Empowering
Renewable and
Citizen Energy
Communities

Deliverable D3.1

POWER-E-COM
Training Programme and
Training Materials

June 2024

Document control sheet

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Acknowledgments & Disclaimer

Acronyms

CEC	Citizen Energy Community
DSOs	Distribution Systems Operator
EC	Energy Communities
ECTO	Energy Communities Transformation Office
EQF	European Qualification Framework
MOOC	Massive Online Open Content
REC	Renewable Energy Community
WP	Work Package
ZEB	Zero Emissions Buildings

1. Abstract Training Programme and Training Materials

The POWER-E-COM project aims to foster cooperation between regional/local authorities and citizens to establish energy community projects in six different European countries. By supporting the development of models and tools that facilitate the creation of energy communities, the project aims to empower citizens to take a more active role in the clean energy transition.

Work Package 3 of POWER-E-COM has developed a curricula and high quality training modules through a co-creation and collaborative process including all POWER-E-COM project partners. The training modules developed are now ready for piloting with the ambition of supporting the development of energy communities in the 6 participating countries. The intervention of training provision, complemented by a variety of other POWER-E-COM measures, to enable capacity building in energy communities, local authorities and interested energy citizens will support the process of setting-up energy communities in the partner countries or upgrading the existing ones (to be effectively achieved by WP4 and WP5).

The collaborative process, over the preceding 9 months (October 2023 to June 2024) of POWER-E-COM, has included the design of a training curricula (see Appendix 1) for inclusion in an energy community training programme. The preparation of 10 training modules, ready materials and case studies, the contents of which are outlined in this deliverable, were prepared in consultation with all partners.

Delivery on POWER-E-COM's objective of upskilling, building capacity, training and collaboration with support organisations and local authorities through participation in the training actions will now commence over the piloting phase of POWER-E-COM (September 2024 to December 2024). Ambitious plans now commence through the project to upskill 600 people, over the next 2 years, building and supporting leaders to deliver on energy communities within this project (300 community participants and 300 local authority representatives to be trained across the 6 partner countries; 100 per country, ideally 50 local authority and 50 community participants) by the end of the project.

An additional 600 people will be trained as energy community members or supporters, by means for the task 3.4 "Community Energy Training Pack" (300 from a community and 300 from a local authority across the 6 partner countries; 100 per country, ideally 20 local authority and 80 community participants and others) drawing from the modules designed for use at differing stages of community development, by the end of the project.

Between June 2024 and September 2024 partners will work on the *T3.3 Translation and adaptation of the training modules* currently provided by task leader Irish partner, Technological University of the Shannon, in the language of English. Partners will decide which modules they wish to pilot (and later if they wish to deliver more), adapt those modules with national case studies, regulations, legislation etc. and translate from English as required.

Through a co-creation process and series of online and in person meetings of work package 3 the following curricula and table of modules has been designed for POWER-E-COM:

Module #	Title
1	EU and National Policy affecting energy communities
2	Introduction to Community Development for energy communities
3	Planning and Consultation for energy communities
4	Project Finance and Organisation for energy communities
5	Project Management for energy communities
6	Understanding Energy and Energy principles
7	Energy Systems - Static Systems in Building Envelop
8	Energy Efficiency (dynamic systems): electricity, as heating and cooling, hot water production, lighting, etc
9	Renewable Energy for Electricity
10	Renewable Energy for Heat

It is planned that the training texts will be complemented by real life activities in the community such as community consultation exercises, planning applications, financial exercises, feasibility studies, environmental studies and regulatory compliances. Training materials will be freely available after the project is completed and each country will identify a natural 'home' for the materials e.g., on a partner website or in the ECTOs where they will be sustained.

It is envisaged that 8-12 hours of training provision and a further 10-20 hours of self-directed training will result. This task has taken into consideration and benefited from the results of WP2 to date, in particular the understanding of the technical-financial-legal issues found, as well as the level of knowledge on energy communities and how the EC can be developed with success. The development of the ECTOs (Energy Community Transformation Offices), based as they are in energy agencies, with all their inherent expertise, are beneficial to the roll out of training and the results and outputs of this task, through their campaigns and service offerings and can provide a stable, reliable and long-term support service for energy communities.

2. Executive Summary

The purpose of WP3 within POWER-E-COM is to instigate and provide tools for a variety of measures in the project to enable high-quality training and mentoring to be delivered to energy communities, local authorities and interested energy citizens to support the process of setting-up energy communities in the partner countries or upgrading the existing ones (to be effectively done by WP4 and WP5). This includes the design of training materials for inclusion in an energy community training programme, in consultation with all partners, training contents and a training platform (anticipated as an internally operated eLearning platform). The collaborative process for undertaking the task T.1 training programme design and Task 3.2 training materials, commenced at the project kick off in Munich in Germany in October 2023, at the headquarters of project lead WIP Renewables.

During the first presentation of these tasks, partners discussed complex issues facing energy communities in their countries. Time was taken to review the issues raised in the WP 2 landscape status quo report (which was due in early 2024 and subsequently submitted D2.1). Discussions were framed under the headings of a PESTLE analysis; political, economic, social, technical, legal and environmental. WP3 lead partners Technological University of the Shannon, Tipperary Energy Agency and Community Power facilitated the discussion to maintain a focus on training needs and training delivery including modalities and took notes; Minutes of the meeting were kept by WIP.

TUS presented a preliminary draft curriculum for discussion, the required output of T3.1, at the December 2023 online monthly partner meeting; the curricula covered proposed module themes (PESTLE) and proposed learning objectives and outcomes. Partners discussed the various stages of development of those energy communities, which had provided letters of support for POWER-E-COM and with whom they are currently collaborating; work which will determine the stage of development and thus the necessary modules to be delivered. National and European issues contributing to the development or implementation of energy communities were also discussed and a module specifically relating to this was decided to be added to the curricula.

By the January 2024 online meeting of POWER-E-COM partners, the curricula and learning outcomes were starting to take shape with two main themes emerging, community development and renewable energy. Community development as a general theme covers the aspects of energy communities such as the definition, forming a community, project management, planning and finance. While energy as a general theme could cover understanding energy and energy principles, energy efficiency, heating and cooling, hot water and lighting, renewable energy for electricity and for heat.

The consortium met in person again in Linz in Austria in February 2024, and while the purpose of that two-day meeting was to focus on the landscape report (D2.1), all partners presented the findings of their research to date including the status quo of energy communities in each country, making for very interesting content for WP3 training modules. The main take away for the WP3 lead partners was that the common denominator of the consortium was the desire of communities / local authorities for autonomy over their energy needs and around the challenges of energy generation and supply. Often significant differences exist in relation to legislation and regulations in partner countries with the attitude to and strategy of DSOs (Distribution Systems Operator) to energy communities also discussed. DSOs are operating managers and sometimes owners of energy distribution networks operating at low, medium and high voltage levels. As DSO's engagement and support can be crucial to

the progress of an energy community, therefore upskilling in the areas of energy transmission, distribution and grid capacity is a starting point for most communities and municipality officers looking at renewable energy options. Transmission refers to moving electricity over long distances, typically from power plants to substations. Distribution involves delivering electricity from substations to homes and businesses. In some partner countries a monopoly situation exists with only one DSO operating the entire grid (like in Ireland) while multiple DSOs operate at regional level in other countries (Austria, Bulgaria, Germany, Slovenia, and Spain).

Opportunities exist in all partner countries for participation of energy communities in low carbon grid innovation and a transition towards a cleaner electricity network. The levels of transposition of the Renewable Energy Directive (RES) and the relative definitions of RECs and CECs are important factors for informing the direction of the training content of POWER-E-COM in each participating country.

By the time the partners met again in person in Rivas in May 2024, the training curricula had been agreed and the training content had been drafted for review and discussion. The two main themes of community development and energy, encompassing training modules on EU and national policy, community engagement, project management, planning, consultation and finance on the community side while technical modules on the energy side included understanding energy systems, principles, energy efficiency and renewable energy for heat and electricity. Ten Modules, some with more than one PowerPoint, were drafted and partners were invited to comment on each of 10 available modules which were uploaded into the projects SharePoint platform. PowerPoint presentations are fully branded as POWER-E-COM with logo and font and other identifiable project branding, have LIFE funding acknowledged and all partners logos on the first and last slide of each module, along with a blank space on the last slide for individualisation and contact details of the presenter. All presentations have tailored learning outcomes included in the second slide and include discussion topics and will include multiple choice quizzes by the time of piloting in September 2024. A bank of additional reading materials and case studies have been compiled by partners, derived from existing EU and National funded projects, identifying freely available suitable, relevant materials. An analysis and description of these can be found in this report.

Partners discussed the role training modules would play in their support for energy communities in association with offerings from other work packages through the energy communities transformation offices (ECTOs) in each country. Partners were asked to plan initially for the piloting phase of training which will take place from September to December 2024, when it is envisaged some modules will be translated and adapted and most modules will be piloted in some language. TUS will monitor the pre and post surveys on each module, gather the feedback and update modules accordingly.

3. Process of Training Programme Design

A thorough desk research exercise to identify suitable freely available training content, to which the POWER-E-COM consortium can add value, was conducted by TUS. Other project materials from around Europe (e.g. REScoop and COME RES project (H2020), CREATORS (H2020), FEDARENE etc.) were considered. A catalogue of up to 30 funded projects with relevant training resources which POWER-E-COM can draw from, has been compiled by TUS under task 3.1. These projects include EC4RURAL, which aims to support energy communities in rural areas, while addressing energy poverty; ECOEMPOWER, a one-stop-shop providing valuable tools to support energy communities, 5 regional ecosystems and 15 pilot sites and COMET, which aims to create national community energy coalitions. All projects identified have been catalogued under funder type, project duration, countries participating, content available free of charge, suitability of content to POWER-E-COM's needs and coordinator contact details, should we need to arrange meetings. The majority are funded through the Europe Commission with funding sources including LIFE, going back to 2020 and Horizon. Participating countries complemented by POWER-E-COM's 6 partner countries have been flagged, as training content, if available, is already in national languages with adaptation to national policies.

Oh the 18 projects identified with cross representation of countries to POWER-E-COM, 9 just had one partner country in common (Germany, Spain, Ireland, Bulgaria, Austria and Slovenia), while 7 projects had 2 partner countries in common and therefore already collaborating on training (Bulgaria & Austria x3, Spain and Bulgaria x 2, Spain & Germany, Germany & Slovenia) and 2 had 3 or more countries in common (Germany, Spain & Bulgaria and Ireland, Austria, Spain & Germany). While an analysis of individual partners included on these projects has not been conducted, one partner is involved in more than one of these projects, ESV from Austria and so can potentially share information from POWER-E-COM with these projects.

Massive Online pen Content training (MOOC) content has also been compiled through (at the time of writing) ten differing sources and efforts will be made by all partners to continue this master listing as the contents are relevant and easily accessible to Power E Com partners for their use in supporting energy communities. The Sustainable Energy Authority of Ireland[1], offer free modules in English on energy efficiency and renewables upon sign-in to an easily navigable and intuitive eLearning platform. Self-directed modules are available on a variety of subjects including electric vehicles, behavioural change, business energy efficiency, office energy efficiency, farm energy efficiency and Solar PV and many others. The Community Energy Academy provides online training programmes to equip learners with evidence-based knowledge, practical tools, and networking opportunities for energy transition[2]. The programme is powered by ICLEI Europe, in partnership with University of Graz, Wroclaw University of Economics and Business, Leipzig University, University of Groningen, ZSI – The Centre for Social Innovation, and GEN Europe. Also part of the Community Energy Academy is an Empowerment Kit[3] which is a free, gamified tool that triggers and guides discussion about barriers to participation in the energy system. The Kit can be used by anyone working or aiming to work with renewable energy communities. It is available in Polish, Spanish, Italian and Dutch in addition to English.

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[1] SEAI Energy Academy | SEAI
[2] communityenergyacademy.eu
[3] Energy Citizenship Empowerment Kits (communityenergyacademy.eu)

REScoop.eu[4] is the European federation of citizen energy cooperatives. It is a growing network of 2,250 cooperatives operating across Europe and jointly represent over 1.50 million citizens. It offers a valuable amount of information on its website and in particular hosts information on training content relevant to ECs which can be filtered by activities, audience and projects. Activities of relevance to POWER-E-COM include financing, renewable energy, collaboration with municipalities, energy efficiency and energy poverty; while audience includes citizen groups, citizen energy groups, local authorities, policy makers, researchers and financing institutions and projects from those on renovation to PV financing. The platform can also be filtered by tool type and includes videos, power points, online tools, reports, deliverables and policy papers.

We the Power[5] is an inspiring film that follows friends, families and visionaries, some of them REScoop.eu members, as they break down legislative barriers and take power back from big energy companies to put it in the hands of locals and strengthen their towns. It chronicles local cooperatives from deep in Germany's Black Forest to the streets of ancient Girona in Spain and the urban rooftops of London, England, as they pave the way for a renewable energy revolution and build healthier, financially stable communities.

The Energy communities repository[6] is the **European advisory and information hub** monitoring the legal, regulatory and policy framework relevant to **energy communities across Member States and collecting data** on energy communities' development in the EU. The consortium is composed of RESCOOP.eu, FEDARENE, Energy Cities, Florence School of Regulation, and Akaryon. Launched in April 2022, the objective of the Energy Communities Repository is to assist local actors and citizens willing to set up a Citizens Energy Community or a Renewable Energy Community in an urban area through technical and administrative advice to encourage their development. The Energy Communities Repository identifies enabling and supporting frameworks for renewable energy communities and citizen energy communities. The Energy Communities Repository conducted a mapping of legal frameworks for energy communities in the EU Member States[7]

The Rural Energy Community Advisory Hub was launched in June 2022[8]. It focuses on assisting citizens, rural actors and local authorities in setting up a Citizen Energy Community or Renewable Energy Community in rural areas through technical and administrative advice and encouraging their development. The advisory hub can be seen as an extension of the Energy Communities Repository and the Covenant of Mayors, with a special focus on accelerating the development of energy communities in close collaboration with local authorities in rural areas. The advisory hub has been implemented on behalf of the Commission by a consortium consisting of RICARDO, Ecorys and Elard, and it was completed in March 2024. The Rural Energy Community Advisory Hub was part of the wider policy package of the European Green Deal with emphasis on the need to empower, mobilise and engage citizens in rural areas, who can play a key role in energy transition. Over its 2 year life, it offered technical assistance on a wide range of issues relevant to POWER-E-COM such as technical assistance, business planning, developing finance and investment models and legal advice for establishment & project governance.

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[4] Toolbox - REScoop
[5] https://youtu.be/75A9WGxoUn8
[6] Energy communities repository - Fedarene
[7] Energy Communities Repository - EU policy map - European Commission (europa.eu)
[8] About the Hub - European Commission (archive-it.org)

Despite the large volume of project reports, templates, deliverables, online tools, videos and self-directed training modules, there is a need for new training content specific to the new and emerging ECs covered under POWER-E-COM. The training will not be self-directed, as the value of the training lies in the expertise of the trainers, the opportunity for debate and discussion in group, online or in person and the networking possibilities this affords for regions. A large quantity of case studies and reading materials have been amassed by the WP3 leaders and will be made available to ECs undertaking training and working with POWER-E-COM partners. A spreadsheet demonstrating the content harvested to dates across more than 30 projects and on 10 MOOC platforms is available in Appendix 2.

4. Training Modules

An important considering factor for the development of this training content, after the curricula was established and approved was twofold a) training content would be suitable for the participants, pitched at the level they are at, mainly coming from community and voluntary groups (energy communities) and municipalities and that b) those delivering the training and facilitating the discussions (energy agency staff / ECTOs) at local community level would be supported in delivering the content. Training content under each of the ten headings described, is of introductory level, approximating European Qualification Framework (EQF) levels 4-5, which would allow the learner to demonstrate comprehensive factual and theoretical knowledge in this area, analyse and evaluate ideas and identify key elements, and solve problems applying this learning.

Each of the ten modules have at least one PowerPoint presentation attached for delivery, some have two PowerPoints, with learning outcomes outlined, case studies and additional reading materials are recommended, should the learners wish to delve more into the topic. Presentations of PowerPoints are pitched at roughly 1.5 to 2 hours each in duration and can be delivered in any order depending on the stage of development of the energy community. Partners are not expected to start at module 1 and work their way chronologically to module 10, they can mix and match modules as required.

ECTOs will know their energy communities best and ECs know their needs and skills gaps. Although it is recommended that a training needs analysis is carried out in advance to determine the requirements of one of multiple energy communities depending on whether the ECTO decides to group ECs for the purposes of training delivery. All modules lend themselves well to online or in person delivery and again partners can decide the best course of delivery at the particular time. The benefits of in person training delivery are clear particularly for new energy communities where time is required for networking, relationship constructing and to build trust with the energy community and municipality. Existing energy communities may respond well to online provision and may participate strongly in this modality. The benefits of online training are flexibility and inclusiveness, certain sectors of a community may have caring roles or may not be easily accessible to a training venue and with reasonable broadband internet connection, can benefit from participation on an online training programme.
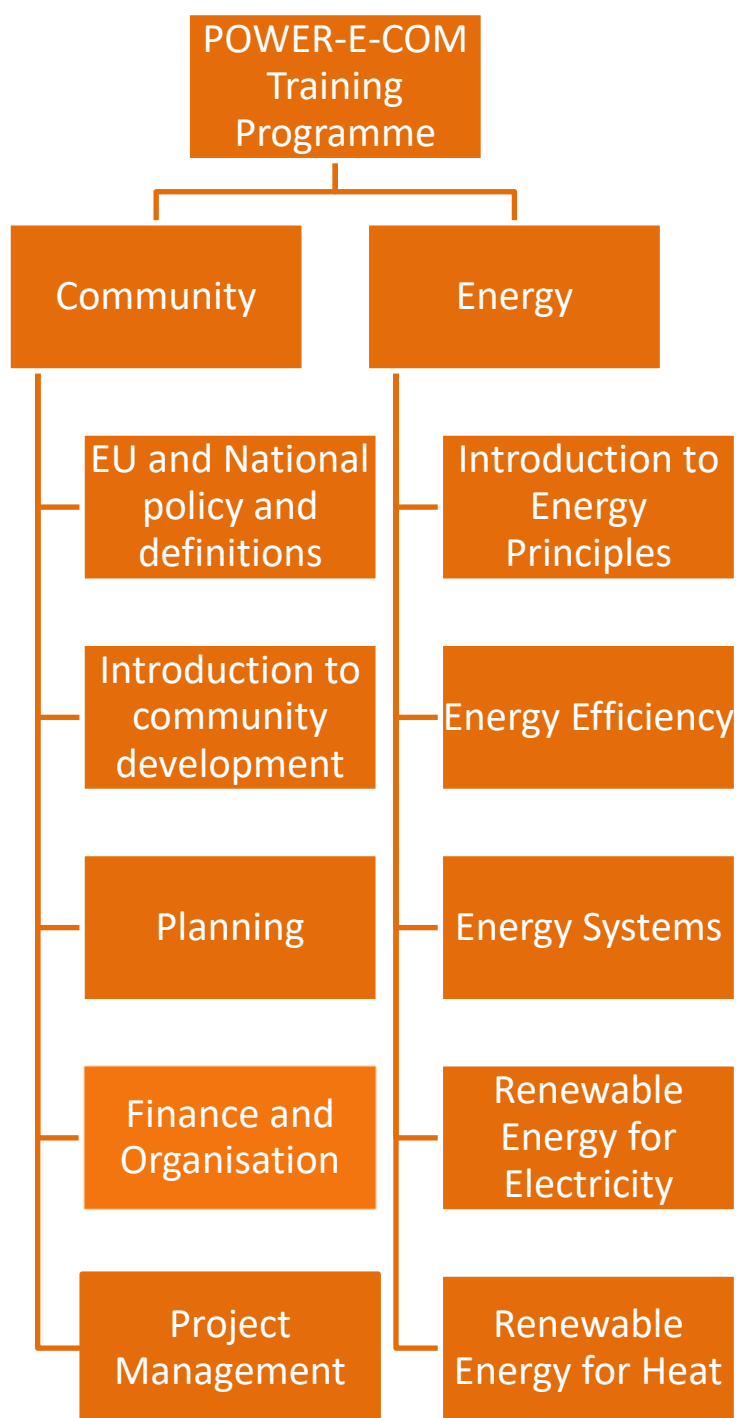
Figure 1: Training Programme Design

Figure 1 displays the layout and thematic approach of the POWER-E-COM training materials, under the broad headings of community and energy. A PESTLE approach was taken to training content design where 5 modules were designed under each broad theme, with a total of ten modules delivered in total. A PESTLE approach takes into consideration political, economic, social, technical, legal and environmental considerations. Under community are included Political (EU and National policy), Economic (finance, funding and project management) and Social (introduction to community development, planning and consultation) factors. Under the theme of energy, the content is mostly Technical in nature and so modules such as energy principles, energy systems and renewable energy for heat and electricity are covered. The environmental aspects are considered from the point of view of renewable energy coming from natural source such as solar, wind and biomass etc. and energy efficiency of buildings, adopting a fabric first approach. The impact on the environment of energy communities and the opportunity low carbon renewable energy production presents are covered but technical aspects of ecological studies or environmental assessments while pointed to, are not within the remit of this training programme content. Neither are legal aspects or taxation matters within the scope of the work on this task, although it is acknowledged that this is of considerable importance for any energy community.

The following table outlines the 10 modules, the training module title, learning outcomes and whether it is recommended as core or optional:

Table 1: Training Programme

Module Number	Module title	Learning Outcome	Recommended Level Core or Optional
1	EU and National Policy	Understanding the critical role of policy in creating an enabling environment for energy communities to flourish.	Core
2	Introduction to Community Development	1. To build skills and confidence in embarking on community development projects 2. Basic Understanding of Community Development Principles	Core
3	Planning and Consultation	1. To give insight into the planning and development structure and processes in Ireland	Optional

Module Number	Module title	Learning Outcome	Recommended Level Core or Optional
		2. To relate that to renewable energy developments 3. To outline some implications 4. To consider the role of public consultation and how best to use it	
4	Project Finance and Organisation	Understanding finance, sources of finance and fund raising	Optional
5	Project Management	Identifying the key project management steps in a project	Optional
6	Understanding Energy and Energy principles	Understanding energy and energy principles	Optional
7	Energy Systems Static Systems in Building Envelop	Understanding Energy systems in a building envelop	Optional
8	Energy efficiency (dynamic systems)	Understanding energy efficiency of a buildings and the fabric first principle	Optional
9	Renewable Energy for Electricity	To equip the learner with the basic knowledge and skills required to understand and know the principles of renewable energy and how they can maximise the benefit of the process for their community	Optional
10	Renewable Energy for Heat	1. Describe the factors affecting energy use for heating, lighting	Optional

Module Number	Module title	Learning Outcome	Recommended Level Core or Optional
		and small power in buildings and describe their impact on energy consumption 2. Outline the main features of common space and water heating systems and list possible measures to improve their energy performance	

Core modules are considered those modules fundamental to the establishment and development of the energy community and for members of the EC and municipality to understand the core concepts, regardless of the level of ambition of that EC. Examples include EU and national policy and definitions of ECs, introduction to community development principles and from the energy perspective understanding energy principles and the energy efficiency module which highlights the fabric first principle. Fabric first principles, basic to zero carbon emissions buildings (ZEB) set out in the Energy Performance of Buildings Directive, minimise the requirement for heating and cooling by optimising building structure and orientation, insulation of the fabric and optimising heat gains with quality design and air tightness. ECTOs may decide to offer all modules over the course of a semester to a number of ECs in a group, thus building a network and support structure or to focus on the core modules and one or two optional modules depending on the needs they perceive in their ECs.

5. Training Delivery

Work package 3 is neatly broken into tasks or phases, the initial task was training programme design, then training content preparation in the first 9 months of the project (from October 2023 to June 2024). The piloting phase of WP 3 will now commence with Task 3.3, which will facilitate the translation, adaptation of training delivery modules which are currently available in English, and allow the tailoring of those modules to meet the current needs of energy communities in each partner country, to allow the delivery in local languages and to include slides specific to each country.

Partners were asked to specify the specific partners involved in delivery for 2023 piloting in their country, the target trainees, the number of trainees expected and the location and form of training delivery to be carried out.

The training programme will keep a common structure and branding, but training organisations and trainers will tailor the contents of the training programme and materials depending on the training needs of their target local authorities or citizens.

5.1.   Austria

Country	Austria
Partners	
General target of trainees	Not available at time of report writing
Number of trainees projected	
Location	
Timeframe	
Hybrid or in person	
Modules to be delivered in Pilot	
Comments	

5.2.   Bulgaria

Country	Bulgaria
Partners	Gabrovo Municipality and Black Sea Energy Research Center
General target of trainees	Citizens, REC, local Authorities

Number of trainees projected	15-20
Location	Sofia/Gabrovo
Timeframe	Sept 2024 -May 2025
Hybrid or in person	Hybrid
Modules to be delivered in Pilot	TBD
Comments	The participants will be representatives of local authorities with an interest in promoting energy communities - the municipalities of Pernik, Stara Zagora and Kyustendil, as well as citizens from the municipality of Gabrovo. Resources and experience from already implemented projects and initiatives in Gabrovo and BSERC (Tandems, LifeLoop and SHAREs) and POWER-E-COM will be used to support the trainings

5.3.   Germany

Country	Germany
Partners	EWO (supported by WIP)
General target of trainees	Citizens, REC, local Authorities, SMEs
Number of trainees projected	25
Location	Penzberg (Region Oberland)
Timeframe	Autumn 2024
Hybrid or in person	In Person
Modules to be delivered in Pilot	TBD
Comments	Recruitment of participants to commence over the summer, the first announcement and opportunity to register will be given at our event on 2 July 2024.

5.4. Ireland

Country	Ireland
Partners	TEA
General target of trainees	SECs and County Councils
Number of trainees projected	15-20
Location	Tipperary
Timeframe	September to December 2024
Hybrid or in person	Hybrid
Modules to be delivered in Pilot	Core modules
Comments	No eLearning platform required at this time

5.5. Slovenia

Country	Slovenia
Partners	ENERGAP, University of Maribor
General target of trainees	public institutions and SMEs (private)
Number of trainees projected	20
Location	Maribor / Selnica
Timeframe	Autumn/Winter 2024/2025
Hybrid or in person	In person
Modules to be delivered in Pilot	management introduction, regulatory
Comments	In Slovenia, very early stage of implementation. Not many communities

5.6. Spain

Country	Spain

Partners	Escan, Mun. Rivas
General target of trainees	Citizens, REC, local Authorities, SMEs
Number of trainees projected	25
Location	Rivas
Timeframe	November 2024 to February 2025
Hybrid or in person	In person
Modules to be delivered in Pilot	To be decided
Comments	recruitment 1.5 months in advance of the course

6. Conclusion

While not all POWER-E-COM new training modules will be run initially in every country, and in fact not all countries have decided which modules to adapt and translate at this point, the availability of the 10 modules will track and support the development of energy communities and can be delivered by the partners when the timing is suitable. When working with communities, timing is crucial, unless they are ready to accept the information and discuss the content knowledgeably with peers and tutors, it may prove meaningless, and just an academic exercise. For example, it may not make sense to run the financing modules to a new EC while the basic introduction to energy communities and energy principles modules may not be relevant to existing ECs. ECTOs in each partner country and other POWER-E-COM partners are well placed to recognise the steps and timing to intervene with ECs and will work together to provide and deliver the best solutions at the right stage. The intervention logic must always be to enhance the experience and knowledge of participants and members in the EC and in municipalities. On completion of a minimum of 3 of the 4 core modules and at least 1 other module, participants will be awarded a digital badge, designed with the POWER-E-COM branding.

Levels of digital badges may be an appropriate approach to encourage participants to undertake more than 4 modules and to further their learning journey. Levels may be simply 1, 2, 3 or beginner, upper intermediate and advanced. The digital badge can be used to raise awareness of the POWER-E-COM project and energy communities generally and to give legitimacy to energy communities, demonstrating they have participated in a training programme through a LIFE funded European Programme. Efforts will be made through the communications work package of POWER-E-COM to connect energy community members with counterparts from other POWER-E-COM partner countries.

The next steps in Work Package 3 and the evolution of the POWER-E-COM training materials are for partners to translate those modules they intend to pilot, the pilot phase is September 2024 to May 2025 and to include slides relevant to their own national situation, where indicated in the English master slide deck version. A pool of up to date, piloted, updated, relevant and tailored training content will then be available for use. TUS will continue to update training modules as required over the course of the project to 2026.

For the piloting phase, all modules will be stored on the POWER-E-COM SharePoint server hosted by lead partner WIP. TUS will design pre and post course surveys to extract baseline knowledge and competency from the participants, in the educational areas covered in the modules and a multiple choice quiz (MCQ) will be designed for each module, so that a digital badge can be awarded on achievement of a minimum (suggested 70% TBC at piloting stage) score.

The training modules will be complemented by real life activities in the community such as planning applications, financial exercises and regulatory compliances facilitated by the ECTO and differs considerably from other training programmes in that respect. Training materials will be freely available after the project is completed and each country will identify a 'home' for the materials e.g., on a partner website or in the ECTOs. It is envisaged that 8-12 hours of training and a further 10-20 hours of self-directed training will result.

Training modules currently available for adaptation and translation:

Module #	Title
1	EU and National Policy affecting energy communities
2	Introduction to Community Development for energy communities
3	Planning and Consultation for energy communities
4	Project Finance and Organisation for energy communities
5	Project Management for energy communities
6	Understanding Energy and Energy principles
7	Energy Systems - Static Systems in Building Envelop
8	Energy efficiency (dynamic systems): electricity, as heating and cooling, hot water production, lighting, etc
9	Renewable Energy for Electricity
10	Renewable Energy for Heat

7. Appendix 1 – Curricula

<u>T3.1 POWER-E-COM Training Modules outline</u>

No	Module/Heading	Core or Optional	Duration (hrs)	Learning Units/Topics	Comments
1	Module 1 - EU and National Policy	Core	2	European Regulations	As regulations are extensive, focus in 3-4 issues: a) electric renewables self-consumption, b) shared heating systems (as DH), c) electric vehicle/charging points and d) building renovation. Only the main regulations.
				National Regulations	Include the role of local and regional authorities in supporting energy communities
				Understanding the critical role of policy in creating an enabling environment for energy communities to flourish.	
				Describe the key EU and POWER-E-COM member states policies relevant to sustainable energy and the applicable legislation	
2	Module 2 - Introduction to Community Development	Core	2	To build skills and confidence in embarking on community development projects	Include the different definitions or concepts of Energy Communities in the EU. I.E. in Ireland there are SEC while in Austria Local and Regional EC, in Spain....

				Basic Understanding of Community Development Principles	
				SDGs	
3	Module 3 - Planning and consultation	Optional	2	To give insight into the planning and development structure and processes in Ireland	
				To relate that to renewable energy developments	
				To outline some implications	
				To consider the role of public consultation and how best to use it	
4	Module 4 - Project Finance and Organisation	Optional	2	Understanding finance for an energy community project	
				Financing and fundraising	
				Green loans	
				Sources of finance	P2P Community owned projects Soft loans by ethical banks Crowdfunding Traditional bank funding ....
5	Module 5. Project	Optional		Project Life Cyle	

	Manageme nt				
				Identify key project management steps for the implementatio n of a community energy project	
				Present a preliminary technical and financial assessment on the potential for the development of a community energy	
6	Module 6. Understand ing Energy and energy principles	Optio nal	2	Describe the main energy systems for electricity and heating	(to check 6-10 headings and description as some common concepts included among them) Maybe: Module 6: Understanding energy and energy principles Module 7: Energy efficiency (static systems) as building envelope Module 8: Energy efficiency (dynamic systems): all which consume electricity, as heating and cooling, hot water production, lighting, etc. Module 9: Renewable energies for electricity Module 10: Renewable energies for heat
				Explain key energy terms and principles	

7	Module 7. Energy Systems - Static Systems in Building Envelop	Optional		Identify appropriate energy efficiency measures for a range of applications	Energy efficiency: building envelope, heating-cooling-hot water, lighting, others...
8	Module 8. Energy efficiency	Optional	1.5	Consider appropriate renewable energy solutions and opportunities relevant to their community	
9	Module 9. Renewables for electricity	Optional	1.5	Understanding energy principles Joule, kWh, Primary Energy, Delivered Energy etc	
10	Module 10. Renewables for Heat	Optional	1.5	Consider appropriate renewable energy solutions and opportunities relevant to their community	PV, small wind, mini hydro, biogas cogeneration
	Reading Materials		10		
	Case Studies		10		

8. Appendix 2 – Analysis of freely available training content

Project Name	Funding Source	Free Training Content (Yes/No)	Countries/Languages Available In	Suitable to PEC
1. EC4RURAL	Life	Yes	Spain	Yes
2. ECOEMPOWER	Life	Yes	Germany	Yes
3. COMET	Life	*(Website Not Yet available)*	Slovenia	*Data Not Available*
4. POWER-E-COM	LIFE CET ENERCOM call 2022	Yes	Not Applicable	Yes
5. ISLET	LIFE CET ENERCOM call 2022	*(Website Not Yet Available)*	No POWER-E-COM Countries Involved	(For Mediterranean small Islands)
6. DISCOVER	LIFE CET ENERCOM call 2022	*(Website Not Yet Available)*	Bulgaria and Austria	*Data Not Available*
7. POWER YOUTH	LIFE CET ENERCOM call 2022	*(Website Not Yet Available)*	Austria	*Data Not Available*
8. ENCOM HUB	LIFE CET ENERCOM call 2022	*(Website Not Yet Available)*	Spain and Bulgaria	*Data Not Available*
9. JALON	LIFE CET ENERCOM call 2021	Some Documents	Spain	*Data Not Available*
10. TANDEMS	LIFE CET ENERCOM call 2021	*Data Not Available*	Bulgaria and Austria	*Data Not Available*
11. LIFE LOOP	LIFE CET ENERCOM call 2021	Yes	Bulgaria	Yes
12. BECKON	LIFE CET ENERCOM call 2021	*(Website Not Yet Available)*	Spain and Bulgaria	*Data Not Available*
13. CONNECTHEAT	LIFE CET ENERCOM call 2021	Yes	Germany, Spain and Bulgaria	*Data Not Available*
14. COMANAGE	LIFE CET ENERCOM call 2021	Yes	Spain	Yes

15. ACCE	LIFE CET ENERCOM call 2021	Yes	Spain and Germany	*Data Not Available*
16. ORS COOP	LIFE CET ENERCOM call 2021	*Data Not Available*	Ireland	*Data Not Available*
17. SCCALE 203050	H2020 Energy Efficiency Calls	Yes	No POWER-E-COM Countries Involved	Yes
18. SHAREs	H2020 Energy Efficiency Calls	Yes	Bulgaria and Austria	Yes
19. UP-STAIRS	H2020 Energy Efficiency Calls	Yes	Ireland, Austria, Spain and Germany	Yes
20. Sun4All	H2020 Energy Efficiency Calls	Yes	Spain	Yes
21. POWER UP!	H2020 Energy Efficiency Calls	*Data Not Available*	Spain	Yes
22. eneuron	H2020	*Data Not Available*	*Data Not Available*	*Data Not Available*
23. Newcomers	H2020	*Data Not Available*	Germany and Slovenia	*Data Not Available*
24. Renaissance-h2020	h2020	Yes	*Data Not Available*	*Data Not Available*
25. Bündnis Bürgerenergie e.V. (German)	*Data Not Available*	*Data Not Available*	Germany	*Data Not Available*
26. The European Community Power Coalition	Life	Yes	Spain, Germany, Slovenia and Ireland	Yes
27. Energent (Belgium)	*Data Not Available*	*Data Not Available*	No POWER-E-COM Countries Involved	*Data Not Available*
28. Les7Vents (French) The 7 Winds	*Data Not Available*	*Data Not Available*	No POWER-E-COM Countries Involved	*Data Not Available*
29. CEES	Horizon 2020 2021-2024	*Data Not Available*	No POWER-E-COM Countries Involved	*Data Not Available*
30. Rural energy community advisory hub	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
31. Energy Communities Hub	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*

32. **Energy Communities**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
33. **BeCoop**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
34. **foeeurope.org**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
35. **REScoop.eu**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
36. **energy-cities.eu**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
37. **https://energy-communities-repository.ec.europa.eu/index_en**	*Data Not Available*	*Data Not Available*	*Data Not Available*	*Data Not Available*
38. **EUCENA MOOC (European Citizen Energy Academy Massive Open Online Course) - Free online courses with certification**	Data Not Available. Project is part of the European Climate Initiative (EUKI) of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), so it may have received funding from there	Yes	Germany and Bulgaria	Yes
39. **Greenhouse Gas (GHG) Calculation Tool**	ECCO Interreg Project	Yes	Ireland	Yes
40. **DGRV (German Cooperative and Raiffeisen Confederation) project klimaGEN**	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety	Yes	Germany	Yes

41. Milieu Barometer	*Data Not Available*	No	No POWER-E-COM Countries Involved	Yes
42. LICHT Methodology Approach	*Data Not Available*	Yes	Austria, Bulgaria, Germany, Ireland, Slovenia and Spain	Yes
43. We the Power	*Data Not Available*	Yes	Germany and Spain	Yes
44. WiseGRID	This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731205.	No	Spain and Germany	Yes
45. "How to get citizens and local governments on your side when building RES? Reducing the risk of project rejection by locals"	*Data Not Available*	Yes		Yes
46. COMPILE Toolkit: Best Practice Guide	This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement № 824424.	Yes	Spain	Yes
47. COMPILE Toolkit: Financing Guide	This project has received	Yes	Spain	Yes

	funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement № 824424.			
48. COMPILE Toolkit: Stakeholder Engagement Guide	This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement № 824424.	Yes	Spain	Yes
49. COMPILE Municipal Guide	This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement № 824424.	Yes	Spain	Yes
50. Collective self-consumption and energy communities: Trends and challenges in the transposition of the EU framework	*Data Not Available*	Yes	Austria, Bulgaria, Germany, Ireland, Slovenia and Spain	Yes
51. Best Practice Guide for Southeast Europe	*Data Not Available*	Yes	Slovenia	Yes