exercise as a first step in the programme design process. A survey was launched at the end of 2020 to identify the needs and barriers public authorities and their support organisations face in developing and monitoring their energy and climate plans. More specifically, the ENERGee Watch needs assessment survey had several objectives:

- Collect information to be used as input for a detailed analysis of the needs of participants in each of the areas identified by the survey.

- Within each potential learning course, identify the topics for which the respondents would need the most support.

- Define the delivery preferences of the learning programme.

A first analysis of the **53 answers from 42 organisations** indicated a strong interest in most topics pertaining to one of the four courses offered within the LP (described in Section 1.2). This resulted in a second analysis to be carried out per type of organisations to better understand the needs of each group, revealing how to most suitably fulfil these through the content of the ENERGee Watch learning programme. This survey was also leveraged to inform and recruit mentees to the LP.

Step 2: Formatting the Courses

The format of the courses (duration, location, dates) had to be identified next. The ENERGee Watch programme was split into three learning cycles (LCs) in hopes of reducing scheduling issues, thereby allowing for the training of a higher number of organisations over the duration of the LP. Each of the 3 LCs was hosted using a different format to accommodate mentee's temporal and budgetary needs.

Adapting to the COVID-19 crisis

The first of three P2P learning cycles had to be slightly adapted due to the COVID-19 outbreak. Originally, an in-person masterclass was proposed to be hosted in Brussels, Belgium, after which courses were to take place in one of the four mentoring energy agency's countries, based on mentee's course of interest. Finding the most appropriate format to ensure high quality exchanges when travelling was no longer possible due to the global pandemic. This was an important challenge for this first learning cycle (LC1). It was therefore decided to:

- Organise an online masterclass for all mentees, with a breakout session organised per course;
- Conduct each course online within a 12 week period (September to November 2021);
- Ensure that mentors prepared their courses taking into account the needs uncovered in Step 1.

Adapting to a post-COVID-19 world

The second (LC2) and third (LC3) learning cycles, were scheduled to take place after COVID-19 regulations and travel restrictions eased. Although flights were running at this time, the cost of travel increased, and so the ENERGee Watch LP had to adjust to these new conditions. The masterclasses of both LC2 and LC3 were scheduled to take place online. Both learning cycles' courses were initially offered to mentees in person, with the subsidisation of travel by up to 500 euro per mentee to reach mentoring countries. Unfortunately, costs during LC2 were too high for mentees to attend Course 1 on-site, therefore, it was decided that this was to be attended online, while courses 2 through 4 could be held on-site. Structured study visits were arranged in each course's mentoring agency (aside from Course 1) during LC2 to provide mentees with the opportunity to learn about best practices and new strategies being implemented in mentoring agencies, and compare these with their own sustainable actions. Study visits involved concentrated groups composed of one mentor for every six mentees. During LC3, the courses were offered in a hybrid format, with mentees attending the courses in Brussels, or online. For these learning cycles, it was therefore decided to:

- Organise online masterclasses for all mentees, with a breakout session organised per course for the mentees;
- Host LC2 either online or in person over a 2-day period between June and July 2022 and LC3 in a hybrid format between November 15-16 2022;
- Ensure that mentors prepared their courses taking into account the needs uncovered in Step 1, as well as those discovered in previous LCs.
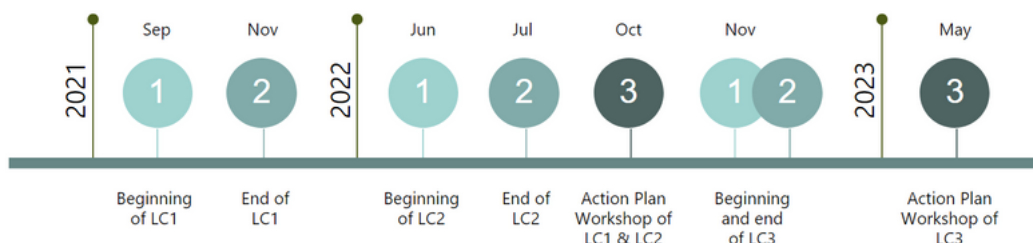

Figure 1. Timeline of the ENERGee Watch learning programme (2021 – 2023)

Step 3: Development of the Handbook Template

It was necessary to identify the key points of communication required between the mentors and mentees in a learning course handbook. A template was created to collect and prepare an effective and clear representation of what information the reader was intended to gain from each learning course.

Step 4: Development of Learning Materials and Handbook Content

A copy was sent to each of the course mentors to populate it with relevant course information. This activity resulted in the production of a complete set of learning materials alongside a high-quality handbook to be used by mentees.

Step 5: Additional Learning Materials, Planning and Inclusion of Guest Speakers

Additional activities and learning materials were prepared by the 4 mentors prior to the courses, including videos to accompany the learning courses, questionnaires to test participants' knowledge and online tool demonstrations. Each mentor had the freedom to prepare learning materials that they deemed appropriate in order to deliver the course content.

Step 6: Promoting the Learning Programme

After Steps 1-5 were finalised, the learning programme was promoted to its target audience through various channels including partner networks, the Covenant of Mayors, and various EU-funded initiatives.

Step 7: Hosting the masterclasses and learning cycles

The mentee journey developed across the following approach:

0 │ Preparation
Mentees received a welcoming email with information about the Masterclass and the P2P booklet. During this period, mentees were asked to fill in the commitment statement before the programme began, clearly defining their learning objectives and what is expected from them during the courses. Additionally, they were asked to fill out a stakeholder survey to measure the level of power and interest of various stakeholders (19 categories), thereby tailoring ENERGee watch's promotion strategy and course content

1 │ Masterclass
During the Masterclass, each mentee participated in an online event to familiarise themselves with the topics offered within the 4 ENERGee Watch courses. Mentees were then asked to register for the course that was most interesting or relevant to their work, and which could have the greatest impact on competency growth. Prior to attending one of the four selected courses, mentees were given an assessment survey (different than the needs assessment survey from step 1) to assess their knowledge about the course topics before starting the learning exchanges. This information was crucial for assessing the quality of the courses as well as for improving the learning programme and assessing its impact. This also helped to inform project partners and mentors about the mentees' potential needs.

2 | Learning

Mentees followed the courses, either online or in-person. Each of the course topics outlined in the handbook was accompanied by handouts and other supplementary materials to support and enhance the learning process. During the courses, mentees were expected and encouraged to actively participate, discuss, and work together with peers in order to maximise the benefits of the course.

3 | Action Plan

Following the completion of the course, mentors assisted mentees in the development of an action plan, the objectives of which were to understand qualitative and quantitative background information about the mentees, help mentees keep track of the knowledge gained within courses, plan how the knowledge gained from the LP may be implemented, motivate them to further develop their plans, ensure the passing on of course knowledge to peers within their organisations, and collect more best practices for future use. Mentees then filled out the satisfaction survey to assess the extent of the knowledge gained and their satisfaction with the overall LP.

4 | Monitoring

Within 6-12 months following the completion of their courses, mentees were invited to attend an action plan workshop, where implementation of the activities laid out in the action plan was monitored, and mentors could provide advice and feedback on how to overcome hurdles that may have arisen since last connecting with mentees. During these events, mentee experience surveys were handed out to further investigate what can best motivate local authorities to continue to share their experiences, explore solutions, and innovate.

Step 0 | Preparation

Welcome email and P2P booklet
Fill in the commitment statement
Fill out the Stakeholder survey

Online event introducing the 4 ENERGee
Watch courses
Course registration
Fill out the assessment survey

Step 1 | Masterclass

Step 2 | Learning

Learning exchanges online or in-person
Supplementary material

Development of an Action Plan to understand background information and plan knowledge implementation
Fill out the satisfaction survey

Step 3 | Action Plan

Step 4 | Monitoring

Workshop to monitor the implementation of the Action Plan
Further exchanges on overcoming hurdles
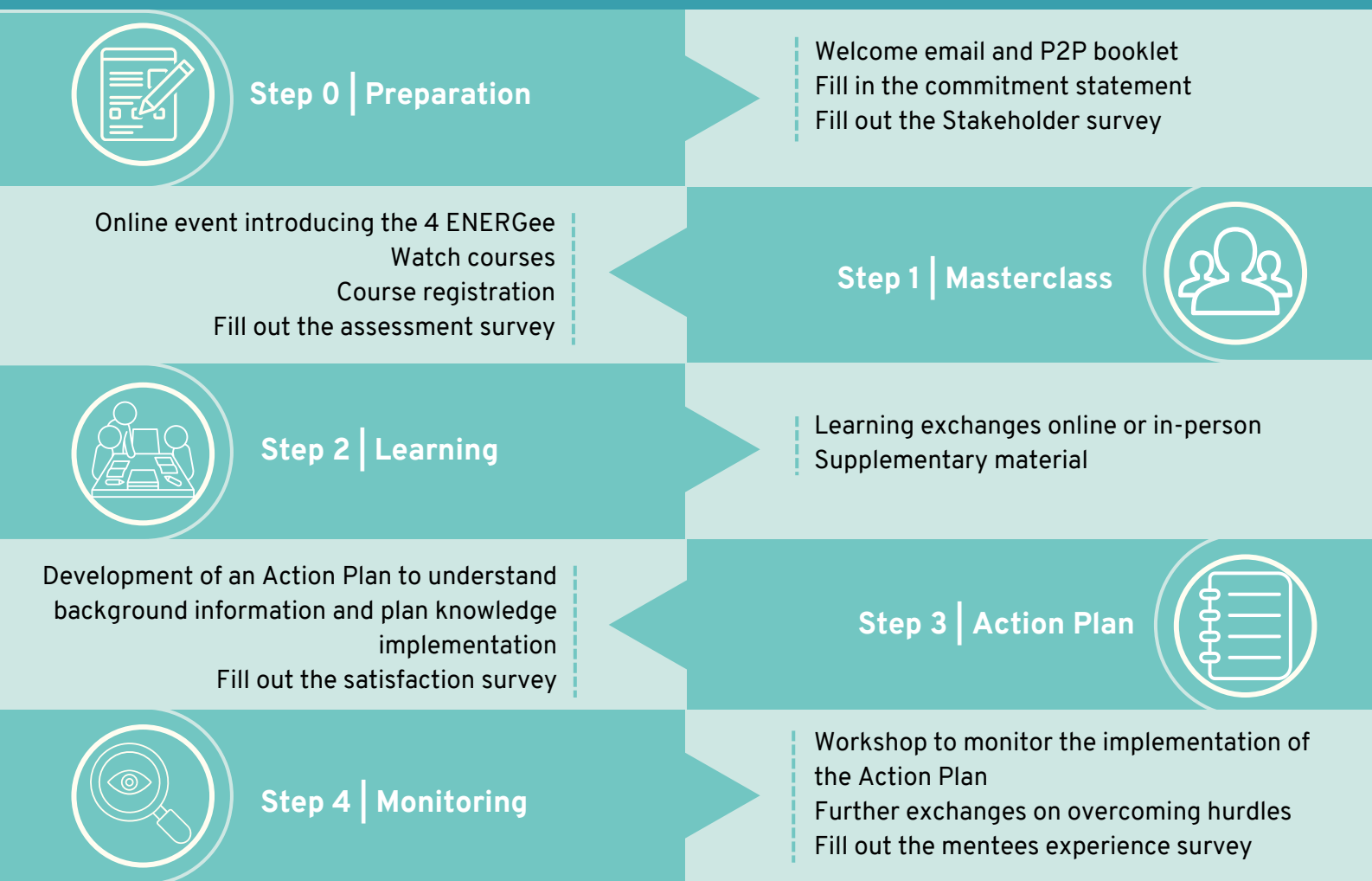Fill out the mentees experience survey

Figure 2. A visualisation of the mentee journey

Step 8: Following Up with Mentees

An action plan workshop was organised 6-12 months following each course in order to follow up with mentees, check in with one another, measure progress and knowledge implementation, share successes, and work together to overcome newly encountered barriers related to SEAP and SECAP development.

Step 9: Certificates of Completion

Certificates of completion were finally sent to mentees who actively applied themselves and attended all events offered within the LP. These certificates incentivised mentees to keep in touch with their mentors and attend the action plan workshop, following the core transfer of knowledge within the courses.

2.2 Online Learning Tools Integrated into the Learning Programme

Training programs are often faced with obstacles related to the digitisation and delivery of data (a mix of paper and digital records, dispersed data sources, etc). Moreover, collating uniform survey feedback, sharing information in unison with participants, coordinating learning programmes, and ensuring data privacy can be time consuming and disorganised. In order to mitigate these issues, ENERGee Watch used an online system called Veri to help in the gathering and safekeeping mentors' and mentees' personal data, the tracking of mentees' progression, and the sharing of programme materials. Veri is a training compliance management software that helps to achieve high quality training in the most innovative way.

In order to engage mentees, mentors delivered their content through group discussions, online and hybrid exercises, various tools (such as Miro, polls, etc.), interactive presentations and games (toolboxes, game cards, and spreadsheets) and learning activities (providing audio and visual resources) to encourage participatory learning.

2.3 Learning materials

Mentees who benefitted from the full learning programme were able to accumulate between 1.5 to 2 full days' worth of course content. For those who were not able to join the full LP, but still wanted to cultivate their knowledge on MRV practices, they were invited to attend the ENERGee Watch EU-level crash courses. These served as replication events, which are described in detail in Section 4. These crash courses were recorded, and the recordings, along with learning materials and supplementary documents, have been made publicly available on the ENERGee Watch E-Learning Platform (described in Section 6.1), to be used by anyone interested in the four LP topics (not to be confused with the Veri learning platform, used within the learning programme).
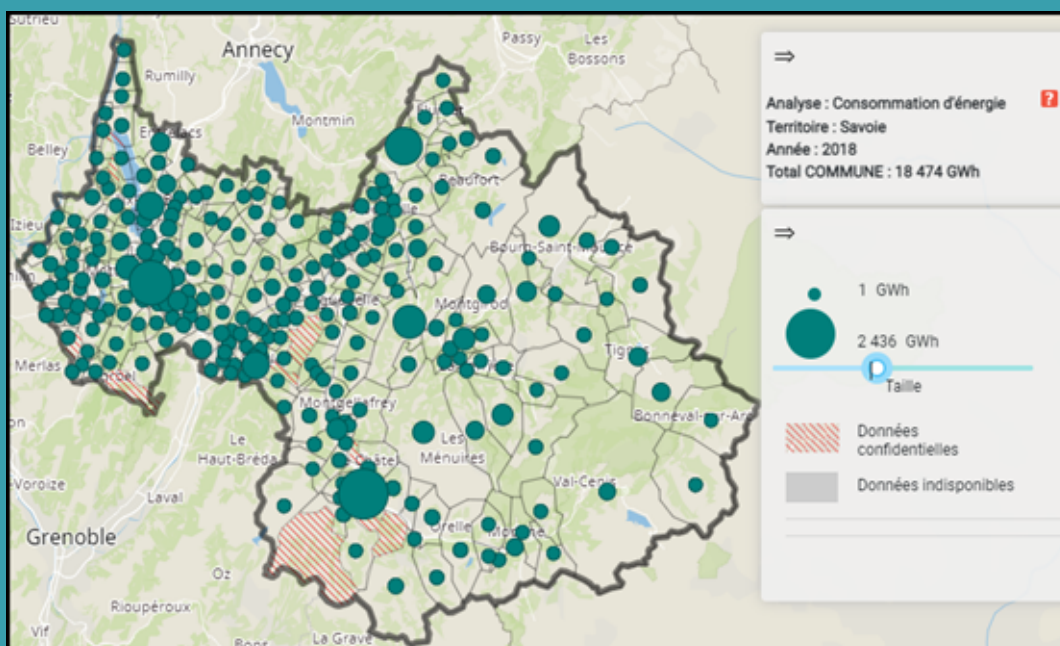

Figure 3. A visual example of the TerriSTORY® tool, used within Course 4.

3 MONITORING OF THE P2P LEARNING PROGRAMME

Monitoring and evaluation were a constant and important management function in the ENERGee Watch project, intended to track and assess the fulfilment of its stated objectives and outcomes. To help meet this need, three sets of monitoring activities have been employed: 1) general project monitoring (IEECP), 2) beneficiary tracking (FEDARENE) and 3) monitoring, reporting and verification (MRV) process of the learning programme (IEECP).
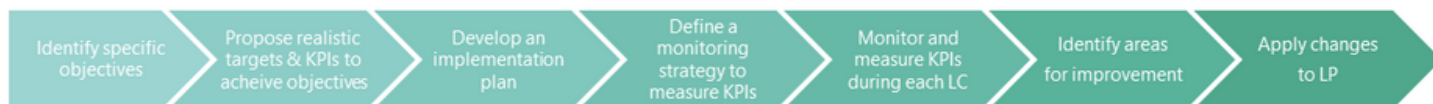

Figure 4. Monitoring process

3.1 Monitoring Methodology

As an integral part of the monitoring strategy, insight from participants was gathered through a series of surveys, action plans, as well as during the Action Plan Workshops. All participants were requested to fill out the respective survey at the beginning and at the end of each learning course (1 to 4), with the objective of evaluating the progress of their knowledge about the specific course they attended. All data presented in this report is based on participants' responses to the following, first introduced in Step 7 of Section 2.1.

- **Need assessment survey** – Distributed to networks by FEDARENE and took place every LC before the sign-up period.

- **Stakeholder survey** – Distributed to mentees before LC to measure the level of power and interest for each category of stakeholders (19 categories), while prioritising stakeholder groups to engage within the LP and to collaborate with after the programme.

- **Assessment survey** – Distributed to mentees after the masterclass but prior to the start of each course to gage mentee's knowledge on all topics.

- **Action plan** – Distributed to mentees during courses to gage impact of mentee, understand how knowledge gained will be applied, gather best practices, and act to motivate mentees to use learnings in future sustainable actions.

- **Satisfaction survey** – Distributed to mentees after each LC to gage satisfaction with learning programme through five parts. Part 1 of the satisfaction survey asks the same questions as the Assessment survey regarding knowledge on course topics (enabling a before and after comparison). Parts 2 to 5 feature different questions about the P2P programme.

- **Action plan workshop** – Hosted 6-12 months after the completion of mentee's courses to monitor the implementation of knowledge gained from the LP.

- **Mentee experience survey** – Distributed to mentees after action plan workshop to further investigate what can motivate local authorities to continue to share their experiences, explore solutions, and innovate.

In order to monitor the LP and track course participation, ENERGee Watch opted to use the Veri online platform that created a secure environment for the storage and use of personal data, tracked mentee's progression within courses, collected all surveys, and monitored meeting duration and frequencies. Veri was checked regularly for progress updates which were used as input for internal discussions surrounding potential improvements on course materials, learning programme, as well as organisational and promotional strategies during bi-monthly meetings.

3.2 P2P Learning Programme Monitoring Results

3.2.1 Participants' Profiles

The learning programme taught over 3 learning cycles registered a total of **70 active mentees** from **60 organisations** (see Appendix I for a full list of participating organisations, noting that some organisations followed multiple courses across several LCs). With 18 observers, the total number of active participants having taken part in all three LCs is 88 (mentees and observers). The attendance of the LP is shown in Table 1.

Table 1. Overview of the number of participants per LC

	LC1 (September – November 2021)	LC2 (June – July 2022)	LC3 (November 2022 – May 2023)	Total
Course 1	4	7	6	17
Course 2	5	2	9	16
Course 3	7	3	17	27
Course 4	4	2	4	10
Total	**20**	**14**	**36**	**70**
Observers	7	7	4	18

### 3.2.2 Results of the Needs Assessment

At the end of 2020, ENERGee Watch launched a needs assessment survey for regional authorities, energy agencies, local authorities, to identify the needs and barriers public authorities and their support organisations face in developing and monitoring their energy and climate plans. The survey found a clear and compelling need for energy and climate data from these actors.
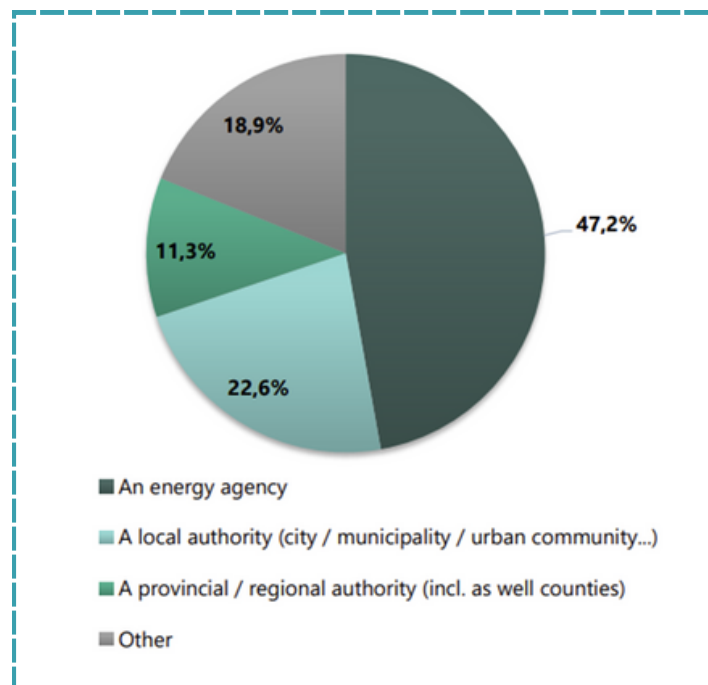
Figure 5. Needs Assessment Survey breakdown by type of organisation

Across the different target groups of the survey, a diversity of needs was present. In particular, **local authorities** expressed a strong need in Course 1 *Energy Data collection (acquisition and treatment)*, while **energy agencies and regional authorities** expressed a stronger need in Course 3 *Indicators and strategies on adaptation to Climate Change*. As a result, the learning material that was developed for each course was tailored to the respective target group while still including different learning aspects for other stakeholder groups. As far as the specific topics that needed to be addressed in the learning material, the topics of "Data Management", "Transport" and "Waste" proved to be strongly necessary for further learning within Course 1. From Course 2, information on the topics of "Internal Capacity", "Reporting" and "Developing indicators and monitoring" was strongly needed, while from Course 3 the topics of "Climate adaptation solutions investigation", "Governance and response plan to be put in place for your community" and "Strategy and Framework Development for Climate Change Adaptation" were revealed as being of greatest interest. Finally, the topics from Course 4 that were most requested were "General data management and visualisation methods" and "Selection of data and illustration methods". These results were paramount to the creation of the learning programme material, and influenced the foci of the content to tackle the above-listed knowledge gaps.

It was also important to understand mentees' motivation for joining the ENERGee Watch courses. Figure 6 shows that more than 50% of the participants were interested in attending the courses to improve the internal capacity of their organisation as well as their own personal knowledge. Mentees also experienced a number of challenges prior to the LP that they were interested in overcoming as a result of course participation.
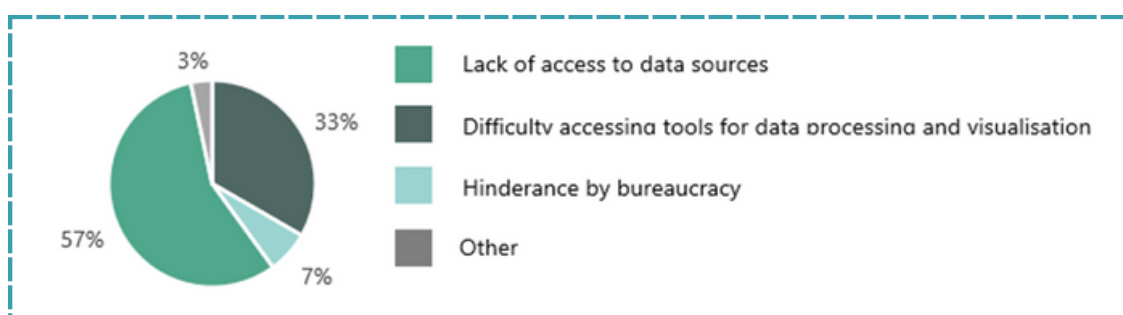

**Figure 6.** Motivation for joining ENERGee Watch LP

3.2.3 Stakeholder Survey Results

Within ENERGee Watch, a stakeholder is considered to be anyone who can influence or be influenced by a sustainable energy project implemented in a given region. Once relevant stakeholders were identified through desk research, the following two steps were taken:

- An **online survey** comprised of quantitative and qualitative questions about the various stakeholder groups was distributed to mentees. Survey participants were first asked to assess two characteristics of each stakeholder group to the best of their knowledge, namely their "power" and "interest". The terms "power" and "interest" are defined, as follows: a) **Stakeholder Power** is the ability of a stakeholder to exercise their influence on a project related to the implementation of MRV processes to achieve desirable outcomes and b) **Stakeholder Interest** is the impact of a project related to the implementation of MRV processes and its development on the stakeholder group, both positive and negative. A Likert scale (1-5) was used to measure each of the two characteristics, and the scores of each stakeholder group's characteristics were analysed using the Power-Interest Matrix method.

- A **power-interest matrix**, that is widely used in the research fields of renewable energy and energy planning was created. It is a popular top-down SA method for dividing stakeholders into four groups based on their relative power and interest: consult, collaborate, inform and involve. ENERGee Watch's results are pictured below.
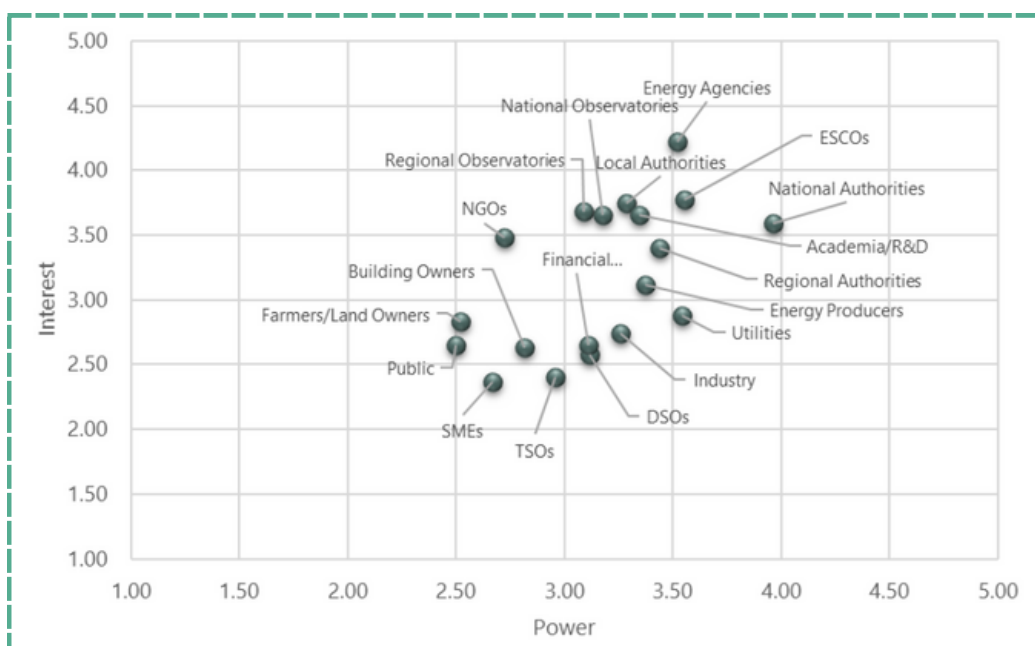
Figure 7. Average levels of power and interest for the various stakeholder groups identified within ENERGee Watch
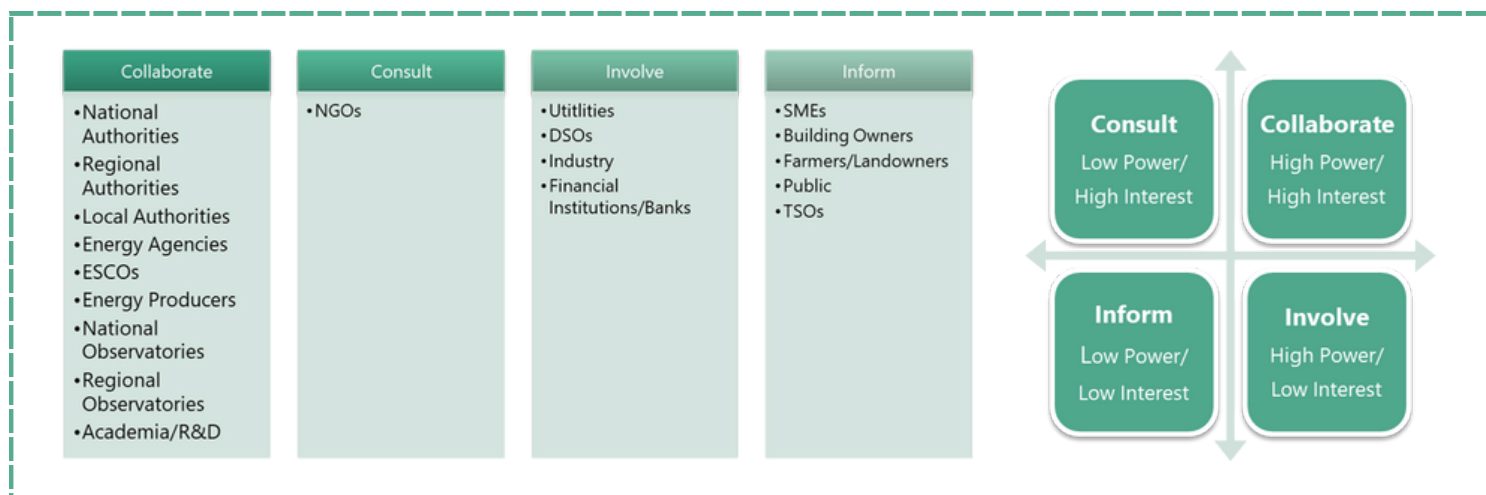
**Figure 8.** The resulting clusters and the stakeholder groups

3.2.4 Assessment and Satisfaction Survey Results

The assessment and satisfaction surveys issued within the ENERGee Watch learning programme measured mentee's knowledge about course materials prior to and after attending their course of choice. It was expected that a positive increase in the difference between the Assessment survey and the Satisfaction survey for 'Very aware' and 'Aware' responses would occur (resulting in a positive %), indicating that knowledge of the topics in question grew, while a negative increase for 'Fairly aware' and 'Not aware' responses could be observed (resulting in a negative %), as the number of people who were not familiar with the course topics should have decreased due to participation in the LP. As pictured in the example below, this trend occurred throughout all four courses, with a high increase in awareness and a high decrease in a lack of awareness about the polled topics, demonstrating that the LP was highly effective in building participants' capacity on MRV topics.

Table 2. Results of assessment and satisfaction surveys, indicating level of knowledge absorbed by mentees

How aware are you about methods and tools to assess adaptation policies?			
	Assessment survey average results across all LCs	Satisfaction survey average results across all LCs	Difference generated by the ENERGee Watch programme
Very aware	2%	59%	**57%**
Aware	16%	35%	**19%**
Fairly aware	73%	7%	**-66%**
Not aware	10%	0%	**-10%**

Mentees had also been asked to rate how likely they are to recommend the course they attended to other local authorities, regions or energy agencies. Respondents provided their preference on a scale from 'Very likely' to 'Not likely'. Results are presented in an aggregated form per course. Course 1 reports the highest likelihood ('Very likely" of being recommended), that is, 100%. This is followed by Courses 3, 4 and 2 when ranked by "Very likely" responses. No participants across any course indicated that they would "Not likely" recommend the course to other local authorities, regions or energy agencies. As such, it can be concluded that the learning programme had met and exceeded participants' expectations in most or all domains, including content, topic relevance, course format and duration, the level of mentor support, and learning materials provided.
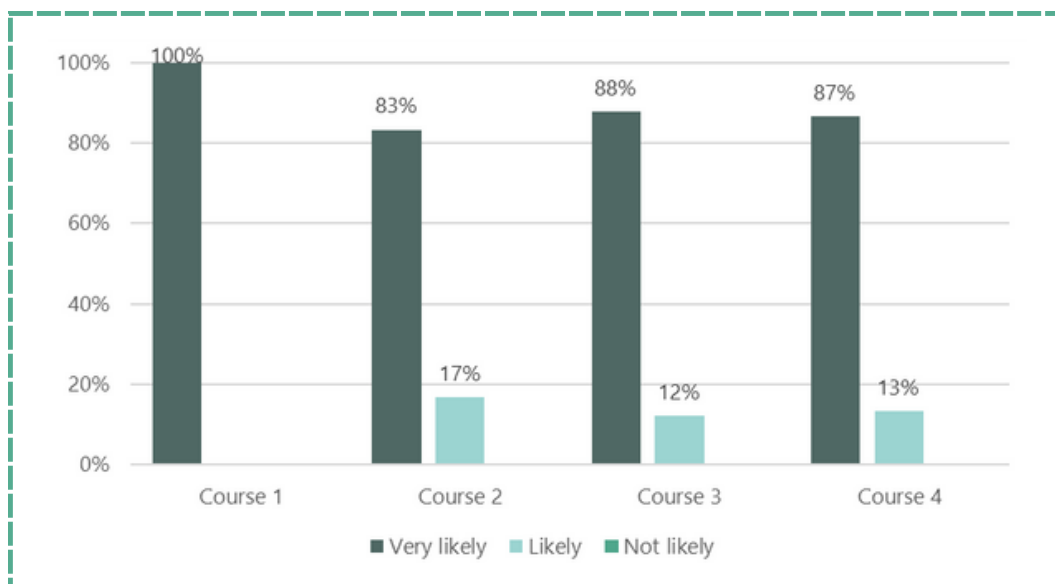
Figure 9. Likelihood of each ENERGee Watch course being recommended to peers (all LC aggregated per course)

3.2.5 Action Plan and Action Plan Workshop Results

Through the written surveys as well as through the oral Action Plan Workshops, we found that mentees were able to integrate the activities during the learning programme into their daily tasks and are better equipped to serve the needs of the territory respectively. The knowledge integrated into each course was designed to ensure that everyone had a basic understanding of course principles before advancing further in the topics. A few take-aways provided by the mentees included:

- ✓ Knowledge on updating **data collection and management** methods
  - Better quality and more reliable data
  - Better energy and climate data and data management for SECAPs
- ✓ New **data evaluation** methods
  - Knowledge on how to get a more accurate results
  - Understanding how to calculate energy consumption, energy savings and other data analysis
  - Preparing more science-based reporting
- ✓ Knowing where to look for information
- ✓ How to **find missing data**
- ✓ Ensuring **better quality, monitoring, verification/evaluation, and reporting of SECAPs**, expanding support periods for municipalities and attracting more investors
  - Improving quality of SECAPS to monitor municipal activities
  - Understanding of the monitoring framework for climate impacts, which will be essential to lay the basis for proper monitoring of climate actions when expanding SEAPs to SECAPs
  - Integration of the monitoring methods into the implementation plan
- ✓ Instructions and **guidelines for the preparation of municipal SECAPs**
- ✓ **Involvement of stakeholders** in SECAP and project development
  - Identification and consolidation of SECAP stakeholders' network
  - Raising awareness and engagement among stakeholders, participants and citizens
- ✓ Deepening knowledge in developing energy and climate plans for all employees so that everyone has the same level of knowledge in the field
- ✓ Creation of **business plan** using canvas method in ongoing projects, business plans, feasibility and environmental analyses for sustainable energy projects and climate mitigation actions
- ✓ **Communication and dissemination improvement** via data visualisation
  - Application and update of new tools for data visualisation to enhance valorisation outputs
  - Review of reports template which include the identification of end-users, identification of report objectives, review of structures.
  - Creation of different report templates depending on end-user
  - Design, content, and data communication, and visualisation of adaptation will improve dissemination and information activities
  - Presentation of spatial data to influence behavioural change
- ✓ Improvement of organisation's **indicators and strategies on adaptation to climate change**
- ✓ Better **framing of activities** to better serve the needs of a territory
- ✓ Help to structure the services provided for territories
- ✓ Development of internal administrative structures for successful implementation and monitoring of sustainable energy action plans (roles, support, prioritization, budgeting)
- ✓ Knowledge to identify problems faced by end users and advise them in prioritizing projects

In summary, the ENERGee Watch learning programme improved mentee's knowledge on monitoring, reporting, and verification practices, thereby increasing their capacity to better serve the needs of their regions and make the most of climate and energy data at local and regional levels. The 4 courses, taught within three LCs, have supported at least 70 active participants and 18 observers who were involved in the planning and development of sustainable energy and climate action plans and related policies. Following participation in the courses, mentees are further expected to transfer the knowledge from the courses to their respective local or regional authorities, which will multiply the impact of the learning programme. Hence, the peer-to-peer approach has been effective and productive in ensuring the exchange of rich experiences, existing knowledge, and relevant expertise between different stakeholders in an intra-European network, despite the setbacks experienced due to COVID-19. Furthermore, the courses stimulated the expansion of mentee networks as well as the building of partnerships, which can contribute to future collaboration in addressing one another's MRV barriers that may arise in the future.

3.2.6 Mentee Experience Survey Results

ENERGee Watch participants' feedback showed that there is a pressing need to strengthen the knowledge base about how to best track progress and assess measurable achievements from urban climate resilience planning, through initiatives that foster learning and expertise-sharing among peers. While data problems and effective resource allocation, including coordination of activities across different departments and governance levels, were pointed by many respondents as critical issues for any MRV activity, connecting to and learning from various networks are possible solutions to tackle barriers to more optimised monitoring, reporting and evaluation procedures.

3.3 P2P Learning Programme Monitoring Results

3.2.1 Participants' Profiles

At the end of ENERGee Watch project, an overall quantification of performance indicators was conducted. During the project, there were expectations that energy savings would take place for all peer-to-peer learning activities that were being implemented with a minimum amount of measures or policies progressed towards implementation. The estimated primary **energy savings triggered** by the ENERGee Watch project **is 5,870.5 GWh/year** and the estimated **renewable energy production is 6,695.5 GWh/year** with a **total of 1,468 improved measures**. Note that estimated numbers for the project's impacts have been rounded off to non-decimal figures. The information on the indicated amount for both performance indicators is taken from the results of the aggregated Action Plan Survey of all 3 Learning Cycles. The following questions were asked:

1. **What is the estimated annual energy savings (MWh) of this plan (total, including el. and heat savings)?**
   - Between 1 and 1 000 MWh
   - Between 1 000 MWh and 10 000 MWh
   - Between 10 000 and 100 000 MWh
   - Between 100 000 and 1 000 000 MWh
   - Above 1 000 000 MWh
   - There is no estimation
   - There is no envisaged saving

2. **What is the estimated RES production (MWh/year) of this plan?**
   - Less than 1000 MWh/year
   - Between 1000 and 10 000 MWh/year
   - Between 10 000 and 100 000 MWh
   - Between 100 000 and 1 000 000 MWh
   - Above 1 000 000 MWh/year
   - There is no estimation
   - There is no envisaged RES production

The average amount of the responses was taken into the final calculation for both indicators. The estimated amount of annual savings and renewable energy according to JRC The Covenant of Mayors in Figures – 5 years assessment report (2013) and mentioned in the Grant Agreement were both used in the event of missing information, i.e. 'There is no estimation'. The rationale for calculating the average figures is detailed below. The reason why estimations were not given by participants can be attributed to the fact that for most of the participants, the energy plans were still being developed, designed, or implemented during that period.

Based on JRC (2013), the average savings per measure per year in the built environment is 2685 MWh, in transport 2130 MWh and other sectors 1868 MWh. Therefore, the total average energy savings are estimated to be **2228 MWh** and taken into calculation for the missing information where this was multiplied by the corresponding numbers of an **average of 9 measures** found in SECAPs. For renewable energy production, the total estimated production per year from SEAPs is 132,746 GWh, which accounts for an **average of 27.2 GWh (27,200 MWh) per SEAP**. Furthermore, for the energy savings we account for a 10% factor, meaning that only 10% of the influenced measures are expected to be implemented. Finally, we take into account the Eurostat primary energy consumption (PEC) and the final energy consumption (FEC) for 2021 to calculate the FEC to PEC factor. It is important to note that updated JRC research reports are available and can complement the estimated amount. For example, JRC Science for Policy Report on Covenant of Mayors 2022 Energy Figures and Covenant of Mayors in figures: 8-year Assessment.

Table 3. Overview of the number of participants per LC

Project Performance Indicator	Estimation prior to the launch of the LP	Quantification after the 3 LCs	Measurement Unit
Energy savings triggered by the project within its duration	647.1 GWh/year	**5,870.5 GWh/year**	Primary energy savings triggered (GWh/year)
Renewable Energy production triggered by the project within its duration	6,800 GWh/year	**6,695.5 GWh/year**	Renewable Energy production triggered (GWh/year)

4 REPLICATION AND EXPLOITATION

The ENERGee Watch replication events were split into two levels, the national and EU levels. They were addressed to local and regional authority employees and energy agencies staff members involved in the planning and implementation of MRV processes in projects and programmes related to SECAPs. In particular, those who wished to lay groundwork for setting up data collection, monitoring and visualisation processes were targeted via promotional campaigns.

4.1 National Events

In total, 10 national replication events were hosted across the partnering countries by the ENERGee Watch energy agencies. One event per country was held within Romania, Cyprus, Bulgaria, Slovenia, and Ireland, while five were conducted in France by IDF and AURA EE. The majority of the events spanned one full day and were held live, while only one was online (FR) and one was held in a hybrid format (RO).

Partnering energy agencies were free to choose the aim and contents of their national replication events based on the ENERGee Watch learning courses. A cornerstone of the replication events was the transfer of knowledge and exchange of experience and know-how between the national partners and their replicating organisations. Municipal experts state that one principal issue with SECAP development is their lack of knowledge and capacity to work on the climate aspects of these plans. Although they are familiar with the energy part of SECAPs due to their previous work with SEAP development, they often do not have an advanced understanding of the climate aspects. Thus, the ENERGee Watch events also strived to help these local authorities improve the way climate change barriers are tackled and integrated into their strategic documents.

All national events replicated either the entire ENERGee Watch learning programme or a selected number of learning courses and modules. In addition, some of the partners extended the learning programme with applications to regional contexts and national aspects (BG, FR, SL) as well as guidance and support on how to approach SECAP development, especially with regard to the climate adaptation and mitigation aspects. In some cases, demonstrations of specific tools were made to the wider audience (i.e. TerriSTORY®). Some additional topics covered within the events included information on funding schemes for sustainable projects as well as discussion about climate data and information.

Figure 10. Most common topics discussed during the national events

In total, **242 participants from 125 organisations**

took part in the national events, with an average of 24 participants per event. In France, 5 events were held by two partners and thus their number of participants accounts for more than 50% of all experts reached. The main invitees to the events were municipal experts and energy and urban development agencies. In addition, representatives of energy service providers, natural park authorities, and other public bodies attended.
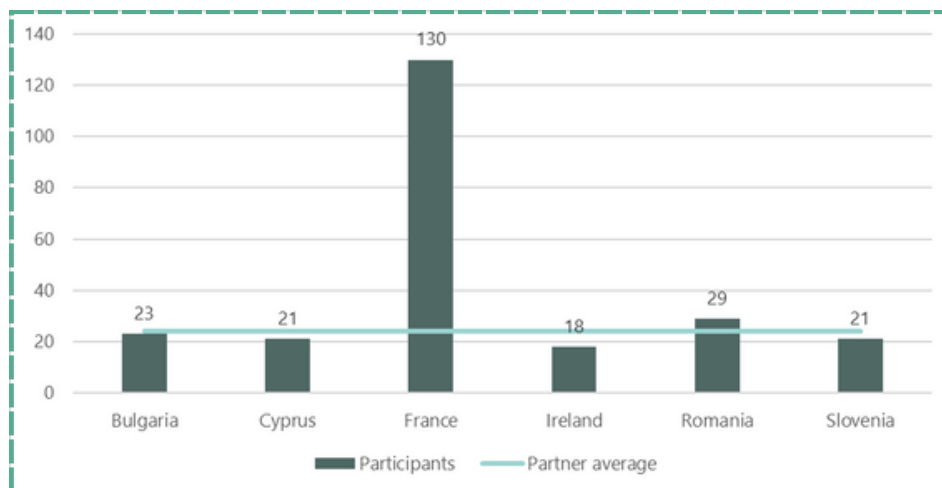

Figure 11. Number of participants per country in the National events

4.2 EU Events

The EU webinars were designed as 'crash' courses of the broader ENERGee Watch learning programme. They were conducted by the ENERGee Watch mentors as half-day lecture sessions throughout May 2023. The main target group for the webinars was the local authorities throughout the EU as well as cities from the Global Covenant of Mayors that had not been part of the regular learning programme. Attendance was also open to energy agencies, academic institutions, other types of public authorities, companies, private organisations, individual researchers, etc. In total, 342 people registered for all 4 modules and

168 participants from 78 organisations

attended the sessions, resulting in a 49% attendance rate. Modules 1 and 3 were visited by almost twice the number of participants of Modules 2 and 4. Around two thirds of the participants were from EU Member States, while the others originated from non-EU countries, including Albania, Serbia, Georgia, and Turkey. There were also participants from India, Israel, Mexico, Pakistan, Tunisia, and Vietnam.
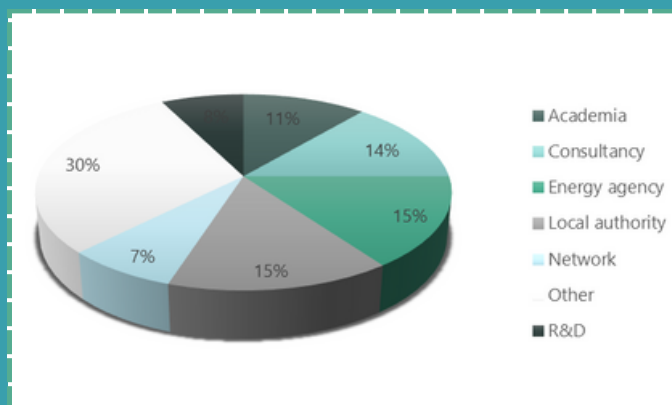
Figure 12. Types of organisations in the EU webinars

5 OVERALL SATISFACTION OF MENTEES, MENTORS, AND OBSERVERS

5.1 Participants' Feedback

Overall, mentees were very satisfied with the content of the ENERGee Watch courses. The highest average satisfaction rate was registered regarding the guidance and support provided by the mentor.
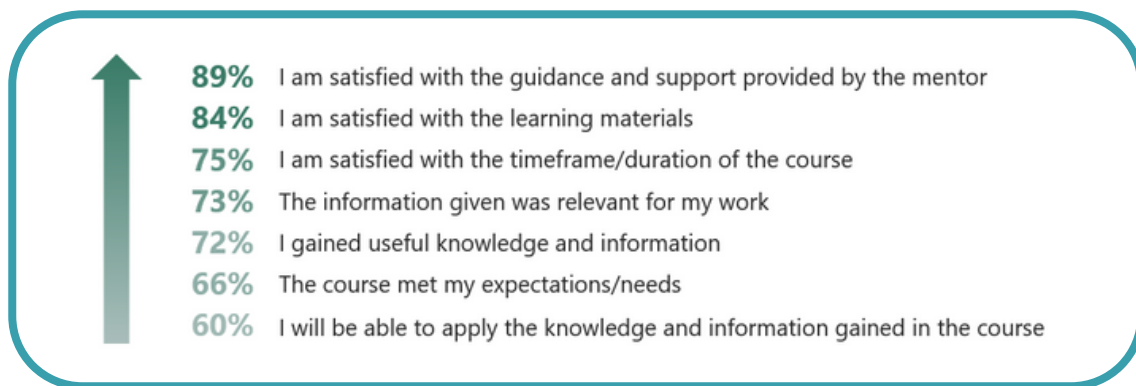

Figure 13. Testimonials of mentees about ENERGee Watch Learning Programme

The Monitoring, Reporting and Verification practices and/or tools presented in the 4 courses received a favourable assessment and have helped mentees to better understand and meet the demands of their regions, while facilitating ongoing or future projects. Testimonials highlighting participants' positive experiences, like the ones below, are available on the ENERGee Watch website.
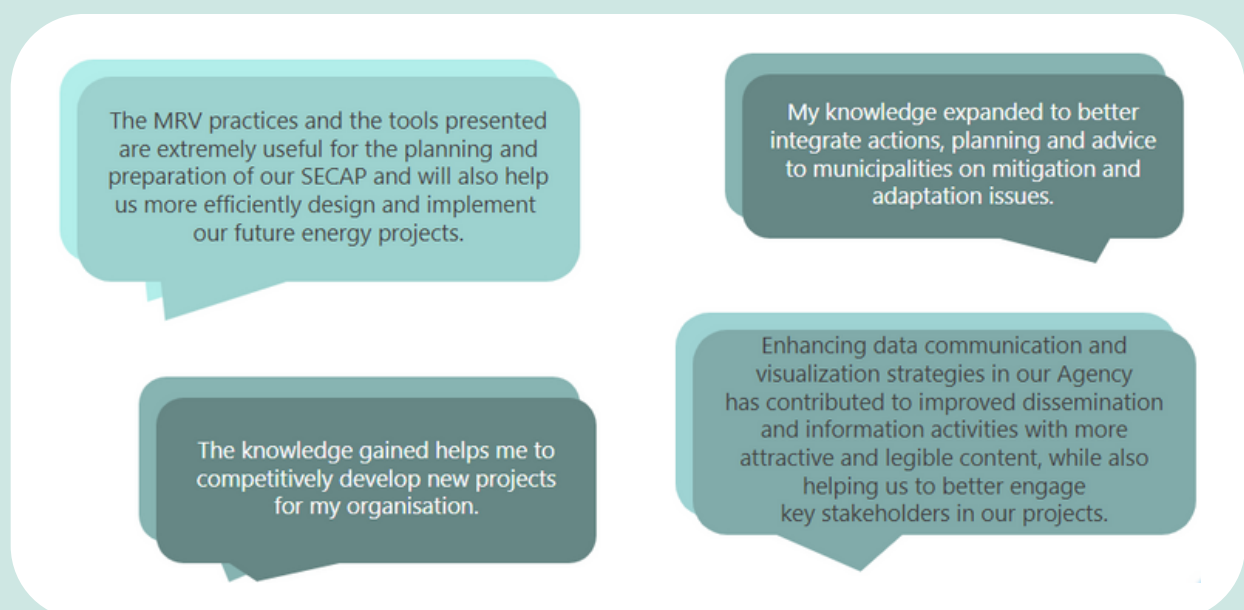
Figure 14. Ranking of satisfaction rates

5.2 Partners' Feedback

5.2.1 Mentor's feedback

There is an overall consensus that for the partnering energy agencies, ENERGee Watch was valuable as the materials and courses developed for and within the LP can be used past the project's lifetime to strengthen knowledge on MRV topics for relevant stakeholders. Additionally, strong value was provided to the mentors' peers at the national level due to the replication events hosted under the ENERGee Watch umbrella.

Moving forward, numerous materials will be used, exploited, and replicated in the coming years to train public authorities and energy agencies that struggle with SECAP development and implementation. Since the best way to learn is by teaching, each mentoring energy agency felt that they continued to increase their capacity on the topics they taught, while providing value to their mentees, hence, highly recommend this win-win experience and methodology. The mentor's additional thoughts on the ENERGee Watch peer-to-peer learning programme are detailed below.

Table 4. Additional considerations regarding the LP by mentors

Benefits of the learning programme	Areas for Improvement
IDF	
The P2P programme was useful in developing, testing, and improving the courses and their underlying methodologies.	There is a demand for locally applicable measures to be given during courses, however, these are often highly dependent on local contexts, so it is not always possible to provide examples of local practices to all mentees. More examples at national and EU levels could be given instead to provide mentees with a large choice of practices that can be adopted into their local contexts.
The majority of exercises are going to be reused in the future as content to inform other actors who could not partake in the LP.	Follow up with mentees was difficult since some mentees were only interested in the course rather than creating relationships. These differing intentions need to be kept in mind for programme monitoring.
Different cycles helped to improve the contents (seeing what worked, and answering questions that mentors didn't have the answers to initially).	
AURA EE	
The energy agency worked on videos to present the proprietary TerriSTORY® tool, which created high value for the organisation.	It was interesting to see limited attendance in the LP but high attendance in the replication events. Therefore, varied formats should be applied to similar P2P efforts to determine the most effective and sought-after method of training.
The national replication event furthered nationally-available content and knowledge of MRV practices, benefitting not only the mentors, but the various participants who had attended the events as well.	
KSSENA	
The EU replication event and crash course was the best attended event and received the most feedback from mentees. Therefore, hosting events online seems to be the most effective way of quickly transferring the most urgent information to stakeholders.	Feedback from the LP was limited as communication channels were sometimes unclear to mentees. As such, one channel of communication should be chosen and specified to mentees at the beginning of the LP, with one point of contact emphasised clearly.
Materials were made available to both mentees as well as all stakeholder clusters, and were downloaded frequently.	

Benefits of the learning programme	Areas for Improvement
CEA	
The in-person events could be and were often adjusted to the interests of presential mentees, providing them with more value than expected.	CEA's course was taught by 3 mentors, but because of lower than expected mentee participation in specific LCs, the courses sometimes felt unbalanced.
Networking with new energy agencies was highly beneficial for best practice exchanges and potential partnerships.	The online events were invested in to make them more interactive, but the connection with mentees was more absent in comparison to in-person meetings. The hybrid format was considered the worst for both mentees and mentors and was the most costly to organise. CEA would have therefore preferred more face-to-face meetings.
Although many traditionally successful programmes have 10 or more people per course, the advantage of small groups was that mentors were able to facilitate one-on-one learning, which was beneficial for the mentees as this opportunity is not often available to them.	The courses went well, but perhaps the information taught within the courses was not always reflective of the initially proposed agenda and may not have fully met the expectations of all mentees, as the courses evolved over time and deviated from the programme in format and content, based on group needs. To overcome this challenge, course materials outlining basic concepts can be made available to mentees beforehand for personal study, agenda topics can be addressed to varying degrees based on the existing capacities of the group, and sufficient time should be allotted to deviate from the course material and to topics requested by mentees or deemed relevant by mentors.
	Clear course promotion responsibilities and timelines should be communicated to all partners in order to ensure ideal engagement results, in particular when regular promotional strategies should be adapted due to global events such as the COVID-19 pandemic.
	Unfortunately, the action plan workshops were, in general, more poorly attended than expected. Perhaps more frequent engagement with mentees would result in higher attendance to the monitoring workshops.
	EU replication events could benefit from the inclusion of project partners as guest speakers, who could present national tools to be used by attendees, but also to receive feedback on them to make these more universally applicable.
	Additional resources dedicated to national replication could have resulted in a higher degree of knowledge transfer and therefore impact, as many tools and initiatives are most easily replicable nationally rather than internationally, due to country contexts and already-existing frameworks.

5.2.2 Observer's feedback

Table 5. Additional considerations regarding the LP by observers

Benefits of the learning programme	Areas for Improvement
SEEA	
It was interesting to learn about other observatories and compare existing practices to new ones, as the opportunity to do this does not frequently occur.	Unfortunately, the Veri platform was more difficult to use than foreseen, as project partners and mentees did not always understand how to best communicate to one another, and how this could be done through Veri.
The in-person aspect of the LP was appreciated, and in particular, building relationships with mentees was seen as highly valuable.	
ALEA	
ALEA benefitted from the LP as an agency due to their familiarisation with new materials, tools, etc., while data that was gathered during courses is already being used. ALEA observed a particular benefit for their observatory structure regarding new approaches on visualisation.	The EU events were useful and well attended, but could have been improved with more real-life applicable examples in local contexts.
The benefit for external beneficiaries was that they had a unique opportunity to participate in various environments (online, hybrid, in-person).	A suggested improvement for future courses would be to include suggestions on how to sell energy data in the future, as it is difficult to get energy agencies to invest in this.
Mentees shared that they enjoyed the multidisciplinary and geographical exchanges, which ALEA agrees with.	
The EU and national replication events were linked to the Covenant of Mayors, so this method of promotion turned out to be effective, and the exchanges within these events were quite useful.	
EAP	
The ENERGee Watch learning programme was a great opportunity to meet SECAP practitioners and dive into the core elements of SECAP development and monitoring.	
The sessions provided both energy experts and municipal representatives with the opportunity to learn and discuss a number of topics, resulting not only in improved professional capacity, but also new partnerships and cooperation opportunities.	

6 RESOURCES

6.1 Courses and E-Learning Platform

The 4 ENERGee Watch courses are offered via the ENERGee Watch e-learning platform, which makes crash courses in all four project topics publicly available, allowing energy agencies and municipalities, as well as those pertaining to other stakeholder clusters, to increase their MRV knowledge in a short period of time. The following open-access resources can be accessed within the e-learning platform:

- Curriculum and learning materials for all courses;
- Peer-to-peer learning plan;
- Documentation fiches for each course.
- Video recordings guiding viewers through crash course content
- Additional materials for in-depth personal studies
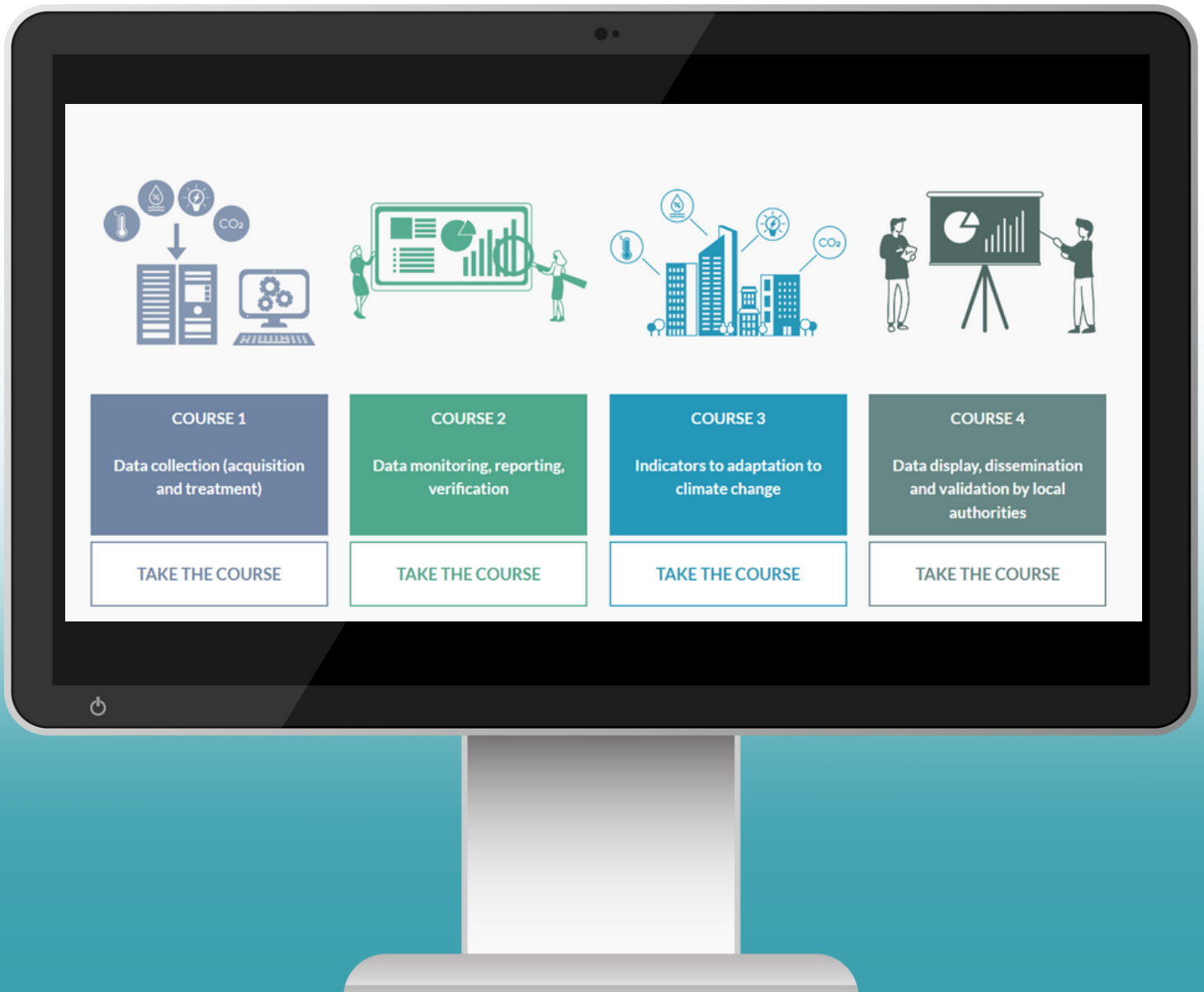
Figure 15. ENERGee Watch e-learning platform

6.2 Database of MRV Best Practices

A list of best and replicable monitoring, reporting and verification practices put forth by mentees and project partners has been compiled and transferred to the <u>ENERGee Watch online database</u>, allowing for authorities, energy agencies, and interested users to sort through the gathered materials in an efficient way. This database aims to provide decision-makers, experts, researchers, and policymakers with a centralised and simple-to-use resource that encourages the adoption of reliable monitoring and verification procedures by compiling a wide range of reproducible methodologies and tools. Additionally, it encourages the sharing of successful monitoring and verification practices among mentees and other relevant practitioners within ENERGee Watch, as well as facilitates the setup of a proper replication mechanism for cities and regions, who may consult and use the learning programme materials and database beyond the consortium network and project's duration.

The survey responses from partners and mentees of ENERGee Watch served as the foundation for the database of the finest monitoring, reporting, and verification processes. The database consists of a total of **55 best practices** relating to ENERGee Watch courses, which have been divided into three classifications, namely innovative practice, good practice, and promising practice. Of the 55 best practices, **22 are innovative practices, 19 are good practices, and 14 are promising** practices.

Innovative practice – All criteria from Table 5 are fulfilled and satisfied.

Good practice – All criteria from Table 5 are satisfied, aside from the innovative criteria.

Promising practice – All criteria from Table 5 are satisfied, aside from the replicable/operational criteria as the practice has not yet been implemented and is still in the planning phase.
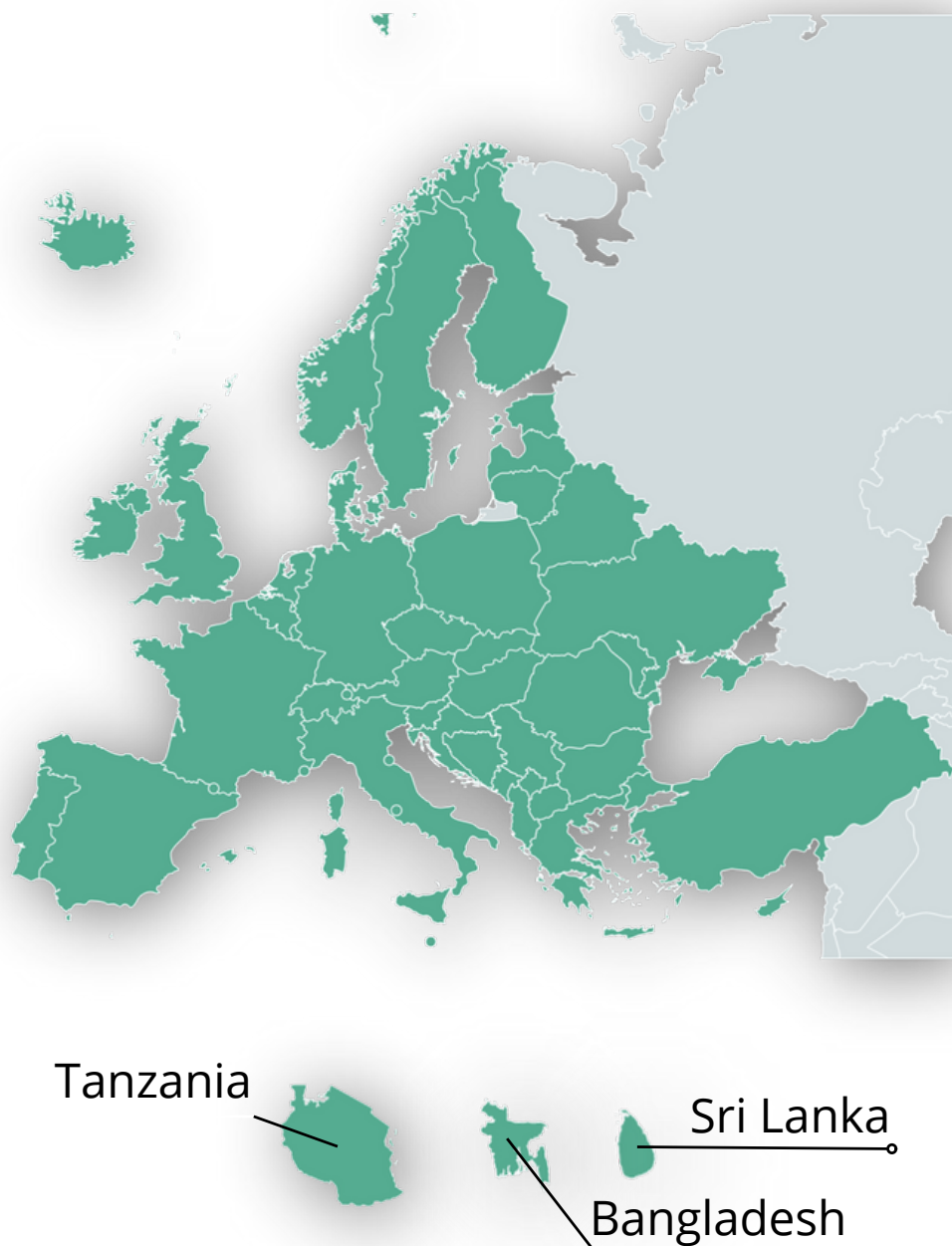
The following table sets out the objectives and main criteria to evaluate the MRV practices that have been discussed within ENERGee Watch.

Table 6. Criteria to evaluate the MRV practices

Best practices should be:	Evaluation criteria:
Carried out on a local/regional level	• Small and medium sized town - i.e., less than 50 000 inhabitants • Small urban centre with 50 000 to 100 000 inhabitants • Medium urban centre - i.e., 100 000 up to 250 000 inhabitants • Large urban centres or regions between 250 000 and less than a million inhabitants • Metropolitan area – more than 1 000 000 inhabitants
Sustainable	Has elements of mitigation (saves energy or helps to reduce CO2) or adaptation (helps mitigate risks or adapt to expected local climate changes) practices.
Replicable/ operational	The practice is already implemented and used by the city/region in one of their plans or planned out in detail (not only proposed).
Transferable	How suitable the practice is for adapting to different contexts and transferring to other cities? See Chapter 2 of ENEFIRST report.

Best practices should be:	Evaluation criteria:
Relevant	Covers one of ENERGee Watch four topics: • Data collection and management (including acquisition and treatment) • Data monitoring and validation • Indicators for adaptation to climate change to ensure that adaptation to climate change is fully integrated in their energy and climate plans • Data display, dissemination and validation.
Evidence-based	The practice is well documented: there is at least one source (website, report from the mentor/mentee) where more details can be found.
Innovative	Original, either in type of activity, sector or financing, or unusually high impact

Figure 16. Countries of origin of best practices

Best Practices

In the context of energy, climate adaptation and the environment, there are several best practices that individuals, communities, and organisations can adopt. These practices aim to mitigate the impacts of climate change, promote sustainability, reduce energy demand, and protect the environment.

This database of best practices is based on the survey results submitted by the ENERGee Watch participants, mentees as well as observers and partners. It aims to provide decision-makers, experts, researchers, and policymakers with a centralised and simple-to-use resource that encourages the adoption of reliable monitoring and verification procedures by compiling a wide range of reproducible methodologies and tools.

An **ENERGee Watch 'Best Practice'** is an energy efficiency or climate adaptation practice which aims to standardise sustainable data at European level, enabling comparisons across European territories to be made and for European-wide methodologies to be established.

The best practices provided in this report relate to one of the four courses offered within the ENERGee Watch learning programme:

- Data collection (acquisition and treatment)
- Data monitoring and validation
- Indicators for adaptation to climate change
- Data display, dissemination, and validation by local authorities

All of the practices listed in the table below are replicable and transferrable to other countries, as they can be adapted to different local and regional contexts.

→ Type of practice reference

Search..

| Name of initiative	Description	Link	Relation to EW Topic	Country of implementation	Region of implementation	Operational status	Type of practice
EENSIGHT tool	A machine learning tool contributing to the much-needed advancement of automated measurement and verification methods for energy efficiency. It aims to provide essential insights for investors, energy companies, legislators, and building owners. The SENSEI consortium developed this tool to be used by investors, energy companies, legislators and building owners. It can also be used for performance guarantees for ESCOs.	Link	2. Data monitoring and validation	Demo buildigns are available but country is unknown	/	Implemented	Innovative
Klimaat Monitor Databank	Core dataset monitoring climate and energy transition for local governments. A core dataset of 70 indicators for monitoring the climate and energy transition, divided into 4 layers (emissions, energy, results, progress) and 5 sectors of climate policy (electricity, built environment, mobility, industry, agriculture). Developed by local authorities of the Netherlands (Rijskoverheid).	Link	1. Data collection and management (including acquisition and treatment)	The Netherlands	Gelderland	Implemented	Innovative
CLIMACT Prio	CLIMACT Prio is a decision support, capacity building and climate awareness tool for screening and prioritising local climate change actions. CLIMACT Prio utilises a multi-criteria approach to assist decision makers and urban planners to identify a wide range of decision criteria and set priorities among objectives while performing an analysis and assessment of climate change (mitigation or adaptation) actions. This method does not necessarily identify an "optimal" option, but rather requires the user to draw conclusions by looking at different components of the whole picture of the assessment and prioritisation process, while seeking a consensus decision between stakeholders with different needs, concerns, and priorities.	Link	3. Indicators for adaptation to climate change	Bangladesh, Tanzania, Sri Lanka, and more	Dhaka, Dar es Salaam, Colombo, and more	Implemented	Innovative
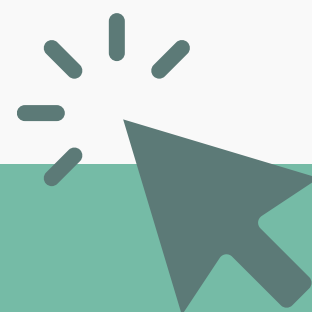
Figure 17. Best practices database

6.3 Observatories Platform on ENERGee Watch

The tasks of an observatory can be diverse, however, observatories primarily serve the role of collecting, monitoring, and reporting greenhouse gas (GHG) emission data to the public, the data of which can be used, most often free of charge, in the implementation of energy saving strategies and policies. Additionally, Regional Energy and GHG Emissions Observatories are a powerful tool for implementing efficient MRV strategies at the local level, and can (i) characterise the current situation and future challenges on climate change, (ii) identify trends and influencing factors, and (iii) define various scenarios in order to meet the 2030 targets and beyond. The majority of the partnering energy agencies have expanded their own observatories during the ENERGee Watch project with software that will boost their capabilities, support processing and visualising data, and improve the monitoring and reporting of SECAP actions. The ENERGee Watch website, therefore, provides a repository of regional observatories, including the ones mentioned above, which can contribute towards the representation and visualisation of regional impact on climate change, and can serve as a platform from which various stakeholders can access existing climate datasets, identify organisations responsible for specific actions relevant to agencies' work, and define priorities for future action.

Filter by country

Pick a country from the list ⌄

ORCAE Rhone-Alpes – Regional Observatory for Energy and Greenhouse Gases emissions [FR]

ORCAE was born from the regrouping of 3 Observatories from the French region of Auvergne-Rhône-Alpes: the Air Observatory, the OREGES (Observatory for Energy and greenhouse [...]

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ANERGO – Alba Energy Observatory [RO]

ANERGO Energy Observatory (www.anergo.alea.ro) is a newly created observatory trough the European project DATA4ACTION. Alba Local Energy Agency – ALEA, as a project partner, has [...]

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Energyhub.ie, Carlow/Kilkenny/Wexford Regional Energy Observatory [IE]

Energyhub is South-East Energy Agency's Regional Observatory for energy data. It is born out of the EU Data4Action project, which promoted energy data exchange to [...]

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ROECC – Regional Observatory for Energy, Environment and Climate [BG]

The Energy Agency of Plovdiv has established the Regional Observatory for Energy, Environment and Climate (ROECC – http://observatory.eap-save.eu/) in the South Central and South East Region [...]

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ROSE – Regional Observatory for Energy and GHG Emissions [FR]

The ROSE – Regional Observatory for Energy and Greenhouse Gases emissions was created by decision of 12 founder members in 2008. The ROSE is involved [...]

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ORECA – Observatoire Regional et Territorial Energie Climat Air de Bourgogne-Franche-Comte [FR]

ORECA is an observatory serving the energy and ecological transition of territories, coordinated by ALTERRE in partnership with Atmo Bourgogne-Franche-Comté. The observatory is a tool [...]

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Technical Chamber of Greece Energy Observatory [GR]

Up to 2015, there were no national, regional or local energy observatories in Greece to facilitate access to energy data and support local energy planning. [...]

Read more

OREGES – Centre-Val de Loire Regional Energy and GHG Observatory [FR]

The Regional Energy and GHG emissions Observatory, re-launched end of 2012, is led by ADEME (French Environment and Energy Management Agency), the Regional Council and the [...]

Read more

Figure 18. ENERGee Watch Observatory Platform

7 CONCLUSION AND LESSONS LEARNED

7.1 Value for Participants

Over a period of three years, ENERGee Watch developed a peer-to-peer learning programme that has implemented 4 courses over 3 learning cycles. The programme involved 4 mentors, 70 mentees, 18 observers and 10 project partners across Europe, while the replication events gathered roughly 600 people from around 200 organisations within and beyond the EU. Each of these stakeholders benefitted from ENERGee Watch activities in multiple ways, as described in Section 5, yet the highest value was offered to those who partook in the main P2P learning programme. The specific objectives of the LP were to give mentees the opportunity to:

- Acquire a better understanding of proper MRV practices and monitor the impact of energy policies and implemented actions;
- Acquire knowledge about the current policies and strategies for the organisation and management for proper monitoring, reporting and verification of adaptation and mitigation actions;
- Acquire information on the existing methods and experiences for the management, implementation, and monitoring of sustainable energy or climate action projects;
- Share best practices with mentor's institutions both at the public and private levels;
- Develop new networks and explore opportunities for cooperation with public and private institutions operating in sustainable energy or climate action projects.

The final list of organisations which have benefitted from the above-listed opportunities due to their participation in the ENERGee Watch learning programme is included in Appendix 1. Those benefitting from content and networking opportunities made available within the national and EU replication events are listed in Appendices 2 and 3.

7.2 General Project Results

The ENERGee Watch project has achieved the following:

- Over **60 letters of commitment** have been signed, pledging the dissemination of knowledge to at least 5 peers outside the project consortium;
- Each of the 70 trained experts work with an average of 9 measures within their SECAPs, meaning that at least **630 sustainable policies and strategic documents will have been influenced** and impacted by the LP. This figure does not consider the replication effect, or whether mentees have or will transfer knowledge further to their networks.
- An **observatory platform** was developed, compiling 20 sources that can be used in the implementation of energy saving strategies and policies;
- The expansion of 6 energy observatories took place, during which concepts supplied by the project were incorporated;
- **10 national events** were held, gathering over **240 participants** from 125 organisation;
- **4 EU webinars** took place resulting in the attendance of a total of **168 participants** from 78 unique organisations from EU and non-EU countries;
- Prospects for and the establishment of **5 new energy agencies and their observatories** took place following the learning programme and replication events;
- A public **e-learning platform** that can be used to increase the knowledge and capacity of anyone interested in MRV topics, particularly to advance activities related to SEAP and SECAP implementation has been released.
- A **repository of MRV best practices** has been made publicly available to inspire stakeholders to improve their sustainable actions and create more effective and impactful policies.

In this regard, the results presented within this report speak to the effectiveness of the ENERGee Watch peer-to-peer learning programme, where capacities and skills were built, better monitoring, reporting, and verification of policies was enabled, and pathways for the replication of best practices were established, all of which should positively impact European energy and climate actions.

7.3 Lessons Learned and Recommendations

Overall, participants of the ENERGee Watch peer-to-peer learning programme were highly satisfied with the learning exchanges, which were effective in supporting them to achieve their learning objectives. Although the monitoring process confirmed that the methodology and implementation of the learning programme were proven to be successful, improvements to the LP could be made to increase the impact of P2P efforts in the future. The main lessons learned throughout the implementation of the ENERGee Watch LP, the replication events, and the project in general as well as recommendations for future P2P programmes are presented below.

- The ENERGee Watch learning programme provided versatile knowledge and tools with a high degree of applicability, transferability and scalability, which were all highly valued by mentees;
- Courses should be offered in multiple formats (online, hybrid, and in-person) to suit a wide range of mentee budgets and availabilities;
- Sufficient time should be given for one-on-one feedback between mentees and mentors during and after courses;
- Municipal experts often do not have the full range of knowledge and capacities to develop, implement and monitor SECAPs, especially when it comes to the climate aspect of the plans, thus guidance on how to include this topic within their daily work is of utmost importance for these actors;
- In order to continue disseminating the resources accumulated during ENERGee Watch. the learning programme may be broken down into shorter sessions to be offered individually by the partners to new organisations in the form of compact LPs;
- Learning materials must be tied to specific real-life cases, or theoretical knowledge may be lost without a clear avenue for implementation;
- Gamification and role play such as the "Climate at stake" game and ClimaSTORY® are suitable and encouraged for fast learning;
- Tools that provide a high level of data processing features such as the TerriSTORY® are in demand by SECAP practitioners;
- Communication and discussion among the participants are essential, therefore facilitating interaction using a variety of methods should be prioritised within P2P programmes;
- Furthermore, improved communication and intensive support for local authorities is also needed, therefore creating an environment and/or network where these exchanges can happen is an important and often overlooked aspect of climate action;
- Follow-ups by mentors increase the chances of effective knowledge implementation, thereby raising the success and impact of learning programmes;
- Effective tools and methodologies for climate assessment are needed throughout the entirety of Europe and beyond;
- Courses should emphasise content on stakeholder engagement, SEAP/SECAP implementation, and business strategy development accompanied by diverse calculation examples for mentees;
- Data availability, or rather the lack thereof, is also still a topic of interest among SECAP practitioners, thus presenting simplified steps or solutions to increase access to data can be highly attractive;
- A combination of efficient time management, a narrower scope presented in shorter sessions with increased visuals, and predetermined online follow ups shortly after courses should help with improved material retention and application;
- Study visits and networking opportunities are valued by most stakeholders, therefore including higher numbers of these in learning programmes will often result in higher numbers of participants.

Ultimately, our findings reaffirm the need to fulfil the overall mission of the ENERGee Watch project, which revolved around the key objectives of:

- Establishing a unique peer-to-peer learning program, where local and regional authorities and their implementing agencies can interactively learn from their peers, and
- Creating the most favourable conditions for its replication and sustainability beyond the project's lifetime.

Seeing as the above-mentioned key objectives have been achieved over the course of the last 3 years, the peer learning programme and related P2P practices, designed and implemented by the ENERGee Watch consortium, can be considered effective and replicable examples of capacity building, as they to go beyond the mere provision of information with the release of numerous materials to increase knowledge transfer to energy agencies and authorities. Therefore, the actions implemented within ENERGee Watch have opened windows of opportunity for actors to apply and promote learnings, generate impact, support other energy and climate experts, and contribute to climate change adaptation and mitigation.

APPENDIX 1 - LIST OF ORGANISATIONS TO HAVE PARTICIPATED IN LC1-LC3

No	Learning Cycle 1 (#20)	Learning Cycle 2 (#13)	Learning Cycle 3 (#26)
1	Ulcinj Municipality, ME	Energaia - Energy Agency, PT	North-West Croatia Energy Agency, HR
2	Energy Management Agency of Maramures, RO	Codema - City of Dublin Energy Management Agency, IE	Cugir Town Hall, RO
3	Pesaro Council, IT	Municipality Of Vratsa, BG	Association of Bulgarian Energy Agencies (ABEA), BG
4	Agência De Energia Do Ave, PT	Karlovo Municipality, BG	Sofia Municipality, BG
5	APE FVG, IT	North-West Croatia Energy Agency, HR	Dún Laoghaire-Rathdown County Council, IE
6	Alliance For Energy Efficiency and Renewables (AEER), MD	Municipality of San Lucido, IT	Servelect, RO
7	Medjimurje Energy Agency, HR	Servelect, RO	Center For Innovation, Technology and Policy Research IN+, PT
8	ALEC-AMVE, FR	Alba Iulia Municipality, RO	Oestesustentavel Regional Energy Agency Portugal, PT
9	Piemonte Region, IT	IRE Liguria (Energy Agency of Liguria Region), IT	PE Engineering North Macedonia, MK
10	Municipality Of Nea Ionia, GR	Tipperary Energy Agency, IE	Municipality Of Fyli, GR
11	ZERO, PT	Lenreg Energy Agency Nonprofit Llc., HU	Aradippou Municipality, CY
12	Regional Energy Agency North, HR	Municipality of Smolyan, BG	Region Of Western Greece, GR
13	Local Energy Agency Of Gorenjska, SI	Burgas Municipality, BG	Municipality Of Farkadona, GR
14	ATMO Bourgogne-Franche-Comté, FR		Austrian Energy Agency, AT
15	Strovolos Municipality, CY		Comunidade Intermunicipal Do Ave, PT
16	Kent County Council, UK		Autonomous Province Of Trento, IT
17	Energiaklub Climate Policy Institute, HU		Ulcinj Municipality, ME
18	Energy Agency Province Of Cádiz, ES		Sustainable City, GR
19	ARPAE - Regional Energy Observatory, IT		Mazovia Energy Agency, PL
20	Autonomous Province Of Trento, IT		SETU (South East Technological University), IE
21			Municipality Of Padova, IT
22			Polytechnic University Of Tirana, AL
23			Limassol Municipality, CY
24			Município De Santarém, PT
25			Waterford City And County Council, IE
26			Pesaro Municipality, IT

APPENDIX 2 - LIST OF ORGANISATIONS TO HAVE PARTICIPATED IN THE EU REPLICATION EVENTS

Organisation Names		
Smart Cities and Communities, Spain	Polytechnic University of Tirana, ALBANIA	AISVJ, ROMANIA
WGIC, Belgium	AE3R Ploiesti-Prahova, ROMANIA	Renewables first, PAKISTAN
Renovate Europe, Belgium	Cartif, SPAIN	ORAŞ CUGIR, ROMANIA
CEA, Cyprus	E3Modelling, GREECE	Researcher, India
SC TRACTEBEL ENGINEERING SA, Romania	Alba Iulia Municipality, Romania	Servelect, Romania
pmu SAUDI, Arabia	GIZ Viet Nam, VIETNAM	IPR – AREC (IDF), France
Sakarya Metropolitan Municipality, Turkey	Marquardt Group, TUNISIA	UPRC, Greece
Institut Paris Region, France	Vassiliko Cement Works Public Company Ltd, CYPRUS	Independent Power Transmission Operator (IPTO) S.A, Greece
ATMO BFC, France	Energy Efficiency and Management Association (EYODER), TURKEY	Opstinska uprava Priboj, Serbia
namR, France	Medjimurje Energy Agency Ltd., CROATIA	Technical University of Vienna, Austria
Ministry of Physical Planning and Urban Development, Nigeria	Urząd Marszałkowski Województwa Mazowieckiego w Warszawie, POLAND	Zlatibor Regional Development Agency, Serbia
Energy and Environment Agency of Lower Austria, Austria	University of Naples Federico II, ITALY	IST-UTL/IN+, Portugal
Energikontor Norr, Sweden	Municipality of Thessaloniki, GREECE	Municipality of Figueira da Foz, Portugal
Irish Green Building Council, Ireland	REA Kvarner, CROATIA	National Technical University of Athens, Greece
Certh, Greece	ENERGAP, SLOVENIA	Jcyl, Spain
Self – employed, Greece	JRC, SPAIN	RTU, Latvia
IEECP, Netherlands	EnDev Benin, BENIN	ESCAN sl, Spain
Kilkenny County Council, Ireland	ENTE PUBLICO REGINAL DE LA ENERGIA DE CASTILLA Y LEON, SPAIN	Oeste Sustentável, Portugal
Istanbul Bilgi University, Turkey	EY Cyprus, CYPRUS	Energy Agency of Plovdiv, Bulgaria
Pantin, France	FUNDACION ASTURIANA DE LA ENERGÍA, SPAIN	MENEA, Croatia
AURA-EE, France	AGENCE PARISIENNE DU CLIMAT, FRANCE	Freelance, Mexico
SANA & SANA SARL ARCHITECTURE, France	National Technical University of Athens, GREECE	Municipality of Thessaloniki, Greece
Infosys United Kingdom	Arava Institute, ISRAEL	FEDARENE, Belgium
University Iran – Germany, Germany	ICLEI Europe, GERMANY	Infosys, Belgium
Independent researcher, India	QUEST University for engineering, science & technology (Department of mechanical engineering), PAKISTAN	Independent Power Transmission Operator (IPTO) S.A., Greece
CPC Center for Participation and Collaboration, Georgia	ATTCEI, PORTUGAL	Area Science Park, ITALY

APPENDIX 3 - LIST OF ORGANISATIONS TO HAVE PARTICIPATED IN THE NATIONAL REPLICATION EVENTS

Organisation Names			
ALEC-MVE, France	cerema, France	ACER, Bulgaria	Community council of Palaiomylos, Cyprus
CAMVS, France	Ville de Paris, France	CIEC, Bulgaria	Community council of Agios Dimitrios, Cyprus
Communauté d'agglomération de Cergy-Pontoise, France	CC Brie des Rivières et Châteaux, France	ENEFEKT, Bulgaria	Community council of Pachnas, Cyprus
Communauté de Communes Carnelle Pays-de-France, France	Agence d'Urbanisme et d'Aménagement de Toulouse, France	Energy Agency of Plovdiv, Bulgaria	Community council of Platres, Cyprus
CA Versailles Grand Parc, France	Urba Demain, France	AISVJ, Bulgaria	Community council of Lemithou, Cyprus
Communauté d'agglomération de Marne & Gondoire, France	ARB îdF, France	SC TRACTEBEL ENGINEERING SA, Bulgaria	Community council of Vouni, Cyprus
Agence Parisienne du Climat, France	EIFER, France	ABEA, Bulgaria	Troodos Development company (Regions of Troodous), Cyprus
ville de Vitry sur seine, France	Mairie de Montigny-le-Bretonneux, France	SEC, Bulgaria	Community council of Kaminaria, Cyprus
Métropole du Grand Paris, France	Saint Quentin en Yvelines, France	SOFENA, Bulgaria	Troodos Tourism Development and Promotion Company (Community council of Platres), Cyprus
Etablissement public territorial Paris Ouest La Défense, France	FNCCR, France	ALEC Pays de Rennes, France	Community council of Treis Elies, Cyprus
Ville de Levallois, France	GRS Valtech, France	ADEME Martinique, France	Community council of Kyperounta, Cyprus
Est Ensemble, France	Département des Yvelines, France	BE, France	OZS, Slovenia
SEMAVO, France	INATER, France	Université de Brest, France	KSENNA, Slovenia
EPT Boucle Nord de Seine, France	CA Saint Germain Boucles de Seine, France	Ville de Villeurbanne, France	MoCelje, Slovenia
CA Plaine Vallée, France	Ville de Paris - Direction Transition Ecologique et Climat, France	Watèa, France	Obcina Prebold, Slovenia
Plaine Vallée Agglomération, France	CA Marne & Gondoire, France	CONNECTCIR, France	Obcina Decica ob Savinji, Slovenia
CA Roissy Pays de France, France	SPSE, France	Tenergie, France	Obcina Sendur, Slovenia
Région Île-de-France, France	Audiar, France	Nextstep solutions, France	Obcina Ealec, Slovenia
Ville de Montigny le Bretonneux, France	laboratoire SATIE, France	Ib vogt, France	RA Savinja, Slovenia
ADEME, France	Conseil départemental du Val d'Oise, France	Cabinet de conseil, France	Zavod CMCC, Slovenia
IPR – AREC (IDF), France	TERRE DE TERRITOIRES, France	OSER ENR (actionnaire Région 51%), France	Obcina Lasko, Slovenia
IPR - DEUR, France	AE3R Ploiesti, Romania	Indépendante, France	Obcina Dobrna, Slovenia

Organisation Names			
IPR - ARB, France	Primăria Municipiului Sibiu, Romania	ISARA (école d'ingénieurs agronomes) , France	Petrol d.d. , Slovenia
IPR - PLANIFICATION, France	Primăria Municipiului Oradea, Romania	Econocom / financement de projets EnR par leasing, France	Energetika Celje, Slovenia
EPT Grand Orly Seine Bievre, France	Primaria Targu Mures Biroul Energetic, Romania	Indépendant, France	RASR, Slovenia
Opendatafrance, France	Oras Cugir, Romania	Mairie de Courzieu, France	Obcina Vransko, Slovenia
Reveleo, France	Primaria Municipiului Fagaras, Romania	EPCI de Centre Val de Loire, France	IBJ D.o.o, Slovenia
ville de Cergy, France	Primaria Municipiului Alba Iulia, Romania	EPCI des Ardennes (Grand Est), France	Dom ob Savinji Celje, Slovenia
Nantes Métropole, France	SERVELECT, Romania	EPCI Nouvelle-Aquitaine	Mestna obcina Celje, Slovenia
Ville de Lognes, France	ALEA, Romania	Rennes Métropole, France	CEA, Cyprus
Grand Paris Sud Est Avenir, France	Primaria Craiova, Romania	Community council of Statos - Agios Photios, Cyprus	Primăria Municipiului Botoșani, Romania
Choose Paris Region, France			