



### Final publishable report

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

May 2023

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# Work Package 6: Raising awareness, dissemination and communication

### Deliverable 6.6: Final Publishable report

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#### Introduction

#### 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)

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 **3**. 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 POWERPOOR approach

The main objective of the POWERPOOR project is to develop support programmes to empower energy poor citizens and to encourage the use of joint energy initiatives leveraging innovative financing schemes (e.g., establishing energy communities/cooperatives, using crowdfunding). POWERPOOR facilitates experience and knowledge sharing, the implementation of behavioural changes and small-scale no regret energy efficiency interventions as well as the uptake of renewable energy sources through energy communities and cooperatives, 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 trained and 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 encourage them to 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

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

<sup>&</sup>lt;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.



Energy Poverty Alleviation Offices (EPAO) are established in engaged municipalities staffed by POWERPOOR trained and certified Energy Mentors. The offices serve as a One-Stop-Shop of information for alleviating energy poverty using the POWERPOOR approach.

An ICT-driven toolkit i.e., the Energy Poverty Mitigation Toolkit is also developed to complement the support programmes. National Stakeholder 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 (SECAP), or any other action plan developed by municipalities to mitigate energy poverty in a local level.

Based on the experience gained and the lessons learnt from implementing POWERPOOR, EU policy recommendations and eight National Roadmaps have been developed, so that policy makers at all governance levels can be informed on the results of 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.

All the POWERPOOR project results and outputs are available in <u>the website</u>. The report at hand presents the POWERPOOR approach and outlines the main activities and results of the project.

### Tools and methods for mitigating household energy poverty

To empower energy poor citizens and support municipalities in alleviating energy poverty a set of tools has been developed which constitutes the Energy Poverty Mitigation Toolkit. The toolkit consists of three tools: the POWER-TARGET tool aiming at identifying energy poor citizens, the POWER-ACT tool aiming at assessing their energy consumption and proposing customised behavioural changes and low cost no regret energy efficiency interventions, and the POWER-FUND tool acting as a One Stop Shop of information for energy communities and innovative financing schemes including information and practical tools on how to set up and operate an energy community or cooperative, and all there is to know about setting up a crowdfunding campaign. The toolkit is complemented by the Energy Poverty Guidebook for Energy Planning that contains information on how to implement the POWERPOOR approach in local energy planning for municipalities. The POWERPOOR toolkit is open and can be used by anyone. It is used by the local heroes i.e., the POWERPOOR certified Energy Supporters and Mentors (more information can be found in chapter 3) during the home visits and by the local authorities also in the Energy Poverty Alleviation Offices (EPAO) (more information can be found in chapter 4) in each pilot country, but its use is also extended outside the network of Energy Supporters and Mentors to any interested individual.



The Energy Poverty Mitigation Toolkit can be found on the project website.

The POWER-TARGET tool can be used to identify energy poor citizens using a simple data-driven approach. The tool facilitates the identification of citizens, communities, neighbourhoods, or districts based on an enhanced 10% indicator that also considers qualitative criteria to assess energy poverty (e.g., thermal comfort). The POWER-TARGET tool is used during the home visits by the Energy Supporters and by the Energy Mentors for citizens visiting an Energy Poverty Alleviation Office. It is available in ten languages (English, Bulgarian, Hungarian, Croatian, Estonian, Greek, Latvian, Portuguese, Spanish, and Basque) and can be accessed via the POWERPOOR website (https://powerpoor.eu/toolkit) and through the standalone POWERPOOR TOOLKIT page (http://powerpoor.epu.ntua.gr/powerpoor-toolkit/). The detailed functionalities of the POWER-TARGET tool along with the methodology employed to develop it and a guidebook on how to use it can be found here in Deliverable 2.2 that is available on the website.



#### **POWER ACT**



The POWER-ACT tool can be used to assess the energy profile of vulnerable citizens. Requesting simple quantitative input (e.g., the annual energy consumption of a household) complemented by gualitative input (e.g., the households' thermal comfort) the tool gives customised advice on behavioural changes and small-scale energy efficiency interventions that can be easily implemented to lower the energy costs and enhance the energy efficiency status of a household. In case behavioural changes and small-scale interventions cannot significantly mitigate energy poverty on a household level, then the user can be redirected to the POWER-FUND tool to find out how they can use innovative financing schemes or how they can benefit from their engagement in energy communities or cooperatives. The tool is available in 10 languages (English, Bulgarian, Croatian, Hungarian, Greek, Estonian, Latvian, Portuguese, Spanish, and Basque). It can be accessed via the POWERPOOR website (https://powerpoor.eu/toolkit) and the standalone POWERPOOR TOOLKIT page (<u>http://powerpoor.epu.ntua.gr/powerpoor-toolkit/</u>). 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 and step by step instructions on how to use it can be found here.

#### POWER FUND



Collective initiatives are powerful tools to improve energy conditions and accessibility, making them a good alternative to traditional financing methods. 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. It is also a dedicated space offering information 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. It acts as a One Stop Shop of information for collective energy initiatives and innovative financing schemes as well

as an online marketplace with available information on energy communities and cooperatives across Europe. The POWER FUND tool is accessible in 10 languages (English, Bulgarian, Hungarian, Croatian, Estonian, Greek, Latvian, Portuguese, Spanish, and Basque) via the POWERPOOR website (<u>https://powerpoor.eu/toolkit</u>) and the standalone POWERPOOR TOOLKIT page (<u>http://powerpoor.epu.ntua.gr/powerpoor-toolkit/</u>). A guide on the functionalities of the POWER FUND tool along with the methodology employed to develop it can be found <u>here</u> in Deliverable 2.4 and step by step instructions on how to use the POWER FUND tool can be found <u>here</u>.

#### Capacity building and multilevel knowledge creation

#### **Capacity building materials**

The POWERPOOR partners, who are experts in various fields in the energy sector, collaborated to gather pertinent information on how to mitigate energy poverty through joint energy initiatives, which they divided into four modules. The first module focuses on global and EU energy poverty concepts, policies, and multilevel governance, providing an overview of the POWERPOOR approach and the energy poverty mitigation toolkit, with a focus on the POWER-TARGET tool. The second module delves into energy poverty alleviation policies and practices, such as low-cost/no-regret measures for citizens, energy efficiency interventions, and the POWER-ACT tool. Module three explores the concept of energy communities/cooperatives, crowdfunding, and other joint initiatives, highlighting best practices and innovative approaches, along with impact assessment tools like POWER-FUND. Finally, Module 4 centres on planning energy poverty actions at the local level and incorporating energy poverty into sustainable energy and climate action planning and urban sustainability policies, using resources like the Climate System Innovation Tools and the Energy Poverty Guidebook for Energy Planning. You can find the 4 modules here: 1, 2, 3, 4.

The POWERPOOR partners also shared their knowledge and created the Online Trainer Library that contains interesting documents about energy poverty alleviation practices or policies, energy communities or cooperatives, and innovative financing schemes. The library can be utilised by municipalities and individuals alike. It is equipped with a filtering option so 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 it is connected to, and they want to further explore. The Online Trainer Library is accessible <u>here</u>.

#### Bringing forward the local heroes

Stakeholder engagement is essential when implementing change following a bottomup approach. This is especially true 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.



In addition to involving stakeholders and gathering information, POWERPOOR seeks to identify and empower individuals as Energy Supporters and Mentors, who can take a grassroots approach to combatting energy poverty in their local communities. These motivated individuals undergo training and certification by POWERPOOR trainers through online, onsite, and face-to-face seminars and webinars. The network of Energy Supporters and Mentors plays a crucial role in supporting energy poor citizens, and their trained and certified status sets them apart from others. A list of the Energy Supporters and Mentors is available <u>here</u>. The list includes Supporters and Mentors from the 8 POWERPOOR pilot countries, across EU, and other interested individuals from other countries that followed the trainings (e.g., Armenia, Georgia, and Albania).

Both the Energy Supporters and Mentors are local heroes in their communities and regions, but their roles slightly differ. 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. They conduct home visits using the knowledge acquired during the training and using the POWERPOOR toolkit. The 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 on a city level staffing the Energy Poverty Alleviation Office (more information on the energy poverty alleviation office can be found in the chapter below).

#### Training the Energy Supporters and Mentors

Interested individuals in the 8 national countries and across Europe were trained and certified through POWERPOOR. In total more than 2000 people got trained across EU and 1174 of them also got certified as Energy Supporters and, Mentors. The number of Energy Supporters and Mentors in each country and in at EU level is presented in the table below.

	No of Energy Supporters and		
Country			
	Mentors		
Bulgaria	209		
Croatia	91		
Estonia	101		
Greece	246		
Hungary	84		
Latvia	26		
Portugal	142		
Spain	180		
EU	95		
Total	1174		

#### Table 1: Number of Energy Supporters and Mentors in each country

To effectively train and support all the interested individuals, especially during the

Covid-19 pandemic, online tools were used to enhance participation and make the trainings interesting. For this reason, the 4 modules were also complemented with material dedicated to facilitation and soft skills development customised for the training of Energy Supporters and Mentors, available <u>here</u>.

Overall, several training activities took place, both online and on-site as presented in the table below.

Training activities	Number of activities	Number of participants	Number of Energy Supporters and Mentors
TRAINING	33		
F2F	16	2069	1174
Webinar	18	2009 1174	
Total	66		

#### Table 2: Number of training activities in total

The POWERPOOR training sessions take approximately 7.5 hours to be completed. The training materials were customised according to the audience needs (e.g., general public or people working for municipalities) and they were also customised to the special conditions of each participating country.

The Energy Supporters and Mentors are trained and certified under the POWERPOOR certification scheme. You can find the POWERPOOR certification scheme <u>here</u>.

#### Engaging energy poor citizens in joint energy initiatives

#### Stakeholder engagement

The project involves a range of stakeholders, including local and regional authorities, representatives from alternative financing schemes, housing providers, social workers, health practitioners, civil society organizations, energy planning/service stakeholders, and academic/technical universities. The project aims to enhance the capacity building of local and regional authorities, improve energy poverty policies, and promote citizen cooperatives, crowdfunding, and other innovative financing opportunities. Housing providers, social workers, and health practitioners will be able to assist energy poor citizens by offering energy renovations and not-for-profit energy services. NGOs, institutions, and associations involved in energy poverty will be able to use POWERPOOR's tools, materials, and methods to engage more effectively with energy poor citizens. Finally, academia and technical universities will provide training for young engineers and scientists on sustainable energy planning, which will offer comprehensive benefits in capacity building while addressing energy poverty. 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 provide feedback to all the POWERPOOR activities both on a national and European level. They serve as nodes of information for the project results and activities, and communicate these results to a wider audience. The members of the Liaison Groups meet regularly to be aligned with any local, national, or European developments on energy poverty. They embody a



diverse group of stakeholders, including but not limited to representatives of municipalities, regions, energy agencies, universities, social services, non-governmental organisations, utilities and media. There have been 18 Stakeholder Liaison Group Meetings till now.

If interested in participating in or getting more info about your National Stakeholder Liaison Groups, click <u>here</u>

#### The home visits

The Energy Supporters and Mentors are at 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 diagnose and help the energy poor. Complementary material is also available to help them make the most out of the home visit as for instance this brochure with tips and tricks.

#### Spreading the word

For an effective implementation of bottom-up approaches, it is important to inform the public about the phenomenon and what the effort to mitigate it entails. In order to disseminate the actions of Energy Supporters and Mentors and to encourage the energy poor citizens to participate in the pilot support programmes the POWERPOOR project held Info Days in selected regions. Different target groups (building occupants, local authorities, politicians etc.) were approached through lectures, presentations, exhibitions, panel discussions and competitions. Stands with promotional material about energy efficiency, renewable energy, and energy communities/ cooperatives, and about the POWERPOOR support programmes were also available.

During the Info Days the Energy poor support programmes were presented, the Energy Supporters/Mentors were introduced, and the creation of the Energy Poverty Alleviation Offices (EPAO) was spotlighted to the interested parties.

#### The local Energy Poverty Alleviation Offices (EPAO)

For municipalities and local authorities to implement bottom-up change and be part of the solution in tackling the multi-faceted phenomenon of energy poverty, a multiand inter-disciplinary approach must be followed. The Energy Mentors can play a pivotal role as they are municipal employees, social workers, or interested individuals who can lead the way in such an approach. They are trained by the POWERPOOR project, and they can staff the Energy Poverty Alleviation Offices that are established across the eight pilot countries.

The Local E Energy Poverty Alleviation Offices (EPAO) act as a One Stop Shop of information on implementing the POWERPOOR approach in alleviating energy poverty. They can 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. The mentors can use the POWERPOOR toolkit and all the available materials to support the energy poor.

Additionally, in the Energy Poverty Alleviation Office, the benefits of implementing energy efficiency interventions and installing renewable energy sources are communicated, more energy efficient behaviours, practices and habits are encouraged, and the use of the Energy Poverty Mitigation toolkit is promoted also as a practical way of monitoring and guiding the progress. In total, there are 22 Energy Poverty Alleviation Offices; 2 in Bulgaria (Sofia, Plovdiv), 2 in Croatia (Zagreb, Križevci), 1 in Estonia (Tallinn), 6 in Greece (Messini, Souli, Almyros, Tripoli, Aspropyrgos, WeEnCoop Thessaloniki),2 in Hungary (Józsefváros, Terézváros), 1 in Latvia (Jelgava), 3 in Portugal (Ermesinde, Lisbon, Mértola) and 5 in Spain (Tolosaldea region, REC Hernani, Tierra Estella, Oarsoaldea region, Bergara).

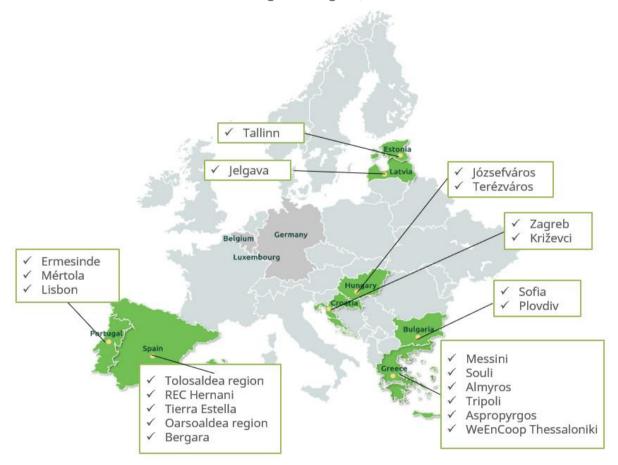


Figure 1: The local Energy Poverty Alleviation Offices across Europe

#### Impact, exploitation, and policy recommendations

#### Formalising the impact

The project pilot countries carried out in total 66 trainings to skill 1174 Energy Supporters and Energy Mentors. Of the 1174 certified Energy Supporters and Mentors in the Pilot countries and EU level, 385 were certified as Energy Supporters and 789 as



Energy Mentors. All this effort was a great opportunity to engage with enthusiastic individuals and create a broad network to support energy poverty alleviation. At the same time, challenges, such as the Covid-19 pandemic arose, that required coordinated and creative online solutions from the pilot countries.

The Energy Supporters and Mentors are at 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 diagnose and help the energy poor. On average, one Energy Supporter and Mentor visits about 15 households. Complementary material is also available to help the Energy Supporters and Mentors make the most out of the home visit. The energy Mentors can provide direct support as the Energy Supporters but also staff the Energy Poverty Alleviation Offices (EPAO) where people can reach out for a holistic guidance in alleviating energy poverty.

#### **Policy recommendations**

Based on the implementation of the POWERPOOR approach and the experiences and lessons learnt in the eight pilot countries, a set of policy recommendations has been created to formalise the approach and sustain the impact of tackling energy poverty through joint energy initiatives and innovative financing schemes in the long run. These recommendations aim to inform decision makers and policy makers on energy efficiency and sustainable energy, and how they can address the issue of energy poverty. The pilot countries have developed National Roadmaps to eliminate energy poverty, which aim to transition from social policies based on benefits to green policies based on grassroots investments and energy efficiency measures in the medium- and long-term. EU Policy recommendations have also been developed to summarise the key findings from implementing POWERPOOR and inform policy makers at the EU level. These recommendations consider a multilevel governance approach and aim to help policy makers formulate policies to alleviate energy poverty. The policy recommendations can be found <u>here</u> and the factsheets summarising the policy recommendations are available here. The national roadmaps have been co-created with a diverse group of stakeholders from the POWERPOOR National Stakeholder Liaison Groups at a national level.

#### The POWERPOOR Alliance

To sustain the project results, the network of Energy Supporters and Mentors, and the knowledge created by the project, the POWERPOOR Alliance both at national and at EU level will be developed as part of the exploitation plan. The network of municipalities and Energy Supporters and Mentors can be part of the POWERPOOR Alliance for energy poverty mitigation. 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 by the end of the project to better define the replication and exploitation activities of the project.

### Who we are

No	Participant Name	Short Name	Country code	Logo
1	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	NTUA	EL	
2	COMITE EUROPEEN DE COORDINATION DE L'HABITAT SOCIAL AISBL	HOUSING EUROPE	BE	HOUSING
3	ICLEI EUROPEAN SECRETARIAT GMBH (ICLEI EUROPASEKRETARIAT GMBH)	ICLEI EURO	DE	Local Governments for Sustainability
4	INTRASOFT INTERNATIONAL SA	INTRA	LU	
5	ENERGIAKLUB SZAKPOLITIKAI INTEZET ES MODSZERTANI KOZPONT EGYESULET	ENERGIAKLUB	HU	CLIMATE POLICY INSTITUTE APPLIED COMMUNICATIONS
6	DRUSTVO ZA OBLIKOVANJE ODRZIVOG RAZVOJA	DOOR	HR	ݢ DOOR
7	EESTI KORTERIUHISTUTE LIIT MTU	EKYL	EE	
8	BIEDRIBA ZEMGALES REGIONALA ENERGETIKAS AGENTURA	ZREA	LV	
9	INZEB ASTIKI MI KERDOSKOPIKI ETAIREIA	INZEB	EL	
10	DIKTYO POLEON GIA TI VIOSIMI ANAPTYXI KAI KYKLIKI OIKONOMIA	SUST	EL	
11	SOFIA ENERGY AGENCY	SOFENA	BG	SOFENA



12	COOPERNICO - COOPERATIVA DE DESENVOLVIMENTO SUSTENTAVEL CRL	COOPERNICO	PT	Coopérnico
	GOIENER S.COOP	GOIENER	ES	
	EUROPEAN CROWDFUNDING NETWORK	ECN	BE	ecn NETWORK