



# POWERPOOR

Empowering Energy Poor Citizens through Joint Energy Initiatives



## Energy Poverty Guidebook for energy planning



Working on the ground with energy-poor households and policymakers to mitigate energy poverty



December 2021

[www.powerpoor.eu](http://www.powerpoor.eu)



**Universal access to secure, sustainable, and affordable energy** services for all, thus enhancing quality of life and improving energy security

United Nations Sustainable Development Goals, Goal 7,  
<https://sdgs.un.org/goals/goal7>

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## 1. Foreword - How to use the guidebook



Municipalities and individuals can be part of the just energy transition to secure, clean, and affordable energy for all, including tackling energy poverty. This guidebook has been developed to help to this end including all the related information of the POWERPOOR approach in tackling energy poverty through joint energy initiatives. The guidebook aims at informing relevant stakeholders ranging from interested individuals to municipalities and decision makers on how they can follow the proposed bottom-up collaborative approach in alleviating energy poverty through joint energy initiatives leveraging innovative financing schemes and enhancing the local energy planning to that direction.



## 2. Energy poverty mitigation through joint energy initiatives

### The phenomenon of energy poverty

*“Adequate warmth, cooling, lighting and the energy to power appliances are essential services needed to guarantee a decent standard of living and citizens’ health.”*

EU Energy Poverty Observatory, 2018 ([www.energypoverty.eu](http://www.energypoverty.eu))

Energy poverty is defined as a set of conditions where: “individuals or households are not able to adequately heat, cool, or provide other required energy services in their homes at affordable cost”<sup>1</sup>. It is “the inability to realise essential capabilities as a direct or indirect result of insufficient access to affordable, reliable and safe energy services, and taking into account available reasonable alternative means of realising these capabilities”<sup>2</sup>.

Energy poverty is linked to low household income, high energy costs and energy inefficient homes, and is known to have severe impacts on the health of EU citizens, including increased numbers of winter or summer deaths, detrimental effects on mental health, respiratory and circulatory problems<sup>3</sup>. Existing approaches for the definition of the phenomenon are based on quantitative indicators, such as the proportion of household expenditure on energy bills in relation to their income or the latter’s relation to the poverty line after subtracting the cost for energy services (the 10% approach, ‘low income – high costs’, ‘minimum income limit’), and qualitative indicators (consensus approach).

### The role of local authorities in tackling energy poverty

The role of the local authorities in the transition towards a more sustainable future is clearly recognised in the UN Sustainable Development Goals, setting the goal for clean and affordable energy for all<sup>4</sup>. The European Commission has also adopted these goals and, promotes policies and initiatives to empower

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<sup>1</sup> Thomson, H., & Bouzarovski, S. (2018). *Addressing energy poverty in the European Union: State of play and action*. EU Energy Poverty Observatory, Manchester.

<sup>2</sup> Day, G., Walker, N., & Simcock, N. (2016). *Conceptualising energy use and energy poverty using a capabilities framework*, EP93 (2016)

<sup>3</sup> Bouzarovski, S., & Petrova, S. (2015). *A global perspective on domestic energy deprivation: Overcoming the energy poverty–fuel poverty binary*. *Energy Research & Social Science*, 10, 31-40.

<sup>4</sup> United Nations Sustainable Development Goals, Goal 7, <https://sdgs.un.org/goals/goal7>

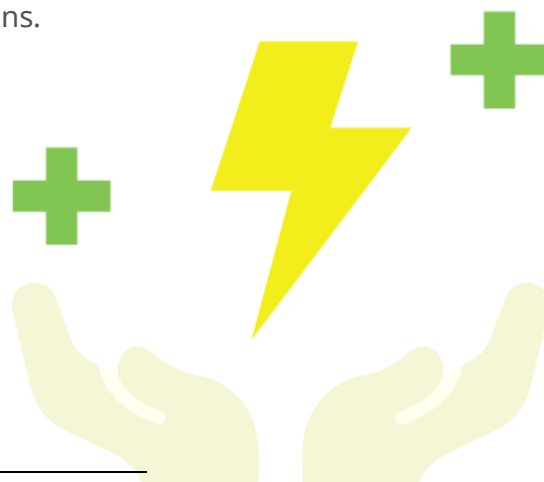
cities and communities in taking local climate and energy actions<sup>5</sup>.

The importance of involving local authorities in tackling energy poverty is high as they can:

- better target the energy vulnerable citizens and measure the magnitude of the problem;
- conduct a detailed mapping of the local needs and the complexity of local factors that impact the phenomenon in their region;
- prioritise type of actions and areas of intervention;
- design a set of effective actions that suit best in the specific local context and the citizens' needs;
- bridge the distance between upper-level policies (national governments, EU) and the local communities;
- combine forces in local level from different actors, stakeholders, initiatives;
- ensure the sustainability of the actions and up-scale them with cities' networks and initiatives;

The capacity of local authorities to tackle Energy Poverty effectively varies across EU, as there are various governance structures and different levels of technical expertise, available funds, and commitment to address the problem.

POWERPOOR recognises the limitations but also the opportunities of the role of local authorities, proposing an innovative approach in taking actions in a local level through joint energy initiatives such as energy communities and cooperatives. This along with the Covenant of Mayors' target that refers to signatory cities pledging action to support the implementation of the EU 55% greenhouse gas-reduction target by 2030<sup>6</sup> and the adoption of a joint approach to tackling mitigation and adaptation to climate change can prompt local authorities to promote the issue and take effective actions in service of energy vulnerable citizens.



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<sup>5</sup>EU Report. 2015. *Energy poverty and vulnerable consumers in the energy sector across the EU: analysis of policies and measures Policy Report*

<sup>6</sup> European Commission, 2030 Climate Target Plan, [https://ec.europa.eu/clima/eu-action/european-green-deal/2030-climate-target-plan\\_en](https://ec.europa.eu/clima/eu-action/european-green-deal/2030-climate-target-plan_en)

## KEY INITIATIVES

### Covenant of Mayors ([www.covenantofmayors.eu](http://www.covenantofmayors.eu))

The Covenant of Mayors in Europe is the leading initiative in EU for signatories who pledge to mitigate climate change as well as adapt to its consequences. Its vision is that, by 2050, all citizens will be living in decarbonised and resilient cities with access to affordable, secure and sustainable energy. This includes, amongst others, alleviating energy poverty. Therefore, the Covenant of Mayors provides several relevant resources for incorporating the Energy Poverty pillar in municipalities' Sustainable Energy and Climate Action Plans (SECAPs), while a framework for measuring energy poverty, and monitoring and reporting relevant actions is expected to be published soon.

### Energy Poverty Advisory Hub ([https://energy-poverty.ec.europa.eu/index\\_en](https://energy-poverty.ec.europa.eu/index_en))

The Energy Poverty Advisory Hub (EPAH) is the leading EU initiative aiming at alleviating energy poverty and accelerating the transition to a just energy future for local governments. EPAH's mission is to be a central node of expertise and information related to tackling energy poverty in Europe targeted at all relevant stakeholders who are interested in taking action to combat energy poverty in Europe. The EPAH is providing direct support, online trainings, and research results as well as aims to build a network of stakeholders interested in taking action to combat energy poverty in Europe.



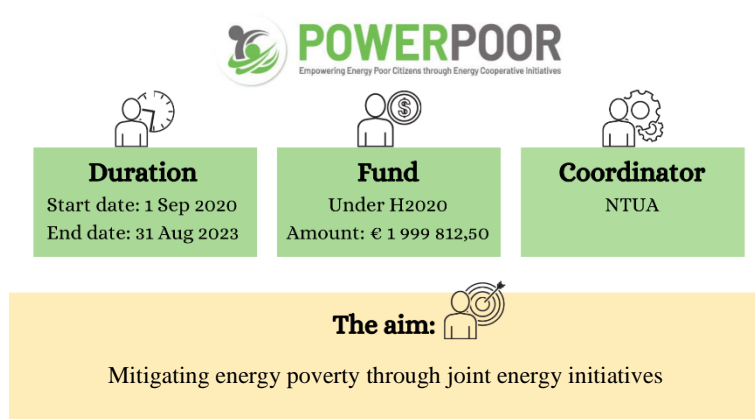
## The POWERPOOR approach

The main objective of the POWERPOOR project is to develop support programmes for energy poor citizens and to encourage the use of joint energy initiatives leveraging alternative or innovative financing schemes (e.g., establishing energy communities/cooperatives, using crowdfunding). POWERPOOR will facilitate experience and knowledge sharing, as well as the implementation of behavioural changes and small-scale no regret energy efficiency interventions as well as the installation of renewable energy sources, increasing the active participation of citizens.

Pilot energy poor support programmes are designed, developed, and implemented in eight countries across Europe (namely in Bulgaria, Croatia, Estonia, Greece, Hungary, Latvia, Portugal, and Spain), led by a network of certified Energy Supporters and Mentors. The Energy Supporters and Mentors support energy poor households to implement behavioural changes and low cost, no regret, small scale energy efficiency interventions, as well as participate in joint energy initiatives or leverage innovative financing schemes. Energy poor citizens are engaged through various planned activities, e.g., Info Days. At the same time Local Energy Poverty Alleviation Offices are established in engaged municipalities staffed by POWERPOOR trained and certified energy Mentors. The offices serve as a One Stop Shop of all the POWERPOOR related information.

An ICT-driven toolkit i.e., the Energy Poverty Mitigation Toolkit is also developed to complement the support programmes. National Stakeholders Liaison Groups are established in the national pilot countries to facilitate the engagement and be a focal point of the POWERPOOR activities and results. The bottom up POWERPOOR approach can be part of Sustainable Energy and Climate Action Plans, or any other action plan developed by municipalities.

Based on the experience gained and the lessons learnt from implementing POWERPOOR, EU policy recommendations and eight National Roadmaps will be developed, so that policy makers at all governance levels can learn from the project. The project results are broadly disseminated, and synergies are pursued with global and EU initiatives, such as the EU Energy Poverty Observatory and the (EU and Global) Covenant of Mayors on Energy and Climate. The participation of networks in the Consortium strengthens the dissemination and exploitation of POWERPOOR outputs across Europe during and beyond the project implementation. The solution will be sustained through the establishment of the POWERPOOR Alliance on Energy Poverty.



## Energy poverty projects in Europe

The H2020 "Mitigating Households Energy Poverty" sister projects

**POWERPOOR**



Empowering Energy Poor Citizens through Joint Energy Initiatives

**EnergyMeasures**



Tailored Measures Supporting Energy Vulnerable Households

**ComAct**



Community Tailored Actions for Energy Poverty Mitigation

**STEP**



Solutions to Tackle Energy Poverty

**ImpowerMed**



Empowering Women to Take Action Against Energy Poverty in the Mediterranean

**ENPOR**



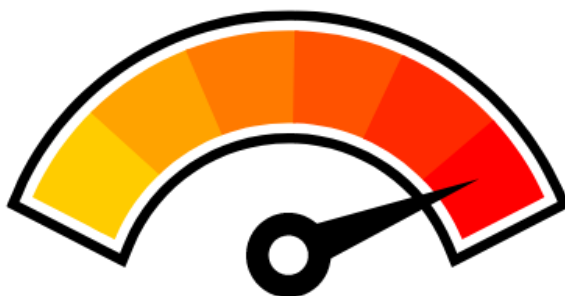
Actions to Mitigate Energy Poverty in the Private Rented Sector



### 3. Preparing the bottom-up approach

#### Baseline assessment

Currently in Europe, about 57 million people cannot keep their homes adequately warm during winter; 104 million people cannot keep their homes comfortable enough during summer; 87 million live in poor quality dwellings and 52 million people face delays in paying their energy bills<sup>7</sup>. The EU Commission considers vulnerable citizens in its



planning and aims at addressing energy poverty through the EU green Deal and the new Fit for 55 package, which includes significant measures to strengthen energy efficiency laws to help tackle energy poverty<sup>8</sup>. In this respect, guidance, and financial support to energy poor citizens for implementing energy efficiency interventions and setting up or joining energy communities/cooperatives could facilitate their social integration and help them escape energy poverty. In the eight POWERPOOR pilot countries an in-depth analysis of the status of energy poverty, the current legal framework, the ongoing alleviation measures, and the enabling environment has been prepared.

In general, the POWERPOOR pilot countries present vast differences in various aspects i.e., how they view and define energy poverty and the proposed legal framework and alleviation measures. Energy poverty is a complex issue, which cannot be tackled solely using a uniform approach in an EU level, although common issues are detected in respective countries. For instance, a common European definition for energy poverty does not exist, and only in Latvia and Spain, out of the 8 POWERPOOR pilot countries there is an official definition for the term "energy poverty". For more information on the pilot countries check the POWERPOOR "Baseline assessment report available [here](#).

Information for all countries across EU can be found [here](#).

<sup>7</sup> EU Energy Poverty Observatory, <https://www.energypoverty.eu>

<sup>8</sup> European Commission, EU Green Deal [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en) and 2030 Climate Target Plan

## Engaging with Stakeholders and involved parties

Stakeholder engagement is essential when implementing change following a bottom-up approach. Especially for POWERPOOR that is based on and structured around a co-creation model, as collaborative activities are foreseen and implemented throughout the project, and multiple interdependent external stakeholders are engaged accelerating the project's development process. Stakeholders that are identified and engaged in the project have different backgrounds and include: representatives from local and/or regional authorities, housing providers, social workers, health practitioners, experts on alternative financing schemes, representatives from energy communities, civil society representatives i.e., non-governmental organisations, institutions, and associations, and other stakeholders linked to energy planning or providing services as well as representatives from academia and technical universities.

The stakeholder engagement process includes:

1. Identification of the relevant stakeholders followed by mapping and analysis of the results.
2. Development of an engagement plan based on the results' analysis.
3. Implementation of the engagement plan.
4. Reporting, and implementation of follow up processes.
5. Feedback and re-consideration of the approach where necessary.

### *National Stakeholder Liaison Groups*


For the eight POWERPOOR pilot countries National Stakeholder Liaison Groups have been established. The members of the Stakeholder Liaison Groups are focal points in the national countries, experts in various relevant domains that both provide feedback to all the POWERPOOR activities in a national and European level and serve as nodes of information for the project results and activities and results to a wider audience. The members of the Liaison Group meet regularly to be aligned about any local, national, or European developments on energy poverty. They embody a diverse group of stakeholders, including but not limited to representatives from: municipalities, regions, energy agencies, universities, social services, non-governmental organisations, utilities and media.

If interested in participating in or getting more info about your National Stakeholder Liaison Groups click [here](#).


## Capacity building and multi-level knowledge creation

The POWERPOOR partners, experts in different fields, gathered all the relevant information on how to tackle energy poverty through joint energy initiatives in four different modules (see more info in the following box). The partners shared their different expertise and held a train the trainers session followed by a workshop to further delve into all the POWERPOOR related topics. The modules contain information suitable for interested individuals but also for representatives of municipalities. In particular, Module 4 addresses mainly the needs of municipalities that strive to address energy poverty.


**Module 1 (ENPOV): Energy poverty concepts, policies, and multilevel governance; Global and EU scope.** Includes the concept of energy poverty, existing policies, the POWERPOOR approach and the POWERPPOR Toolkit developed, especially the POWER\_TARGET tool.

 You can find module 1 [here](#).


**Module 2 (ACTIONS): Energy poverty alleviation policies and practices;** Includes low cost/no regret measures that energy poor citizens can implement to reduce energy consumption; Behaviour changes and best practices that can be followed to implement energy efficiency measures and energy interventions. And the POWER-ACT tool.

 You can find module 2 [here](#).

**Module 3 (FUND): Energy communities / cooperatives, crowdfunding and other joint initiatives;** Includes best practices, methodologies, and innovative approaches for establishing joint energy initiatives, emphasising on the strengths, opportunities, and benefits of these joint ventures, as well as lessons learnt; Exemplary sustainable energy projects, in terms of technological innovation, implementation, financing, impact and replication potential; Impact assessment of energy poverty projects in urban/national sustainability. Tools and methods to make the joint energy initiatives accessible to citizens facing energy poverty. The POWER-FUND tool.

 You can find module 3 [here](#).

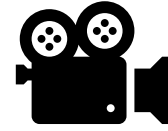
**Module 4 (PLAN): Planning Energy Poverty Actions at the Local Level;** Integration of energy poverty in sustainable energy and climate action planning and urban sustainability policies. This module also presents Climate System Innovation Tools for systems thinking and stakeholder engagement within the city context. The Energy Poverty Guidebook for Energy Planning is also presented in this module.

 You can find module 4 [here](#).

### Useful resources

POWERPOOR partners shared knowledge created the POWERPOOR Online Trainer Library equipped with documents that can be utilised by municipalities and individuals alike. The Online Trainer Library is accessible [here](#).

The Library is also equipped with a filtering option and users can filter their preferred language, format of the materials (e.g., document, publication, book, etc.), type of publication (e.g., methodological, theoretical etc.), the audience the material is referred to (e.g., housing providers, social workers, etc.), and the module they want to further explore.



The English version of the trainings can be found [here](#).

### *Supportive training tools*

To effectively train and support all the Energy Supporters and Mentors, especially during the Covid-19 pandemic across EU, online tools were used to enhance participation and make the trainings interesting. For this reason, the 4 modules were also complemented with material dedicated in facilitation and soft skills development customised for the training of Energy Supporters and Mentors, available [here](#).

### Tip!

Online training sessions should include:

- A well-structured friendly to the audience agenda (e.g., with coffee breaks), shared with the audience prior to the training
- Stable connection for the presenters/trainers
- Online tools that can enhance participatory processes (e.g., slido, mentimeter)

When training individuals or representatives of municipalities it is important to be GDPR compliant. Find out more information <https://gdpr.eu/>.

The four different modules contain information mainly in an EU level. However, they have been designed to be flexible enough so they can be easily customisable to the national circumstances.

The POWERPOOR training sessions take approximately 7.5 hours to be completed. The trainings can be customised according to the audience needs.

### Bringing forward the local heroes

Apart from engaging with the stakeholders and gathering the available information, POWERPOOR aims at bringing forward Energy Supporters and Mentors that are the local heroes implementing the bottom-up approach of tackling energy poverty in a local level. Motivated individuals are being trained and certified by the POWERPOOR trainers through face to face online and onsite training seminars and webinars. The network of Energy Supporters and Mentors are at the heart of the energy poor citizens support programmes. The role of the trained and certified Energy Supporters and Mentors differentiates. A list of the Energy Supporters and Mentors is available [here](#). The list includes Supporters and Mentors from the 8 POWERPOOR pilot countries but also across EU.

#### The role of Energy Supporters and Mentors

**Energy Supporters** engage directly with energy poor citizens and advise them on implementing behaviour changes or small scale no regret energy efficiency interventions as well as assist them to plan, secure funding and implement large scale energy efficiency interventions.

**Energy Mentors** provide support and expertise in all the key areas associated with the operation and/or creation of an energy community / cooperative, comprised of energy poor citizens. They know how to leverage innovative financing schemes (e.g., crowdfunding) and provide support in a city level staffing the Energy Poverty Alleviation Office.

Play your part in Alleviating Energy Poverty



Find the relevant infographic [here](#).



Check out the [video](#) with our Local Heroes describing their experience!

The Energy Supporters' and Mentors' background varies, they may comprise of public authorities (employees of local and regional authorities), members of

existing communities/cooperatives, social workers, local consultants, professionals, and entrepreneurs in the field of sustainable energy, health practitioners, university graduates, and young scientists, or any other interested individual aiming at enhancing the circumstances of their region.

### The POWERPOOR certification scheme

The Energy Supporters and Mentors are certified under the POWERPOOR certification scheme. Apart from the practical benefits of a certification scheme that verifies the knowledge in a particular topic, the POWERPOOR certification scheme comes with some other benefits. You can find the POWERPOOR certification scheme [here](#).

#### Benefits for the Energy Supporters and Mentors

##### General

- ❑ Gain a sense of accomplishment when supporting people suffering from a multidimensional phenomenon assisting them to enhance their living conditions.
- ❑ Participate in a well-structured learning process, which combines theory, practice, and formal testing.
- ❑ Gain expertise and knowledge on a phenomenon that affects many people across Europe.
- ❑ Gain expertise on innovative financing schemes and on joint energy initiatives. Learn how to set up and support energy communities/ cooperatives and how to set crowdfunding campaigns.
- ❑ Learn how to use ICT-driven tools that can facilitate the process of supporting energy poor citizens.
- ❑ Promote personal development, enhancing the soft skills required in the fieldwork.
- ❑ Understand the role of local governments to support the development of energy poverty alleviation actions together with local stakeholders.
- ❑ Acquire a certified proof of competence.

##### Networking

- ❑ Become a member of an extended EU-wide network of mentors and supporters.
- ❑ Cooperate/ interact with experts and recognised professionals in a national and European level.

##### Professional

- ❑ Gain visibility in the area.
- ❑ Enhance CV and professional credibility.
- ❑ Gain working experience, especially valuable for newcomers in the job market.
- ❑ Encourage life-long learning and professional development.
- ❑ Improve career opportunities.



The test comprises of multiple-choice questions so as to limit the costs, be easy to conduct, be adjusted to the schedule of the participants', not be subjected to geographical limitations but also to be simple in use, to have a user-friendly interface, and be supported by different countries' languages.

The assessment process is governed by the following principles

► **Objectivity**

The assessment methods incorporate widely adopted practices, the evidence are documented and clear, and the evaluation uses subjective criteria and processes for all participants.

► **Transparency**

The transparency of the certification process is of high importance, as all the participants should have clear view about all the parts of the scheme, such as the selection criteria, the training process, the assessment framework, the costs, the benefits, and the obligations.

► **Fairness**

The process needs to be fair against all participants, safeguarding equality and non-discrimination enabling participants to take part in the training and certification under equal conditions.

The assessment tools employed follow the proposed European guidelines for validating non-formal and informal learning (CEDEFOP, 2015), i.e., Validity, Reliability, Fairness, Cognitive range, and Fitness.

Find out more [here](#).

After the completion of the project, the POWERPOOR certification scheme will be sustained by the POWERPOOR Alliance for Energy Poverty that will be developed. The members of the Alliance need to keep the training materials up to date and the network of the Energy Supporters and Mentors up and running.



## 4. Energy poor citizens support programmes

### The home visits

The Energy Supporters are in the heart of the energy poor citizens support programmes as they visit homes within their networks or neighbourhoods to directly identify those that experience energy poverty and provide them with practical behavioural tips and tricks that can enhance their energy efficiency and/or lower their energy bills as well as enable them to implement small scale no regret energy efficiency interventions. The Energy Supporters and Mentors use the POWERPOOR toolkit to directly help the energy poor. Complementary material is also available to help them make the most out of the home visit.



Find the [tips and tricks](#) the Energy Supporters and Mentors share!

### The Energy Poverty Alleviation Offices

In order for municipalities to implement bottom up change and be part of the solution in tackling the multi-facet phenomenon of energy poverty, a multi- and inter-disciplinary approach must be followed. The Energy Mentors that can be municipality employees, social workers, or interested individuals can lead the way in such an approach. They will staff the Energy Poverty Alleviation Offices that are established across the eight pilot countries.

The local energy poverty offices will provide support to energy poor households both by directly proposing behavioural measures and no regret, low-cost energy efficiency interventions and by guiding them towards setting up or joining an existing energy community or cooperative and how to leverage innovative financing schemes.

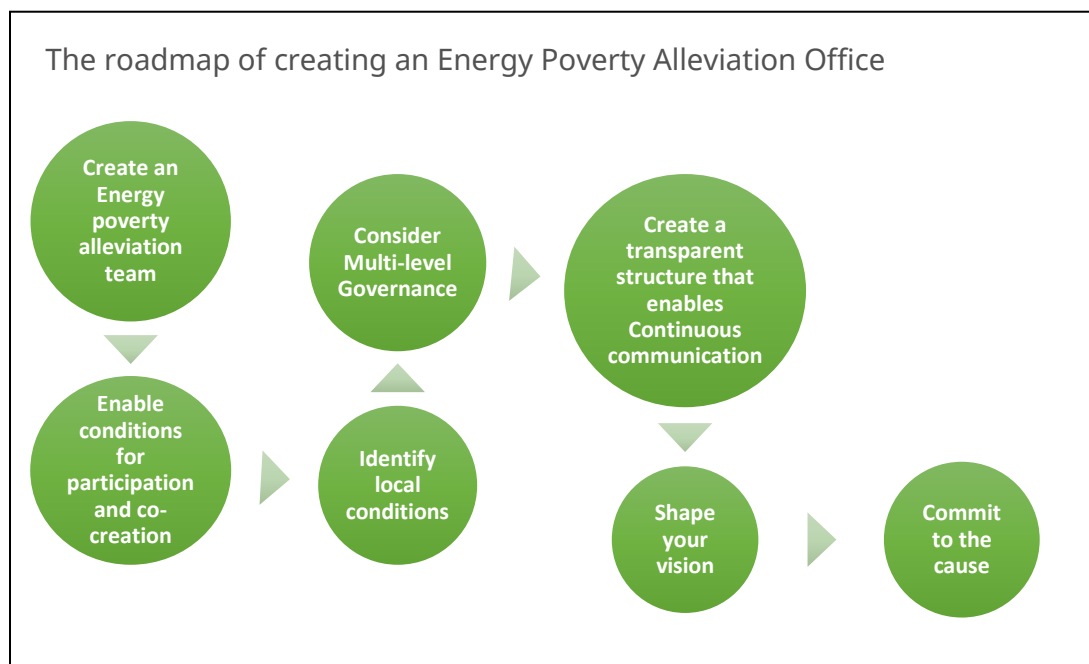
In the Energy Poverty Alleviation Office, the benefits of implementing energy efficiency interventions and installing renewable energy sources will be

**The main objective of the Energy Poverty Alleviation Office** is to be a one stop shop of information for citizens and directly support them to actively participate in planned activities, get familiar with the problem of energy poverty, propose to them behavioural measures and no regret low-cost energy efficiency measures, and guide them in participating in or setting up an energy community or familiarize them with leveraging innovative financing schemes to achieve energy efficiency goals.



communicated, more energy efficient behaviours, practices and habits will be encouraged, the use of the Energy Poverty Mitigation toolkit will be promoted also as a practical way of monitoring and guiding the progress.

Best practices will be brought forward as well as innovative financing schemes (e.g., crowdfunding) as a viable financing option. Through the office local authorities will be able to build their capacity, experience, and skills on how to include and finance energy poverty actions in a SECAP. Finally, other local and regional authorities, as well as other key actors (e.g., social services) will have the opportunity to follow by example and, also, establish a Local Energy Poverty Alleviation Office to help alleviate energy poverty in their region.



In municipalities that similar offices or teams are already established and running, working well with the public (e.g., a SECAP team) the Energy Poverty Alleviation Office can work within the existing structure. Synergies and collaborative work can only enhance the outreach of activities. The Energy Mentor staffing the office can cover a wide range of needed expertise and come from different departments such as the social, the financial, the technical, the environmental and the public procurements. Thus, the Energy Mentor can either be part of the existing structure and understand the local context, as well as how the POWERPOOR approach can work within the existing framework, or the Energy Mentor can be part of another team within the municipality and in this case proper cross-departmental cooperation is required.



### Tips for successful cross-departmental cooperation

- Define clear roles so everyone knows what to do.
- Actively engage all the members in relevant tasks (both in planning and implementation) to gain a high sense of ownership of the plan.
- Encourage consistent and transparent communication sharing the information and goals associated with different departments.
- Support feedback to ensure that everyone is on the same page is needed.
- Gather the team regularly to stay in touch with its goals and help members build team spirit.
- Introduce accountability and tracking of progress.
- Get to know other departmental processes to understand barriers and challenges.
- Build a culture of mutual understanding and trust.

### Spreading the word

The impact of the POWERPOOR approach is enhanced by numerous planned activities. In a municipality level several info days are planned and implemented across the pilot countries attracting interested individuals and spreading the word both about the issue of energy poverty and the proposed POWERPOOR approach. For this reason, informational materials have been produced, are available to all, and are translated to all the pilot countries' languages to remove the language barrier.

Find the brochure and poster [here](#).

Find all the POWERPOOR news and events [here](#).

### Formalising the impact and sustaining the results

To formalise the approach and to sustain the impact, a set of policy recommendations will be produced to inform decision makers and policy makers on energy efficiency and sustainable energy and how the issue of energy poverty can be tackled through joint energy initiatives and innovative financing schemes. National Roadmaps to eliminate energy poverty in the pilot countries will be developed, in order to achieve a gradual transition from social policies, based on benefits, to innovative green policies based on grass roots investments and energy efficiency measures, in a medium- and long-term

perspective. Moreover, EU Policy recommendations will also be developed that will summarise key findings from implementing POWERPOOR that can inform policy makers at EU level and help them formulate policies to alleviate energy poverty considering a multilevel governance approach.

The network of municipalities and Energy Supporters and Mentors can be part of the POWERPOOR Alliance on Energy Poverty. The Alliance will be a vehicle for joint exploitation of the results, as a not-for-profit entity tailored to empower energy poor citizens through joint energy initiatives. In this context, an exploitation plan will be developed to better define the replication and exploitation activities of the project.

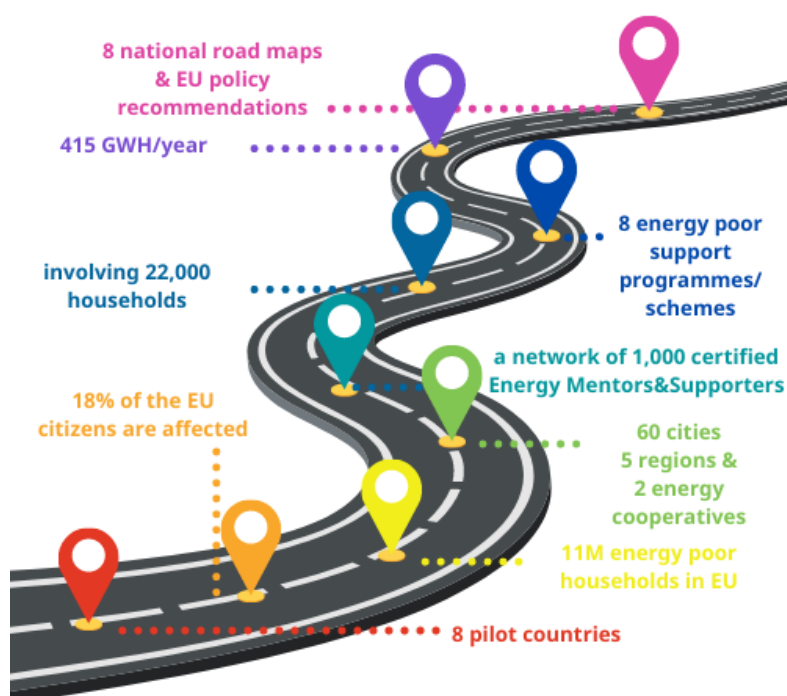
### Existing relevant policies

The [Clean energy for all Europeans package](#): aims at transforming the EU into a modern, resource-efficient and competitive economy, ensuring zero net emissions of GHG by 2050, economic growth and inclusivity in the transition.

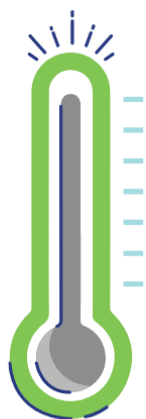
National Energy and Climate Plans of EU countries: 10-year integrated national plans for the period from 2021 to 2030, to meet the EU's energy and climate targets for 2030. Introduced under the [Regulation \(EU\) 2018/1999](#).

[The renovation wave package](#): Commission's strategy to boost renovation in the EU in the next 10 years. Its main focus is on tackling energy poverty, upgrading underperforming buildings, and decarbonising heating and cooling.

['Fit for 55%' package](#): a set of proposals with revisions to existing laws and new ones (more are expected) to advance Europe's climate policy for a 55% reduction in carbon emissions by 2030, and net-zero emissions by 2050.



## 5. TARGETING the problem



Municipalities are the first governance structure tackling energy poverty and dealing with its impacts. Energy poverty is a multi-dimensional problem that is difficult to be measured precisely. The need for valid identification methods of energy poor citizens is the first step in the process of tackling energy poverty through policies and actions, ideally included in the municipalities' SECAP.

### Identifying energy poverty

Local authorities can choose from a variety of relevant indicators that can assess whether a household is energy poor or not. There are expenditure-based and consensual indicators to choose from, stand alone or in combination, based on data or self-evaluation. Each indicator may be relevant to a specific aspect of the energy poverty, identifying some part of energy poor households. The final selection of the indicator(s) must be based on the availability of the correspondent data, the local characteristics, the scope of action and the capacity of the personnel to use them successfully but most importantly they should be aligned to the national context and the national policies.

It is important to clarify that the selection of the indicator can be a critical factor for the next step of planning actions against energy poverty, as the analysis of the findings may define patterns and areas of priority where actions need to be taken.

#### More

Indicators to measure energy poverty on a local level are provided by:

- the [Covenant Of Mayors initiative](#), and
- the [Energy Poverty Advisory Hub](#)

#### Tip!

To focus efficiently on groups and areas affected by energy poverty, keep in mind that it is common to find vulnerable citizens that may also be energy poor when one or more of the following conditions are present:

- low energy efficiency ratings in heating, cooling and appliances;
- bad insulation of walls, terrace, roof and bad house condition (e.g., mold);
- rural households that may be deeper affected by energy poverty;
- low income households and areas;
- off-grid (gas) properties having higher costs.

## The POWER TARGET tool

POWERPOOR provides a simple to use tool, the POWER TARGET, to identify energy poor citizens using a data-driven approach. The tool facilitates the identification of citizens, communities, neighbourhoods, or districts based on an enhanced 10% indicator. This approach is based on the expenditure-based indicator of 10%<sup>9</sup>, but modified to adjust energy spending and annual household income from actual to notional amounts, according to contextual qualitative factors e.g., “I feel cold inside my home”.

The POWER TARGET tool uses qualitative and quantitative data to overcome data flattening and simplification in energy poverty assessments. To do so, a survey must be fulfilled in with information about income, electricity consumption in kWhs and cost and heating fuel consumption also in unit of measurement and cost coupled with a self-assessing question on how the user experiences thermal comfort. The POWER TARGET tool uses the data filled in the survey to calculate a score that corresponds to the extent at which the household is energy poor. The score can take different values between 0-100 (0 for insignificant impact, 100 for absolute energy poverty) for the household's classification under one of the 4 categories of severity (Red -Orange- Yellow-Green).



### POWER - TARGET

POWER-TARGET tool is available in 10 languages via

- the POWERPOOR website <https://powerpoor.eu/toolkit>
- the standalone POWERPOOR TOOLKIT page <http://powerpoor.epu.ntua.gr/powerpoor-toolkit/>

### More info

- A guide on the functionalities of the POWER-TARGET tool along with the methodology employed to develop it can be found [here](#) in Deliverable 2.2.
- Step by step instructions on how to use the POWER TARGET tool can be found [here](#).



POWER  
TARGET



<sup>9</sup> Boardman, B . *Fuel poverty: from cold homes to affordable warmth*, London; New York: Belhaven Press, 1991.

### Recommended

#### *To utilise in the Energy poverty alleviation offices*

The Energy Poverty Alleviation Offices can act as a node between different municipal departments that can help the targeting of energy poor citizens, combining forces, expertise, initiatives, and networks. In addition to that, the offices are a contact point for energy poor citizens where they can use tools such as POWER TARGET to assess their energy vulnerability.

### Enhancing the targeting

From the local authority point of view, the issue must be approached in a way that will make sense when planning relevant successful actions. Therefore, targeting the energy poor via a selected tool, can be further enhanced considering the local specific conditions where the tool is used.

The following Steps can enhance the targeting

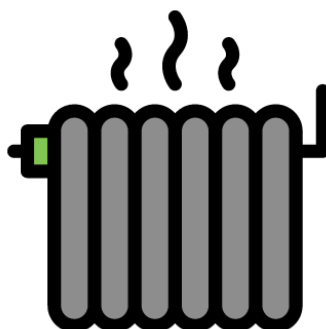
- Data gathering: Gather as much data as possible. Use the existing networks and selected tools.
- Data analysis: Look for possible eminent patterns, target groups, spatial distribution, any other fact worth mentioning. In this step, the data will be sliced and diced to extract meaningful insights. Using data analytics techniques and methods, hidden patterns and relationships will emerge, and fruitful insights can be brought forward to make educated predictions.
- Results interpretation: turning data into a meaningful form, like charts, mapping, or storytelling.
- Analysis validation: Discuss the findings with experts and stakeholders to get new perspectives.

! Keep up to date: Review periodically the conclusions, by taking into account the updated findings.

### Important

The POWERPOOR network of trained and certified Energy Supporters and Mentors is a valuable pool of people who can support Local Authorities through the Energy Poverty Alleviation Offices in tackling energy poverty.

Find a certified Energy Supporter or Mentor [here!](#)





## 6. ACTions to tackle energy poverty

The local authorities need to support energy poor citizens and promote relevant actions via their energy and climate plans to address the challenges and reach the sustainable goals of 2050. Incorporating the energy poverty dimension in their plans is not an easy task, as a strategy is needed to be developed, including a number of actions based on how energy poverty is defined and identified as well as the local needs. The POWERPOOR approach is designed in such a way that it can be used by local authorities and their personnel to support in that direction.

### Promoting actions

Alleviating energy poverty includes a strategy with actions that can address the needs and challenges that energy poor citizens face. The formulation of a successful strategy starts from shortlisting all the possible measures or actions, continues to the selection of the most appropriate to the local context actions, incorporates them into the energy and climate plans, and ends with the implementation phase and monitoring of the actions.

The actions must be planned according to the results of the identification stage, as described above. Having analysed the gathered data to depict the energy poverty current state on a local level, municipalities can outline the profile of the problem in relation to the local conditions, which may be unique, thus demanding a specific mix of measures and specialised forms of implementation approaches.

The proposed by POWERPOOR, Energy Poverty Alleviation Offices in municipalities can be of great support regarding the energy poverty alleviation policies and actions. Except for their role in the identification of energy poor citizens, they can also provide support in planning and promoting actions. With properly trained personnel, as the POWERPOOR Certified Energy Supporters and Mentors, the Energy Poverty Alleviation Office can create energy profiles using the POWER ACT tool to define target groups and propose appropriate measures. Such measures can be low-cost no regret, and easy to implement, such as behavioural changes, energy carrier selection etc, or more substantial such as building renovation, upgrading in heating system etc.

#### Tips and tricks to reduce energy poverty

If you want to have some easy tips and tricks to reduce costs and usage in heating, hot water usage, lighting, building insulation, electricity, appliances, you can check [this infographic](#) and [Module 2](#).

## The POWER ACT tool

The second tool included in POWERPOOR Toolkit to enable energy poverty alleviation is POWER ACT. POWER ACT includes the energy behaviour of the users and proposes a set of low-cost no regret behavioural measures to improve their energy performance and to empower energy poor citizens to understand their energy use, the benefits associated with energy efficiency interventions and encourage them to look for renewable power generation capacities e.g., through joining an energy community.

POWER ACT is based on a data-driven approach that evaluates users' thermal comfort, creates energy profiles, and predicts benefits of energy efficiency actions. To do so, a survey must be fulfilled in with information on behavioural patterns, electricity usage data and heating and cooling consumption data coupled with self-assessing questions on energy behaviours. The POWER ACT tool uses the data filled in the survey to calculate a score that corresponds to the extent that the household is energy poor.

Scores range from 0-100 with a score equal to zero achieved when a user submits responses that indicate the least efficient behaviours possible while a score equal to 100 is achieved when responses indicate the most efficient behaviours possible given the available responses in the structured questions. Low scores indicate margin for improvement in terms of energy behaviour while higher scores indicate more efficient behaviours and limited room for improvement with behavioural changes. According to the score calculated, the household's behaviour is classified under one of the 4 categories (Red -Orange- Yellow-Green). Users with Red and Orange classifications can take immediate, low-cost steps to improve their energy spending behaviour (new LED bulbs, maintenance for their heating system, etc.). Users with Yellow and Green classifications usually need to proceed with more substantial upgrades that are associated with higher costs (insulation, windows upgrading, new heating systems).



### POWER - ACT

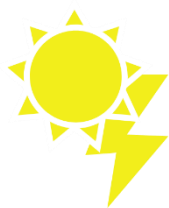
POWER-ACT tool is accessible in 10 languages via

- the POWERPOOR website <https://powerpoor.eu/toolkit>
- the standalone POWERPOOR TOOLKIT page <http://powerpoor.epu.ntua.gr/powerpoor-toolkit/>

### More info

- A guide on the functionalities of the POWER ACT tool along with the methodology employed to develop it can be found [here](#) in Deliverable 2.3.
- Step by step instructions on how to use the POWER ACT tool can be found [here](#).

## Enhancing incorporation of the actions in SECAPs.



To enhance the successful planning and implementation of energy poverty alleviation actions via Sustainable Energy and Climate Action Plans (SECAPs), the next 4 steps can be followed.

### → Explore measures

Explore all the available measures and shortlist the most appropriate of them according to the identification process findings. The areas where an energy poor household typically needs to be supported are the heating and cooling systems, hot water supply, appliances, lighting.

### → Define your strategy

The local authority having on the one hand the shortlisted measures and on the other the insights of energy poverty analysis in local level, such as the spatial distribution, the patterns, the target groups, the needs, and the causes, can shape its strategy. For better results, list the target groups, make dialogue between the Energy Poverty Alleviation Office, the SECAP team, and the involved municipal departments about the proposed measures, make public consultation with local society and stakeholders about the strategy.

### → Implement the actions

Local authorities are ready to move on to the next phase, the implementation, when a strategy is defined. The energy poverty alleviation office, local actors/ stakeholders and energy communities must be recruited, where needed, in the process of implementation. If a SECAP is present or planned to be developed, the decided actions will be included as the third pillar of the SECAP and will be implemented according to the Covenant of Mayors procedures. The Stakeholder Universe and Future Rader, explained in Module 4, are useful tools to foster stakeholder identification and strategy/vision-building in order to incorporate energy poverty alleviation into SECAPs.

#### More

A number of possible actions can be found in

- “Best practices” chapter of this guidebook.
- Powerpoor Deliverable D5.4 Report on actions for energy poor citizens in SECAPs

#### More info

Find out more in [Module 4](#).

### → Monitoring

To measure how successful the implementation of actions is local authorities need to monitor the process via the selected indicator(s). This will help them to

#### More info

You can access the Covenant of Mayors methodology for introducing Energy Poverty alleviation actions in SECAPs [here](#).

make better decisions, or even adjustments if needed. Those who participate in the Covenant of Mayors, will be able to use the CoM M&R framework to get support in Monitoring & Reporting.

### Use *co-creation* in actions' planning and decision-making

To effectively implement the POWERPOOR bottom-up solution a co-creative approach is needed, as the actions impact or may get facilitated both by citizens and various stakeholders. The authority's capacity to decide the best suitable actions may be limited, thus needing support in planning and decision making, or even in the development of the actions. Therefore, stakeholders need to be invited in a co-creative process from the very beginning, contributing to the exploration of the local needs, the challenges and the expectations.

Some practical tips include:

- Begin with stakeholder mapping, to identify all target groups, public and private stakeholders and other key local actors.
- Prepare an efficient engagement strategy so all actors are included in the relevant activities, get motivated and keep interested.
- Disseminate accordingly so that all stakeholders are in the loop and engaged with.
- Elicit feedback and review when necessary.



POWER  
ACT



## 7. FUNDing joint energy initiatives to tackle energy poverty

Local authorities need to find sufficient funds to finance their strategy, so as to implement energy poverty alleviation actions. To do this, they can use a number of available financing tools from a variety of sources depending on the local context and the national instruments. POWERPOOR provides them with a toolkit that includes opportunities related to joint energy initiatives (such as energy communities) and innovative financing schemes (such as crowdfunding), to support them in that direction.

### Funding the actions

Introducing energy poverty as a new dimension in the local authorities' action plans, is associated with new challenges, who will fund the actions, is there a unique approach for all, which financing tool is better etc. To successfully achieve and sustain the selected actions, diversity in financing instruments is needed. That means that the municipality must map thoroughly all the funding sources and the relevant financing tools to create a bouquet of solutions to choose from. This will help the municipality to use the proper funding source for each of the planned energy poverty alleviation actions. It is important to build inter-departmental collaboration within the municipality, for instance between accounting, technical, and procurement departments, to achieve collective expertise on the issue. Having found the source of funding, transparent procedures should be followed, and business models need to be feasible and economically viable.

POWERPOOR puts in the centre of the solution the use of joint energy initiatives and leveraging innovative financing tools. Therefore, the POWER FUND tool has been developed to facilitate the process of adopting the POWERPOOR approach in Energy Poverty actions. Innovative Collective Initiatives are chosen as they are powerful tools to improve energy-related conditions and accessibility, while at the same time, they can be a good alternative to individual or traditional financing methods. Moreover, the collective approach fostered by energy communities and/or crowdfunding initiatives is particularly appropriate to address the enormous challenges faced by energy poor citizens who wish to take action to reduce their energy consumption or improve the energy efficiency of their households.

An extensive repository of Financing opportunities for Sustainable Energy & Climate Action Plans can be found [here](#).

## Recommended

### *to utilise in Energy Poverty Alleviation Offices*

Municipalities can have a lot of benefits by combining the Energy Poverty Alleviation Offices, who can be at the core of their energy poverty alleviation actions implementation, with the extended network of certified POWERPOOR's Energy Supporters and Mentors who have the capacity to contribute in the decision making, the implementation and the facilitation of the innovative financing solutions.

## The POWER FUND tool

The POWER FUND, the third tool of the POWERPOOR toolkit, is a web-based tool aiming at familiarising energy poor citizens and local authorities across Europe with Collective Innovative Actions to tackle energy poverty. POWER FUND provides the users with an Online marketplace for Collective Energy Initiatives, such as energy communities and cooperatives, as well as an open space to learn about innovative financial schemes like crowdfunding, and how to use the potential of Collective Finance to overcome the economic and financial barriers hindering energy poor citizens from taking part in the energy transition. For instance, some of the actions that POWER FUND could facilitate could be:

- Support household owners to pay the large up-front costs of Renewable Energy installations and/or Energy Efficiency investments.
- Help lower the costs of Renewable Energy installations and/or Energy Efficiency renovations thanks to bulk purchases and economies-of-scale
- Assist off grid households and communities pull together the resources and capital required for capital-intensive off-grid energy projects investments
- Aid individuals in combining their buying power to purchase the energy at better prices on the wholesale market.
- Support citizens and key organizations to develop energy communities, with the energy poverty focus.
- Provide existing communities/cooperatives with resources to tackle energy poverty.



POWER  
FUND





POWER - FUND

The POWER FUND tool is accessible in 10 languages via

- the POWERPOOR website <https://powerpoor.eu/toolkit>
- the standalone POWERPOOR TOOLKIT page <http://powerpoor.eptua.gr/powerpoor-toolkit/>

#### More info

- A guide on the functionalities of the POWER FUND tool along with the methodology employed to develop it can be found [here](#) in Deliverable 2.4.
- Step by step instructions on how to use the POWER FUND tool can be found [here](#).

### Section “Collective Energy Initiatives”

Collective Energy Initiatives can be seen as tools that are able to provide users, i.e., individuals, including energy poor citizens, local and regional authorities, and communities / cooperatives, with three types of services:

- **Join a community:** A list of energy communities / cooperatives per country, with information about their pricing and management policies, the services provided to energy poor citizens, and the process to join and become an active member;
- **Create a community:** Guidelines on how an energy community can be established and operate by energy poor citizens and in close collaboration with local stakeholders, especially for the participating countries;
- **Operate a community:** Tips and tools to help users in managing and operating their energy community, including tools for monitoring data on energy consumption / production, and evaluating the performance of a city/community/buildings, in terms of energy efficiency);

### Section “Innovative financing schemes”

POWER FUND’s section of Innovative financing schemes provides the users with detailed information on crowdfunding and how to use it, through three main components:

- **Invest Citizens:** An introduction to crowdfunding providing information on what it is (types of crowdfunding, a brief explanation of how the process works, finding the right crowdfunding platform, namely the differences among platforms according to field of specialization, allocation of funding, costs, etc.) and how to pursue financing opportunities in order to implement sustainable energy interventions, such as energy efficiency measures in their

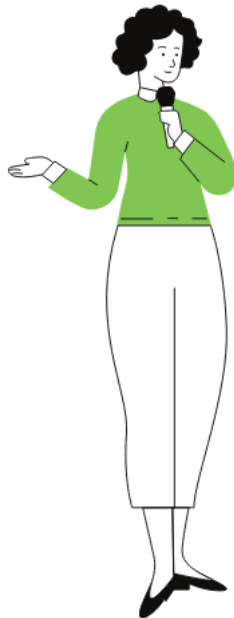
house/ apartment.

- **Funding Assistant:** A detailed guide users on how to create a Crowdfunding campaign, including how to choose your model (objective, funding target, incentives), how to prepare a campaign (target audience, marketing video, social media), how to manage a campaign (monitoring, audience engagement), and how-to follow-Up
- **Rising Capital:** A repository of relevant Investment opportunities (Crowdfunding campaigns) for citizens to examine and/or invest in, with all relevant info such as technology deployed, participation type (reward, lending and equity-based), location, and link to the hosting platform.

#### More...

Find out more about Collective Energy Initiatives and Innovative financing schemes in

- our library → [Module 3](#)
- the [POWER FUND tool](#)





## 8. Best practices