



SOCIALWATT

CONNECTING

OBLIGATED PARTIES

TO ADOPT INNOVATIVE SCHEMES TOWARDS

ENERGY POVERTY ALLEVIATION



D5.9

Final publishable report

March 2023



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PREFACE

SocialWatt aimed to develop and provide **utilities** and **energy suppliers** with appropriate tools for effectively engaging with their customers and working together towards **alleviating energy poverty**. SocialWatt also enabled obligated parties under **Article 7** of the Energy Efficiency Directive across Europe to develop, adopt, test and spread **innovative energy poverty schemes**.

SocialWatt contributed to the following three main pillars:

- 1 Supporting utilities and energy suppliers contribute to the fight against energy poverty through the use of **decision support tools**.
- 2 Bridging the gap between energy companies and social services by promoting collaboration and implementing **knowledge transfer** and **capacity building activities** that focus on the development of schemes that invest in Renewable Energy Sources / Energy Efficiency to alleviate energy poverty.
- 3 **Implementing** and **replicating** innovative schemes to alleviate energy poverty.



CONSORTIUM



ICCS	INSTITUTE OF COMMUNICATION & COMPUTER SYSTEMS	EL
IEECP	INSTITUTE FOR EUROPEAN ENERGY AND CLIMATE POLICY STICHTING	NL
RAP	REGULATORY ASSISTANCE PROJECT	BE
E7	E7 ENERGIE MARKT ANALYSE	AT
ISPE DC	ISPE PROIECTARE SI CONSULTANTA SA	RO
EDP NEW	CNET CENTRE FOR NEW ENERGY TECHNOLOGIES SA	PT
NATURGY	NATURGY ENERGY GROUP SA	ES
PPC	PUBLIC POWER CORPORATION S.A.	EL
CEZ VANZARE	CEZ VANZARE SA	RO
GREN	SIA GREN JELGAVA	LV
HEP ESCO	HEP - ESCO DOO ZA VODENJE I FINANCIRANJE PROJEKATA ENERGETSKE UCINKOVITOSTI	HR
EVISO	EVISO SPA	IT
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CONNECTING OBLIGATED PARTIES TO ADOPT INNOVATIVE SCHEMES TOWARDS ENERGY POVERTY ALLEVIATION

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1 INTRODUCTION

1.1 WHAT IS ENERGY POVERTY?

Energy poverty is broadly understood as the inability of households to maintain adequate levels of energy services at an affordable cost. Energy poverty is caused by the interplay of three main factors: low incomes, high energy need (due to inefficient housing) and high energy prices. Although each of these three factors is distinct, there is clear overlap and interplay amongst them. In addition to these three central causes, there are a large number of other factors that illustrate the regional, structural, economic and social specificities that can have a large bearing on energy poverty. These include, among others: extreme climatic variation, fuel availability, tenure, high housing costs, household composition, low levels of energy literacy and personal vulnerability leading to high energy need.¹

Energy poverty has a wide range of negative effects, including health and social well-being impacts. The inability to afford energy bills can result in energy rationing (both through temperature control to unhealthy levels and partial heating or cooling of the home), energy bill debt, disconnection, and debt or rationing on other areas of the household budget. Energy rationing and the inability to keep an inefficient home warm or cool can lead to unhealthy indoor environments. Low indoor temperatures, damp and mould all contribute to cardiovascular and respiratory health impacts.² Energy poverty has also been linked to negative impacts on social inclusion, educational attainment and mental health.³ Vulnerable groups such as young children, older people and those with a disability or long-term illness are particularly vulnerable to these health and well-being impacts.

Energy poverty affects 50 million people in the European Union⁴ although this figure is expected to be much higher given the current energy crisis. This reinforces the need for a just transition leaving no one behind.

¹ Sunderland, L., and Croft, D. (2011, June), *Energy poverty: Risks, conflicts and opportunities in the development of energy poverty alleviation policy under the umbrella of energy efficiency and climate change*, Eceee Summer Study proceedings, Presqu'île de Giens, France. Available at: <https://tinyurl.com/y4dffobj>

² See for example Marmot Review Team (2011), *The health impacts of cold homes and fuel poverty*. Available at: https://friendsoftheearth.uk/sites/default/files/downloads/cold_homes_health.pdf; and COMBI project. (2015). *D5.1 Report: Literature review on social welfare impacts of energy efficiency improvement actions*. Available at: https://combi-project.eu/wp-content/uploads/D5.1_final_20180505.pdf

³ Thompson H., Snell C., and Liddell, C. (2016), *Fuel Poverty in the European Union: A concept in need of definition?* People, Place and Policy, 10(1): 5–24. Available at: <https://extra.shu.ac.uk/ppp-online/wp-content/uploads/2016/04/fuel-poverty-european-union.pdf>

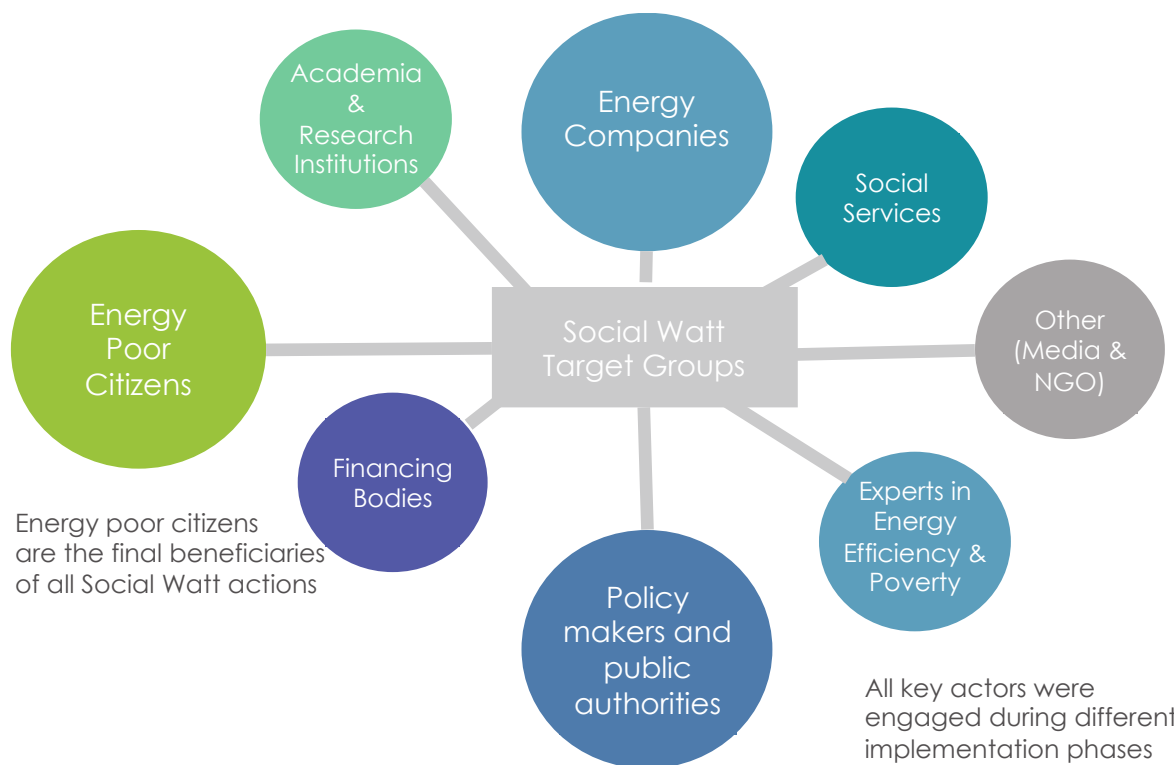
⁴ EPOV (2019), *Addressing energy poverty in the European Union: State of play and action*. Available at: https://www.energy-poverty.eu/sites/default/files/downloads/observatory-documents/19-06/paneureport2018_updated2019.pdf

1.2 SOCIALWATT IN A NUTSHELL

The aim of SocialWatt, a project funded by the EU's Horizon 2020 Research and Innovation Programme, was to enable energy suppliers, utilities, energy companies to develop, adopt, implement and spread innovative energy poverty schemes across Europe.

As shown in the figure below, SocialWatt involved a number of stakeholders during the different phases of the project, but energy poor and vulnerable households were the ultimate beneficiaries of the activities.

Figure 1: The SocialWatt stakeholders



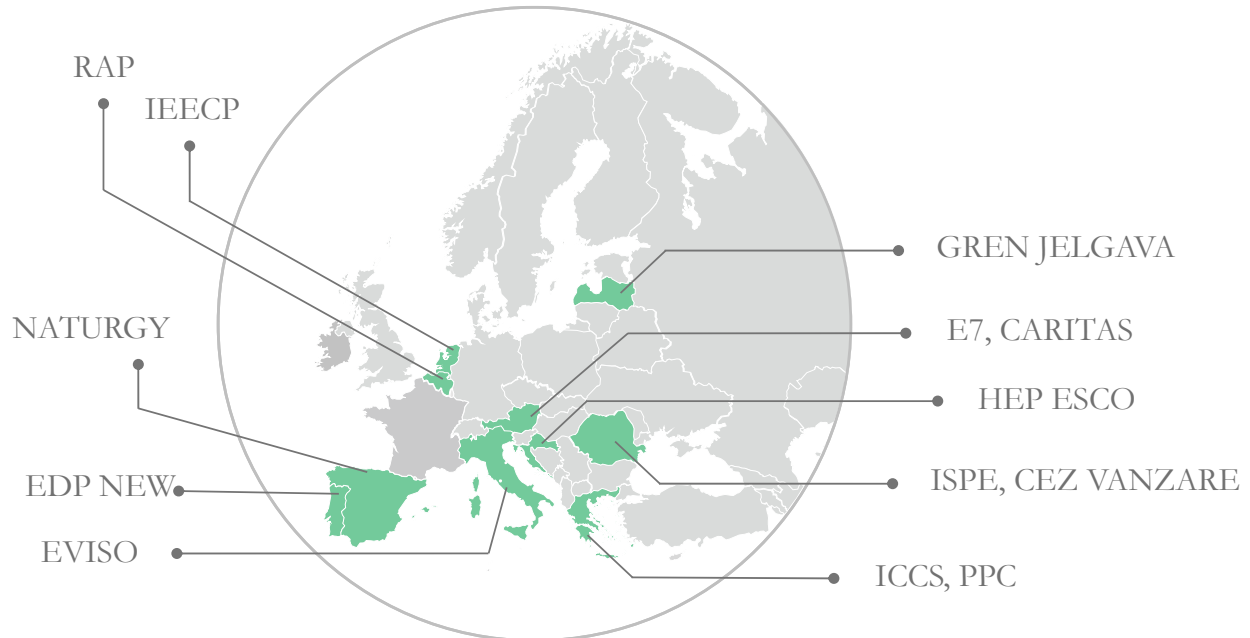
Three decision support tools were developed to facilitate energy suppliers, utilities, energy companies' efforts to alleviate energy poverty. These user-friendly tools can be used to identify energy poor households, select the most appropriate energy efficiency and renewable energy actions, design targeted schemes for energy poor households, monitor their effectiveness and evaluate their impact.

In parallel, the project focused on building the capacity and experience of energy suppliers, utilities, energy companies, and other relevant stakeholders, in identifying energy poor households and designing and implementing schemes to help these households escape energy poverty.

Most importantly, SocialWatt utilities and energy companies developed and published Energy Poverty Action Plans that outlined schemes to be implemented within the framework of the project. These plans were, in most cases, short summaries of more comprehensive internal plans that are still undergoing continued development. The SocialWatt partners, HEP ESCO (Croatia), PPC (Greece), eVISO (Italy), GREN Jelgava (Latvia), CEZ Vanzare (Romania), NATURGY (Spain) and EDP NEW (Portugal) developed twenty five schemes to

alleviate energy poverty, twenty of which were either fully implemented or launched within the duration of the project. The geographical scope of SocialWatt is shown in the figure below.

Figure 2: The SocialWatt geographical scope



Last, but not least, a number of activities were implemented to enable cross-fertilisation of learnings and trigger the design of effective schemes to alleviate energy poverty. In particular, the replication of the project activities and outcomes were promoted through bilateral exchanges with other utilities, energy companies and energy cooperatives, and also with national and regional energy agencies and associations across Europe.

To support the implementation of energy poverty schemes, the project partners also reviewed and made recommendations on relevant policy at both national and EU level. SocialWatt has published policy factsheets, policy briefs and policy guides, in particular reviewing national energy poverty policies and energy crisis responses in 10 countries. The project also contributed to the recast of the Energy Efficiency Directive through recommendations on increasing the Directive's provision for energy poor households.

The figure below summarises the SocialWatt objectives and activities implemented.

Figure 3: The SocialWatt objectives and key activities



2 SOCIALWATT TOOLS

Three different decision support tools were developed to facilitate utilities/energy companies alleviate energy poverty⁵:

- › **SocialWatt Analyser** for identifying energy poor households among clients;
- › **SocialWatt Plan** for evaluating the performance of several actions/schemes and selecting the most optimal ones to implement; and
- › **SocialWatt Check** for monitoring and assessing the effectiveness of schemes implemented.

Overall, the SocialWatt tools are a set of user-friendly tools, designed to be used jointly, in order to support utilities/energy companies efforts to alleviate energy poverty in an integrated manner. Nevertheless, these can also be used independently, to meet specific needs of users. Figure 1 below illustrates the interplay between the Social Watt tools.



It should be noted that the SocialWatt tools were developed after following a long process.⁶ Model requirements and specifications were developed, the tools were tested by developers and users and consequently, the tools were improved to meet users' needs and offer the necessary flexibility to users. A guidebook is available that outlines the key features of the tools, along with step by step instructions for their use.⁷

⁵ Available to download and use: <https://socialwatt.eu/en/socialWatt-tools>

⁶ Apostolis Arsenopoulos, Andriana Stavrakaki, Konstantinos Koasidis and Simos Ntanopoulos (2022), *D1.5 SocialWatt Decision Support Tools* https://www.socialwatt.eu/sites/default/files/socialwatt_tools/D1.5%20SocialWatt%20Decision%20Support%20Tools_final.pdf

⁷ Apostolis Arsenopoulos, Andriana Stavrakaki, Panagiotis Kapsalis & Konstantinos Koasidis (2022), *D3.3. Guidebook for the use of the SocialWatt tools* https://www.socialwatt.eu/sites/default/files/socialwatt_tools/D3.3%20Guidebook_final.pdf

2.1 SOCIALWATT ANALYSER

Overview

The main driver behind the development of SocialWatt Analyser was the lack of in-depth methodologies and numerical approaches for directly identify energy poor households. This is important, so that these households can benefit from targeted policies, rather than from indirect measures focused on providing mainly financial aid, which essentially does not deal effectively with the root of the problem.

As such, SocialWatt Analyser enables utilities, energy suppliers and energy service companies to:

- › Identify energy poor households, using customer energy consumption and energy cost data collected and held internally, as well as readily available data (such as statistical income data), computed data (e.g. energy needs), and other customer data (arrears on utilities etc.).
- › Extract in-depth information about energy poor households at national, regional and local level

SocialWatt Analyser incorporates six indicators for identifying energy poor households, i.e.: high share of energy expenditure in income (2M), low absolute energy expenditure (M/2), 10%, low income high cost (LIHC), arrears on utility bills and the SocialWatt indicator.

Within the framework of the project, a new indicator was developed, namely the SocialWatt indicator. The main driver behind the development of this indicator was that many indicators used more widely rely on income data. For these indicators, the use of statistical income data (local, regional or national) is less likely to accurately reveal energy-poor households. The SocialWatt indicator circumvents this issue with its two-stage analysis, as it first identifies households that are rationing energy, before assessing the share of energy expenditure in income. This is particularly important since energy companies do not typically collect household-level income data of customers.

Insights from its' use

SocialWatt Analyser enabled SocialWatt utility partners to analyse their customer data and identify levels of energy poverty within their customer base and which households are likely to be suffering energy poverty.^{8,9} In some cases, SocialWatt partners used the tool to identify

⁸ Louise Sunderland, Andriana Stavrakaki, Apostolis Arsenopoulos, Konstantinos Koasidis, Alisa Vlasa, Vlad Oprea, Dan Serban, Dominique Osso, Fabienne Boutiere, Ray Breen, Daniele Bergesio, Carlo Cigna, Valdis Rieksts-Riekstiņš, Igor Hegediš, Sandra Magajne, Camelia Vasile, Ester Sevilla, Almudena Laguillo, Palasa Amanatidou, Ioanna Giannouli, Froso Filippa, Jean-Sébastien Broc, George Stravodimos (2020), *D2.1 Evaluation of schemes to tackle energy poverty*
<https://www.socialwatt.eu/sites/default/files/news/D2.1%20Evaluation%20of%20schemes%20to%20tackle%20energy%20poverty.pdf>

⁹ Miguel Alves, João Bravo Dias, Andriana Stavrakaki and Apostolis Arsenopoulos (2022), *D2.5 Evaluation of schemes to tackle energy poverty by EDP*
<https://www.socialwatt.eu/sites/default/files/news/D2.5%20Evaluation%20of%20schemes%20by%20EDP%20NEW.pdf>

geographical regions that are likely to have a higher concentration of energy-poor households in order to focus area-based schemes.

In parallel, SocialWatt Analyser enabled partners to delve into the issue of identifying energy poverty by testing different indicators and selecting the most appropriate one(s) for their analysis, considering also the limitations associated with each indicator. Limited access to household-specific data, beyond energy use data, reduced the ability of partners to assess many of the common indicators of energy poverty accurately. Household income data was not available and aggregated regional average income data used instead was not granular or specific enough for household level analysis.

Overall, from the experience of the SocialWatt partners using SocialWatt Analyser the following should be noted:

- › Any analysis, calculation tool or assessment is only as good as the data that is put in. Although SocialWatt Analyser helped utilities/energy companies assess energy poverty within their customer base, the results are imperfect, especially for income-based indicators, due to the lack of household-level data on income.
- › Although the lack of income data made the analysis of many of the energy poverty indicators inaccurate, SocialWatt can support the successful assessment of the complex issue of energy poverty. For example, it can help identify energy rationing and arrears on utility bills, as well as geographical areas where energy poverty is more prevalent.
- › When using a tool like SocialWatt Analyser, the results need careful consideration and engagement. The ability to fully engage with, and therefore use, the results of the various indicators relies on a concrete understanding of the dynamics of the indicators and which ones are likely to be more or less suitable for the types of data available to the individual utility/energy company. Some of the indicators are based on complex assessments and each looks at a different aspect that can reveal energy poverty – e.g., low energy use, high use or arrears on bills. They, therefore, may deliver different and even contradictory results.

SocialWatt partners carefully considered the results obtained by the tool. However, most of the schemes designed within the framework of the project either targeted “vulnerable customers”, as these are well defined at national level, or households that are supported by social entities co-implementing the schemes.

2.2 SOCIALWATT PLAN

Overview

SocialWatt Plan aims to enable the evaluation of the performance and potential replicability of different measures considered to tackle energy poverty. In order to do so it incorporates a set number of actions, which include behavioural measures, low and high-cost energy efficiency actions as well as renewable energy sources, along with their estimated efficiency and implementation costs per country. It also incorporates different options that can be considered to finance such actions.

The tool enables the user (utilities, energy providers, energy service companies, but also other interested organisations) to identify optimal portfolios (in terms of costs and energy savings), comprising different combinations of energy poverty actions, along with

information on investment costs and the number of energy poor households that can benefit from each action. The optimisation process considers a set of customised targets and constraints and aims to minimise the investment cost from the users' perspective, as well as to maximise energy savings.

Insights from its' use

SocialWatt Plan was effective at introducing utilities to a range of potential schemes and providing input into the design of their energy poverty action plans. It also provided much-needed insight into the comparative cost-effectiveness of different interventions.

From the experience of the SocialWatt partners using SocialWatt Plan, key observations include:

- › The availability of a calculation tool like SocialWatt Plan can support the assessment of different energy efficiency and renewable energy interventions and inform the decision-making process. It is useful to help users consider a set of actions for implementation, as well as different options to finance these. However, it should be noted that the tool is limited by the actions it incorporates, so new or innovative measures are outside of its remit.
- › The cost-effectiveness calculations for each of the schemes assessed in the SocialWatt Plan tool are based on country-specific costs and other data. Therefore, the cost-effectiveness of schemes cannot be directly compared between countries on a like-for-like basis. Despite these, some common trends were observed:
 - Low-cost measures like efficient lighting, and the installation of smart thermostats, consistently appear to be the most cost-effective schemes (in terms of € per kWh savings) in the portfolios for SocialWatt partners.
 - Information and communication schemes were assessed as less cost-effective, as despite being low-cost measures, these trigger low levels of energy savings.
- › SocialWatt Plan calculates the savings generated by the measures within a 10-year investment period, not over the measures' lifetime. Measures that are installed in the early years of the portfolio therefore contribute more calculated savings than measures installed later in the investment period. Although this raises the value of early investment, which is positive, it can produce results that are not always directly comparable across scenarios. For instance it under values measures that have a lifetime longer than 10 years, like thermal insulation.

It should be noted that SocialWatt partners carefully considered the results obtained by the tool, which is why many of the recommended actions were selected. However, business strategies and priorities, as well as other risks and constraints (bureaucratical barriers or resource availability) steered the final selection of schemes implemented within the framework of the project.

2.3 SOCIALWATT CHECK

Overview

SocialWatt Check aims to assist users (e.g. utilities, energy providers, energy service companies and other stakeholders implementing energy efficiency schemes) to effectively monitor and evaluate schemes being implemented.

In particular, SocialWatt Check aims to enable users':

- › Monitor the effectiveness of schemes and evaluate their impact, in terms of energy savings, CO₂ emission reductions, energy cost reduction and increase in renewable energy production;
- › Track progress, identify in a timely manner risks/threats, exploit opportunities and safely meet targets in a sustainable way; and
- › Predict the long-term impact of schemes based on their current performance.

The approach selected for estimating energy savings is the 'deemed savings' method as described in Annex V of the Energy Efficiency Directive. This way, utilities also have the ability to test the actions they intend to implement during the design stage and gain insights on the expected outcomes of each scheme. Although, this "ex-ante" approach is based on estimations from the literature and similar actions implemented in the past, for schemes with a large number of participants, as is the case for utility-based actions, energy savings tend to be around average values, thus providing adequate accuracy to SocialWatt Check. All pre-defined parameters incorporated in SocialWatt Check are fully customisable by the user based on the users' specific needs and requirements.

Insights from its' use

The use of SocialWatt Check was limited within the duration of the project. A couple of utilities that were more advanced in the implementation of their schemes did use the tool and found it useful to calculate the impact of their schemes. However, in order to draw more insights a more extensive use of the tool is required.

3 SOCIALWATT SCHEMES TO ALLEVIATE ENERGY POVERTY

The seven SocialWatt utilities and energy companies, each developed an Energy Poverty Action Plan to guide their energy poverty alleviation work for the duration of the project and beyond.¹⁰¹¹

It is important to note though that these action plans were developed in challenging contexts for different reasons for each of the utilities. Common to all utilities were the challenges and uncertainty created as a result of the COVID-19 pandemic and the energy price crisis.

The schemes incorporated in each Energy Poverty Action Plan are summarised in the table below. Advice and low-cost measures like low-energy lighting were key elements of many of the schemes. There were also some examples of schemes that explored the use of 'smart' heat and building fabric monitoring and management technologies and the use of photovoltaics and heat pump technologies as energy poverty alleviation tools.

Table 1: SocialWatt schemes to alleviate energy poverty

Partner	Scheme	Details
HEP ESCO ¹²	Energy efficient lighting	› Providing three new energy-efficient LED bulbs per household
	Customer information	› Distribution of leaflets, and establishment of customer centres throughout Croatia to provide energy advice
	Social housing renovation program	› Renovation of social buildings in areas of special interest in Croatia, using the unspent solidarity charge funds

¹⁰ Louise Sunderland, Andriana Stavarakaki, Konstantinos Koasidis, Alisa Vlasa, Dan Serban, Vlad Oprea, Daniele Bergesio, Carlo Cigna, Valdis RiekstsRiekstiņš, Gundars Petersons, Solvita Duka, Igor Hegediš, Sandra Magajne, Camelia Vasile, Ion Chițescu, Ester Sevilla, Almudena Laguillo, Ioanna Giannouli (2022), *D2.2 Energy poverty action plans*
<https://socialwatt.eu/sites/default/files/news/D2.2%20Energy%20poverty%20action%20plans%20Revised%2005.04.22.pdf>

¹¹ Miguel Brito (2023), *D2.6 EDP NEW Energy poverty action plan*
<https://www.socialwatt.eu/sites/default/files/news/D2.6%20EDP%20Energy%20poverty%20action%20Oplan.pdf>

¹² HEP ESCO is an energy service company (not a supplier/utility). As HEP ESCO it is part of the biggest national energy company, schemes are being implemented in collaboration with HEP ELEKTRA.

Partner	Scheme	Details
PPC	Information campaign	› Brochure on the competitive advantages of heat pumps as a heating system alternative to oil boilers, distributed via energy bills
	Online platform providing recommendations on energy efficiency	› Interactive platform that collects information on customer demographics, appliances and energy behaviour and provides personalised information on major energy uses and appliances, and recommendations and tips for increasing energy efficiency › Vulnerable households to receive additional support to implement recommendations (e.g. through vouchers to replace a specific appliance)
	Programme on heat pumps	› Providing subsidy to PPC customers that invest in heat pumps. A higher level of subsidy available for energy poor and vulnerable customers
EVISO	CONNECT	› Broad communication campaign using videos, social campaigns, web pages and interactions
	EQUIP	› Provision of energy training to the staff of social services organisations to enable them to give advice to energy-poor households
	COUNSEL	› Trained social services staff visit households, answer questionnaires, provide energy advice and agree on a possible energy counselling session by energy experts from eVISO
	REPLACE	› Replacement of inefficient household appliances
GREN JELGAVA	Information and communication	› Informative brochures with energy-saving advice; recipients are prompted to respond to a questionnaire providing access to the Renovate Your Home scheme
	Energy efficient lighting	› Free set of LED lights to eligible households
	Smart building sensors	› Smart software installation in social housing that automatically optimises energy use in a building based on data from smart sensors within the building and online weather forecasts
CEZ Vânzare	Helping Hand	› Grant competition campaign to finance projects that aim to reduce energy poverty, designed in partnership with local charity
	Thermostats	› Thermostats offered to customers who will pay for them at fixed rates without interest (on-bill financing) › Offered to all customers (target: 2,000 households, of which 350 households are expected to be energy poor)
	Energy Efficient Lighting	› Provision of energy-saving LED bulbs to energy-poor households
	Information and communication	› Educational campaigns for children, customers and non-customers, on the efficient use of energy

Partner	Scheme	Details
NATURGY	Energy advice to customers	<ul style="list-style-type: none"> › Mailing energy-poor customers with energy efficiency and tariff-switching information, and offer of advice service › One-to-one advice by corporate volunteers, including the identification of intervention needs in homes such as insulation and low-cost efficiency measures
	Videos on energy efficiency	<ul style="list-style-type: none"> › Videos on reducing energy consumption shared with Naturgy's vulnerable customers, vulnerable customers identified by municipalities and clients of social services charities
	Brochures	<ul style="list-style-type: none"> › Brochures containing tips on energy efficient habits, distributed to customers on the social tariff
	Training energy advisers	<ul style="list-style-type: none"> › Courses for those working with local administrations and NGOs, and those who are unemployed to enable them to give energy advice to clients
	Photovoltaics	<ul style="list-style-type: none"> › Installation of photovoltaic panels in social housing buildings › Application of an innovation product to window glass to improve its insulation properties
	Kit of energy efficiency	<ul style="list-style-type: none"> › Distribution of a bespoke kit of low-cost energy saving measure working in collaboration with a national social charity
EDP	Energy Efficient Lighting	<ul style="list-style-type: none"> › Free set of LED lights to eligible households
	Energy Advice	<ul style="list-style-type: none"> › Use of specialized volunteers to provide advice on the best measures to improve household conditions
	Photovoltaics installation	<ul style="list-style-type: none"> › Installation of photovoltaic panels in social housing buildings

Amongst these schemes, there were some interesting elements of good practice for utility provision of energy poverty support. Several schemes were developed, and delivered, in partnership with NGOs and local authorities. Designing a scheme with an organisation that works with low-income and otherwise vulnerable households can ensure that the support offered, and communication channels and messages used, are appropriate. As these organisations were already providing a range of support services to households, energy poverty alleviation measures were added to other provisions, making it a cost-effective way to reach energy-poor households. Households thereby benefited from more complete, rounded services accessed in one place. In addition, NGOs are often trusted sources of advice and support, which improved the effectiveness of the energy poverty outreach and advice services.

Moreover, many of the action plans consisted of schemes that linked together in order to build a framework of support for eligible households. These linked schemes, in some cases,

had an element of mass communication to raise awareness of energy efficiency and familiarise households with the utility's, often new, role in providing assistance. These communications were then supported by further bespoke, one-to-one advice and/or energy efficiency measures.

Finally, on top of the schemes designed, HEP ESCO strategically targeted national decision makers to trigger the redirection of surplus funds of the Solidarity Charge in Croatia in energy efficiency interventions for vulnerable households, through special programs.

Following the design of the schemes and the development of the Energy Poverty Action Plans, SocialWatt utilities and energy companies launched the schemes and started implementing them. During the delivery of the schemes, plans were also adapted and revised when deemed necessary to reflect the experience gained and include adjustments for the improvement of the schemes. In parallel, their impact and effectiveness was monitored.¹³

The results and lessons learnt from the design and implementation of these schemes are valuable to inform the next generation of energy poverty schemes that will need to assist households not only to save energy but to fully decarbonise their homes. These are described in detail in Section 5.

¹³ Daniela Burnete, Ion Chițescu, Camelia Vasile, Anca Popescu, Adriana Milandru, Alisa Vlasa, Igor Hegediš, Sandra Magajne, Daniele Bergesio, Ester Sevilla, Almudena Laguillo, Valdis Rieksts-Riekstiņš, Ioanna Giannouli, Louise Sunderland, Andriana Stavarakaki, Apostolis Arsenopoulos, Konstantinos Koasidis, Panagiotis Kapsalis (2023), *D2.4 Review of the pilot implementation of innovative schemes to tackle energy poverty* <https://socialwatt.eu/en/node/112>

4 BUILDING CAPACITY AND KNOWLEDGE

SocialWatt focused on helping energy suppliers, utilities, energy companies and other interested stakeholders understand energy poverty, build their capacity, as well as exchange knowledge and experience to effectively identify energy poor households and design schemes to alleviate energy poverty.

4.1 UNDERSTANDING ENERGY POVERTY

Understanding energy poverty is the first step for tackling it. As such, a report was developed that reviewed and discussed the different definitions and indicators currently available to measure energy poverty at European and Member State level, including their strengths and weaknesses.¹⁴

The report also described for eleven European countries (Austria, Belgium, Croatia, France, Greece, Ireland, Italy, Latvia, the Netherlands, Romania and Spain) the causes, impacts and prevalence of energy poverty. It included relevant information, such as national climate, population and demographics, economy, residential building stock, energy markets and relevant policies, as well as energy poverty levels and characteristics.

Finally, the report presented a range of good practice case studies that illustrate different approaches taken to alleviate energy poverty. The focus was programmes delivered by or in partnership with an energy supplier providing the following types of support to energy-poor, low-income or vulnerable households: energy bill support or disconnection prevention, energy advice, low-cost energy-saving measures and energy efficiency or renewable energy measures.

It should be noted that this report was developed at the start of the project and has since been updated with the policy factsheets developed for 10 countries (see section 5.2.2).

4.2 CAPACITY BUILDING WORKSHOPS

The ultimate goal of these workshops was to sustain a process of individual and organizational change and development primarily within the consortium, but also beyond. In total eight capacity building workshops were implemented within the duration of the project, designed in a way to facilitate structured knowledge exchange between SocialWatt partners, whilst in parallel building the capacity of all participants.

Emphasis was given on providing training for the use of the decision support tools developed within the framework of SocialWatt, but also on presenting case studies of innovative schemes for energy efficiency/renewable energy investments that can be designed to target energy poor households.

In most of these workshops, external experts and other stakeholders were invited to present

¹⁴ Louise Sunderland, Catharina Wiese, Maria Elisabeth Brucklm, Dan Serban, Alisa Vlasa, Dominique Osso, Fabienne Boutiere, Peter Cabena, Pat Lennon, Georg Benke, Simone Pantaleoni, Daniele Bergesio, Carlo Cigna, Valdis Rieksts-Riekstiņš, Igor Hegediš, Andriana Stavrakaki, Symeon Ntanopoulos, Zoe Mylona, Vangelis Marinakis, Camelia Vasile, Daniela Burnete, Naturgy Foundation, Palasa Amanatidou, Ioanna Giannouli, Froso Filippa (2019), *D1.1 Report on the Status Quo of Energy Poverty and its Mitigation in the EU*

<https://socialwatt.eu/sites/default/files/2020-01/D1.1%20Status%20Quo%20of%20Energy%20Poverty.pdf>

best practices, methodologies, innovative approaches and case studies, but also learn from the project.

4.3 KNOWLEDGE TRANSFER THROUGH TRAINING SEMINARS

In order to trigger the implementation of innovative schemes to alleviate energy poverty more widely in Europe, SocialWatt also put emphasis in developing the capacity of other key actors and stakeholders, such as other utilities and energy companies, social services, consumer organisations, local and regional authorities.

In particular national training seminars were organised in Austria, Croatia, Greece, Italy, Latvia, Portugal, Romania and Spain, as well as at an EU level to enable the exchange of knowledge and experience.¹⁵ Many of the training seminars took place virtually due to the COVID-19 pandemic.

In terms of content most of these events:

- › Highlighted the benefits of implementing energy efficiency interventions and installing renewable energy sources.
- › Highlighted the importance of behaviour change and the benefits of implementing low-cost energy efficiency measures,
- › Presented case studies, especially innovative schemes and actions implemented across Europe to tackle energy poverty.
- › Invited local actors with a key role in energy poverty mitigation to present and share their experience.
- › Presented innovative schemes developed by the SocialWatt partners at a national level, including key conclusions from their implementation.
- › Presented the SocialWatt tools, in particular how these can support stakeholders in developing and implementing innovative schemes that aim to tackle energy poverty.

4.4 EUROPEAN CONFERENCE

Energy utilities, energy companies, social services, technical organisations, academic institutions, NGOs and other interested parties were also engaged and invited to participate in the European Conference that was organised within the framework of the project.¹⁶

The event aimed at sharing experience in designing and implementing energy efficiency schemes to alleviate energy poverty, and discussed how to address key challenges to scale up support to the energy poor.



¹⁵ SocialWatt partners (2023), *D3.5 Report on the capacity building and knowledge sharing*
<https://socialwatt.eu/en/node/113>

¹⁶ The recordings and presentations are available here: <https://www.socialwatt.eu/en/node/110>, as well as the report of the event: Ester Sevilla, Almudena Laguillo, Jean-Sébastien Broc, Andriana Stavarakaki, Louise Sunderland, George Stravodimos, Axelle Gallerand (2023), *D5.8 Minutes of the final conference*

The event included an opening session presenting the European context and experience in mobilising energy efficiency to alleviate energy poverty, followed by two panel discussions. The first one focused on designing and implementing schemes to alleviate energy poverty and how to make them effective and grow, whilst the second one focused on how to best finance deeper energy renovations for energy poor households. The event also included a workshop that focuses on monitoring and evaluating schemes, jointly organized with the Horizon 2020 project, streamSAVE.

5 TRIGGERING MORE ENERGY POVERTY SCHEMES ACROSS EUROPE

An important objective of the project was to prepare the ground for the replication of energy poverty alleviation schemes across Europe, as well as of SocialWatt activities, outputs and results to further contribute to the fight against energy poverty. This was achieved through tailored replication activities and activities aimed at informing and shaping EU and national policy.

5.1 REPLICATION ACTIVITIES

The aim of the replication activities was to ensure the successful transfer of knowledge and experience gained through SocialWatt, and in particular in developing and implementing innovative schemes to alleviate energy poverty.

Eleven different organisations across Europe participated in the replication activities. These included energy companies, energy cooperatives, regional authorities, and national and regional energy agencies.

Overall, replication activities consisted of at least two bilateral meetings per beneficiary.¹⁷ Due to the COVID-19 pandemic and the changes this brought across Europe, most bilateral exchanges took place virtually.

Bilateral exchanges focused on:

- › Familiarization with the beneficiary partner organisational in order to ensure a tailored bilateral experience, thus this included:
 - Exchange of information between participants, such as the size, organisational structure and practices, services provided, and resources available per SocialWatt partner and replication beneficiary.
 - Discussion on the strategic vision, as well as the energy and climate policy priorities of participants.
- › Presentation of the SocialWatt tools, functionalities, and outputs, including more custom-made support when requested.
- › Presentation of innovative schemes developed and implemented by project partners, including:
 - Lessons learnt from identifying suitable energy efficiency and renewable energy schemes and actions targeted to energy poor households.
 - Barriers in designing and implementing schemes, including economic viability, barriers for a successful roll-out, technical feasibility and legal implementation, along with solutions.
 - Discussion on how beneficiaries could design and implement similar schemes to alleviate energy poverty.

In a few cases, bilateral exchanges have given particular emphasis on scaling up or actually replicating SocialWatt schemes (for example replication activities in Italy focused on scaling up the four schemes developed by eVISO) as well as on developing new schemes (such as

¹⁷ SocialWatt partners (2023), *D4.4: Report on the exploitation and replication activities*
<https://www.socialwatt.eu/en/node/114>

the Austrian pellet stove for vulnerable households project in Austria).

5.2 POLICY ACTIVITIES

Several activities were realised in order to communicate and discuss key lessons learnt from implementing the SocialWatt schemes and the replication activities to national and EU policy makers and other stakeholders of programmes and initiatives aimed at tackling energy poverty.

5.2.1 POLICY WEBINARS

A series of webinars were organised for policy makers across Europe to discuss how energy efficiency schemes can tackle energy poverty, especially in the context of Article 8 (previously Article 7) of the EU Energy Efficiency Directive (EED).

This first webinar provided an update about the current proposal for the EED recast, and discussed what can be learnt from the available experience in this field.¹⁸

This second webinar provided an overview of the SocialWatt Analyzer tool developed for the project, presented the French and Italian observatory on energy poverty along with the Belgian barometer on energy and water poverty.¹⁹

This third webinar provided an overview of the lessons learnt from the SocialWatt plans and what can be done for Member States to scale up their energy efficiency measures tackling energy in the light of previous experiences of energy utilities, public authorities and NGOs.²⁰

5.2.2 POLICY FACT SHEETS

Numerous policy fact sheets were developed, analysing on-going policy measures relevant to tackling energy poverty in different Member States across Europe (i.e. Austria, Greece, Ireland, Romania, Spain and the UK).²¹

More specifically, each fact sheet included:

- › The background, i.e. whether there is a definition of energy poverty in the country, the latest data available about national indicators of energy poverty, and whether there is a national strategy, or flagship (or major) policies, to tackle energy poverty
- › The main crisis measures adopted to help households overcome the energy crisis, distinguishing measures for all households, and measures targeted on vulnerable groups
- › The main national energy efficiency measures that aim at alleviating energy poverty
- › Whether some of the policy measures reported to Article 7 EED also aim at alleviating energy poverty, and more generally discussing the role of energy companies

¹⁸ Recordings, presentations and the event summary are available here:
<https://www.socialwatt.eu/en/node/80>

¹⁹ Recordings, presentations and the event summary are available here:
<https://www.socialwatt.eu/en/node/91>

²⁰ Recordings, presentations and the event summary are available here:
<https://www.socialwatt.eu/en/node/99>

²¹ Jean-Sébastien Broc, Marco Peretto, Andriana Stavrakaki, Georg Benke, Sem Oxenaar, Almudena Laguillo Garcia Pelayo, Camelia Vasile, Miguel Brito (2023), *D4.6 Policy fact sheets*
<https://www.socialwatt.eu/en/node/108>

- › Interviews with national stakeholders or experts involved in assessing and/or tackling energy poverty in order to get an insight on recent developments.

5.2.3 POLICY BRIEFS

Various policy briefs were developed, and communicated to key EU, national and regional stakeholders, including ministries, energy regulatory authorities and energy agencies.

Three policy briefs were developed at an EU level, to inform and provide recommendations relevant to the recast of the Energy Efficiency Directive (EED). Two of these were developed jointly with ENSMOV (a project funded by H2020), in order to share the learning from both projects and make recommendations to improve the consideration of energy poverty through Article 8 of the EED.^{22,23} The final briefing outlined the new provisions across the EED to alleviate energy poverty and set out recommendations for national implementation once the Directive has been fully adopted.²⁴

Furthermore, a policy brief was developed for policy makers in each participating country, i.e. Greece, Austria, Romania, Spain, Latvia, Croatia, Italy and Portugal. Each brief included policy recommendations to facilitate the design and implementation of schemes for energy efficiency/renewable energy investments for energy poor households. It should be noted that briefs were developed at different time periods, in order to align with and inform EU and national developments in policy. Finally, an additional policy brief was developed with policy recommendations for actions to combat energy poverty based on the experiences of a social service organisation.²⁵

5.2.4 CROSS-CUTTING RECOMMENDATIONS

Key findings from the SocialWatt project are summarised in cross-cutting recommendations to the EU and Member States in the form of two policy briefs:²⁶

- › Time for a step change in the fight against energy poverty: This briefing provides an overview of the measures adopted by 10 countries to face the energy crisis, and the national energy efficiency measures they implement to tackle energy poverty, analysing the changes in the policies between 2019 and now, and identifying upcoming challenges.
- › Energy companies: key partners in alleviating energy poverty: This briefing summarizes the main lessons learnt from SocialWatt and interviews with 21 experts in

²²<https://socialwatt.eu/sites/default/files/news/Alleviating%20energy%20poverty%20and%20Article%207%20EED%20SocialWatt%20ENSMOV.pdf>

²³ Louise Sunderland, Samuel Thomas, *EU Policy Guide: The Energy Efficiency Directive Energy Savings Obligation and Energy Poverty Alleviation* (2021)

<https://socialwatt.eu/sites/default/files/news/Policy%20Brief%20EP%20and%20EEOSs%20ENSMOV.pdf>

²⁴[https://socialwatt.eu/sites/default/files/news/Briefing Implementing the new Energy Efficiency Directive to alleviate energy poverty FINAL2.pdf](https://socialwatt.eu/sites/default/files/news/Briefing%20Implementing%20the%20new%20Energy%20Efficiency%20Directive%20to%20alleviate%20energy%20poverty%20FINAL2.pdf)

²⁵ Louise Sunderland, Samuel Thomas, Andriana Stavarakaki, Konstantinos Koasidis, Daniele Bergesio, Carlo Cigna, Valdis Rieksts-Riekstiņš, Igor Hegediš, Sandra Magajne, Camelia Vasile, Ester Sevilla, Almudena Laguillo, Ioanna Giannouli, Georg Benke, Maria-Elisabeth Bruckl, Miguel Brito D4.3. *Policy briefs: Implementing innovative schemes to alleviate energy poverty* (2023)

<https://socialwatt.eu/sites/default/files/2023-03/SW%20D4.3%20policy%20briefs.pdf>

²⁶ Jean-Sébastien Broc, Louise Sunderland, Andriana Stavarakaki (2023), *D4.7 Policy briefs: Cross cutting recommendations* https://socialwatt.eu/sites/default/files/2023-07/SocialWatt_D4.7_PolicyBriefs.pdf

Europe about the role of energy companies in tackling energy poverty, and more specifically for energy efficiency schemes tackling energy poverty (special focus of SocialWatt).

Finally, the policy brief on implementing the new Energy Efficiency Directive to alleviate energy poverty has been updated. This analyses the new provisions in the recast of the Energy Efficiency Directive to alleviate energy poverty, and sets out recommendations for national implementation, building on the lessons learnt from SocialWatt.

6 SOCIALWATT LESSONS LEARNT

6.1 ROLE OF UTILITIES

6.1.1 UTILITIES AND ENERGY COMPANIES CAN HAVE A UNIQUE ROLE IN ADDRESSING ENERGY POVERTY

Utilities and energy companies can have a unique role in addressing energy poverty either through energy efficiency schemes they design and deliver or as delivery partners of schemes aiming to alleviate energy poverty. More specifically, they have pre-existing relationships with individual households that they provide energy to and established routes to contact and engage their customers.

They can also play an important role in identifying energy poor customers. Energy companies hold key data for each of their customers (e.g. energy consumption and cost data), data that could be used to identify energy poor households, particularly those that are energy rationing. Vulnerable households are well defined across Europe in national legislation and utilities have already identified vulnerable households within their customer database. Therefore, in the absence of a national definition of energy poverty, utilities can begin targeting measures to their vulnerable customers.

Utilities interests can be aligned with energy poverty alleviation, as reducing the number of energy poor customers also reduces bill debt and potential disconnections which are costly to utilities.

6.1.2 THE ROLE OF UTILITIES/ENERGY COMPANIES IN ALLEVIATING ENERGY POVERTY MAY BECOME MORE IMPORTANT OVER TIME

Article 8 of the proposed recast of the Energy Efficiency Directive (EED) requires Member States to trigger energy savings to benefit people affected by energy poverty. Member States can achieve this by implementing an energy efficiency obligation scheme (EEOS), other policy measures or a mix of these options. As EEOS consist of energy saving obligations imposed on energy distributors and/or retail energy sales companies, the role of utilities in energy poverty alleviation in some countries may become more important in the future.

6.2 TARGETING ENERGY POOR HOUSEHOLDS

6.2.1 THE ABSENCE OF A NATIONAL ENERGY POVERTY DEFINITION DOES NOT HAVE TO BE A BARRIER

It is important to have a national energy poverty definition to ensure prioritisation in policies and programmes. However, the absence of a national definition does not have to be a barrier to developing schemes.

A national definition offers clarity and enables the consistent measurement and monitoring of the issue, as well as informs the identification and targeting of energy poor households. However, when there is no definition of energy poverty or where there are ongoing governmental processes to (re)define energy poverty, utilities/energy companies and other stakeholders can rely on the pre-existing definition of “vulnerable customers” or on data provided by municipalities on households in receipt of benefits, or on targeting areas of deprivation or vulnerability, in order to define and assess eligibility for support in schemes designed for energy poor households. Utilities can also work with local partners who are already supporting households at risk of energy poverty to target services and support.



In the experience of the project, utilities/energy companies either used “vulnerable customers” as a proxy for energy poverty, or relied on social services to identify energy poor households.

6.2.2 THERE IS NO PERFECT INDICATOR OF ENERGY POVERTY

There is no one perfect indicator of energy poverty that is suitable for all countries and contexts, especially in the context of imperfect data. Each indicator has strengths and weaknesses, with varying sensitivities and distortions.

For instance, expenditure based indicators that aim to identify households spending a high proportion of their income on energy, fail to capture households that are rationing energy (a common coping mechanism for households in energy poverty) and have a relatively low energy expenditure as a result. On the other hand, the low absolute energy expenditure indicator identifies households that are energy rationing but it can also capture households that are not energy poor, such as households with low energy expenditure due to highly efficient homes or these being holiday homes or with energy costs either covered in other bills (e.g. in rent) or partially paid/subsidised by the municipality or state.

Therefore, different indicators that are most relevant to the country or regional situation should be considered in order to better measure energy poverty.²⁷

6.2.3 ENERGY CONSUMPTION DATA CAN CONTRIBUTE TO BETTER UNDERSTANDING ENERGY POVERTY

Utilities/energy companies have very granular data on each customer (except of district heating providers that often do not have energy data at a household level). Data on actual energy consumption can make a significant contribution to better analysis and targeting of energy poverty, particularly in identifying those who are energy rationing and those in arrears in energy bills.

It should be noted though that utilities/energy companies may not have comprehensive consumption data for each household, as some households may use a different provider for a different energy source (e.g. gas and electricity). In addition, utilities and energy companies do not have access to income data at a household-level. Without household level income data, making a full assessment of energy poverty, under a number of energy poverty indicators that rely on income data, is not credible. Both the availability of comprehensive consumption data and the choice of indicators are critical considerations when using energy consumption data to identify energy poor households.

Finally, compliance with the General Data Protection Regulation (GDPR) needs to be ensured before undertaking any analysis on individual households consumption data as well as when targeting households identified as energy poor.

²⁷ A more in depth discussion on energy poverty definitions and indicators is available here: Sunderland, L., *et al* (2019). Report on the Status Quo of Energy Poverty and its Mitigation in the EU. A report for the SocialWatt H2020 project. <https://socialwatt.eu/sites/default/files/2020-01/D1.1%20Status%20Quo%20of%20Energy%20Poverty.pdf>

6.3 ENGAGING ENERGY POOR HOUSEHOLDERS

6.3.1 UTILITIES CAN ENGAGE WITH ENERGY POOR HOUSEHOLDS IN A COST-EFFECTIVE WAY

Utilities and energy companies have at their disposal a relatively cost-effective and streamlined way to engage with energy poor households, as they are already in established contact with their customers, (by email, mail, online platform etc). Therefore, utilities/energy companies can provide energy savings information, as well as information on further support and signposting.

Nevertheless, if this communication channel is to be used effectively, trust issues need to be addressed, as often people are sceptical about information and support offered by energy providers and utilities, given that these are for profit organisations that essentially benefit from high energy consumption patterns. Building strong collaborations with organisations that people trust (such as social services) can help overcome trust issues.

6.3.2 THERE IS A NEED TO RAISE GENERAL AWARENESS OF THE IMPORTANCE OF ENERGY SAVINGS

In a number of the SocialWatt countries energy poverty is not a familiar concept and people are not yet aware of the opportunities and the benefits energy savings bring.

This was evident from the beginning of the project, so each SocialWatt partner had at least one scheme focusing on informing the public and customers on the multiple benefits that arise from adopting energy efficient habits, implementing energy efficiency interventions and installing renewable energy sources. Besides triggering behavioural changes and the implementation of low cost measures, this was also paramount to the uptake and success of the other schemes designed by each SocialWatt partner.

6.3.3 TWO-WAY COMMUNICATION IS IMPORTANT FOR EFFECTIVELY RAISING AWARENESS

Two-way communication can more effectively raise awareness on the importance of energy savings, and build knowledge on how to best achieve energy savings, than one-way communication. In particular, interpersonal communication ensures that information provided is understood and suitable for the specific householder context, whilst at the same time it gives the opportunity to energy poor households to communicate the challenges and problems they face, and discuss their needs and tailored solutions for them.

For this reason, most SocialWatt communication and information schemes were designed with an element of two-way communication.

6.4 FORMING DELIVERY PARTNERSHIPS

6.4.1 FORMING GOOD PARTNERSHIPS IS KEY FOR SUCCESSFUL SCHEMES

Forming good partnerships when designing and delivering schemes for the energy poor is key for successful schemes. In particular, working with local authorities, NGOs and/or social partners (social housing providers and social services) can help utilities/energy companies reach those in need and get over trust barriers. Working with technology companies and retailers brings expertise to the project and may help reduce the costs of implementation (to the customer and/or the utility/energy company).

All SocialWatt partners pursued collaboration with a range of partners, some of which were critical for the successful implementation of schemes.

eVISO developed a series of interlinked schemes for energy poor households in Italy within the framework of SocialWatt. The most important challenges faced in the design and implementation of these schemes, were successfully engaging social services organisations to participate in the schemes and winning the trust of energy poor households.

In order to win the trust of energy poor households and better reach and engage with them, three schemes relied on the partnership built with two social services organisations. These two organisations were well spread in the territory and well trusted by people, whilst in parallel had a good understanding of energy poor households' needs. The schemes that were implemented in collaboration with social services were: CONNECT, which focused on campaigns for informing energy-poor households on how to use energy more efficiently, EQUIP, which trained employees from the two social services organisations to enable them to give tailored advice to energy-poor households, and COUNSEL, which ensured that households were directly engaged and received useful advice from eVISO and the two social services staff and volunteers trained in the previous scheme.

The last scheme benefited from the collaboration of an appliance retailer to offer efficient household appliances at no cost to energy poor households. As such, REPLACE, helped energy poor households replace inefficient appliances.

6.4.2 IT IS VITAL TO RAISE AWARENESS ON THE IMPORTANCE OF TACKLING ENERGY POVERTY

In order to form strong partnerships, it is vital to raise awareness on the importance of tackling energy poverty, and how this can support existing priorities of different stakeholders.

SocialWatt partners found it paramount to help different stakeholders understand energy poverty and the importance of alleviating it, in order to establish partnerships and collaborations. This was particularly important when pursuing collaborations with social organisations, as these already have a full agenda and are under pressure to support their target groups. Energy poverty is not necessarily a priority for some of these organisations. Some may not even fully understand how poverty and energy poverty are interlinked, and how dealing with the latter can also contribute to alleviating poverty overall. As such, dealing with energy poverty is challenging for these organisations and may lead to a low response and participation from their side.

6.4.3 SOUND PARTNERSHIPS ARE NEEDED

In any partnership, there is always a risk that this may fall apart, which will impact the delivery of any scheme that relies in this partnership. Therefore, partnerships need to be well defined, well designed, built on trust and fostered over time. Building partnerships is a challenging and time-consuming process, so long-term prospects are also important to consider. Thus, when designing schemes, their sustainability needs to be carefully considered.

6.5 DESIGNING AND DELIVERING SCHEMES

6.5.1 SCHEMES SHOULD BE OFFERED AT NO COST TO ENERGY POOR CUSTOMERS

The cost for the consumer, continues to be a barrier for the implementation of energy efficiency/renewable energy interventions, especially more costly interventions. This is why schemes offered at low or zero cost to beneficiaries tend to be more successful and have a higher uptake.

Energy poor households generally do not have funds to invest in energy efficiency/renewable energy, even if their contribution to the cost within an incentive programme is low. In addition, energy poor households often do not have access to credit, so they cannot for example secure loans outside of the programme or participate in schemes that require beneficiaries to be in good credit. Therefore, schemes targeting the energy poor should offer solutions at no (or very low) cost.

In Romania, CEZ Vanzare, developed a scheme that offered customers the opportunity to purchase thermostats at no upfront cost, and to repay part of the cost gradually through on-bill financing. Despite having done market research, which implied that this was an appealing offer, customers were not interested and the uptake of this scheme was low. Even after taking corrective measures to deal with this problem, i.e. offering customers the thermostats almost half the original price, the uptake of the scheme continued to be low. This shows that the cost for the consumer is an important barrier that should be considered, especially for schemes targeting energy poor households.

6.5.2 FUNDING FOR ENERGY POVERTY SCHEMES IS STILL A CHALLENGE

There is a need to build experience in designing funding programmes that will facilitate the implementation of schemes, so that these are delivered at low or no cost to customers. SocialWatt partners pursued cooperation with financial institutions and other stakeholders, and explored different financial instruments (e.g. on-bill financing and revolving funds) in order to cover part of the costs of the investments. However, in most cases, these efforts were not fruitful. This is mainly attributed to the fact that energy companies/utilities are not experienced in collaborating with financial institutions and in using different financial instruments to fund schemes for customers.

In Croatia, HEP ESCO explored whether the ESCO model can be adaptable for low income households. The biggest barriers identified were associated with the application of an ESCO model to the household sector: small and dispersed savings potential in the household sector, high transaction costs, long payback periods and high risks for the ESCO for smaller projected investment returns. In addition energy-poor households are more likely unable to prove their creditworthiness. Hybrid models were considered more likely to be applicable for energy poor households, for instance utilising part of the "solidarity fund" budget in Croatia to cover part of the upfront investment. This would, however, require legislative change and a careful assessment of the impact of reducing short-term bill assistance in favour of longer-term investment.

6.5.3 IT IS IMPORTANT TO CONSIDER HOW A SCHEMES' IMPACT WILL BE ASSESSED

When designing a scheme it is vital to consider how its' impact will be assessed. This will help evaluate the effectiveness of the scheme and improve its design in the future. However, this is particularly problematic for low cost measures, where often the cost of verification and monitoring outweighs the cost of delivery.



7 SOCIALWATT RECOMMENDATIONS

7.1 POLICY RECOMMENDATIONS AT NATIONAL LEVEL

A number of recommendations have been formulated for policy makers at national level, in order to help them put measures in place to effectively tackle energy poverty.

7.1.1 NATIONAL POLICY AND LEGISLATION SHOULD TRIGGER MORE COMPREHENSIVE RENOVATION PACKAGES

National policy and legislation should support the development of more comprehensive renovation packages for energy poor households that can remove the risk of energy poverty and make significant energy and carbon savings.

Low-cost measures (providing LED lamps, basic energy saving packs etc.) have been preferred by utilities/energy companies in the SocialWatt project. The low cost and ease of delivering these measures compared to the complexity of designing schemes to deliver whole house retrofits are two reasons. In addition, utilities can find it difficult to justify large investments to benefit a small number of individual households when the costs are shared amongst all bill payers, preferring a programme that delivers smaller benefits but to a larger number of households. The structure of an Energy Efficiency Obligation can also encourage the delivery of smaller measures when a deemed savings approach can be used to report savings from smaller measures whereas deeper renovations would need to be evaluated with a more extensive ex-post assessment.

However, energy poverty cannot be alleviated by simple, low cost measures. A change in national legislation and policy is needed to ensure that energy poor customers benefit from more inclusive interventions and get offered broader renovation packages.

Recent changes in the EEOS in Ireland include, amongst other, the requirement that obligated parties meet specific energy performance standards when delivering energy efficiency measures to homes. In essence, this promotes deep retrofits to achieve eligible residential energy savings under the EEOS.

In parallel, the launch of the One Stop Shop Service by the Sustainable Energy Authority of Ireland (SEAI) is expected to lead the way to deep retrofits. One Stop Shops in Ireland are designed to offer a complete home energy upgrade solution for homeowners. They look after all the key stages of a home energy retrofit, from retrofit design through to project completion, including access to funding. As such, homeowners can use this service and significantly benefit from support provided at all stages of energy retrofits.

Interestingly, these changes, combined with Electric Ireland business priorities, has led Electric Ireland to move away from working directly with homeowners for home energy retrofits. Instead Electric Ireland is now using a delivery partner to meet its' targets under the Irish EEOS, i.e. Electric Ireland Superhomes. This One-Stop Shop was established in 2021 and it is a joint venture between Electric Ireland and the Tipperary Energy Agency. All energy credits generated by Electric Ireland Superhomes (under the SEAI Energy Supplier Obligation Scheme) are assigned to Electric Ireland and the monetary value of these is used to offset a portion of the costs associated with projects.

An added benefit to offering comprehensive renovation packages is that delivering a full package at each engagement with an energy poor household may also reduce the administration/engagement cost as a proportion of the investment.

7.1.2 MORE STABILITY IN NATIONAL LEGISLATION

Stability is needed in national legislation to facilitate utilities/energy companies design more efficient, and more sustainable energy poverty schemes. The development of energy efficiency/renewable energy schemes and the partnerships involved takes time, so utilities/energy companies should have sufficient time to design, establish, develop and scale up schemes. This is even more important in schemes that make use of finance mechanisms and involve multiple stakeholders in partnership to deliver comprehensive support for energy poor households.

For instance, longer EEOS periods and timely EEOS revisions will bring more stability and help avoid delays that cause significant problems in the design of schemes. In addition, this would also help schemes become more cost-efficient, as savings can only be counted during a specific period within the EEOS.

7.1.3 NATIONAL ENERGY EFFICIENCY/RENEWABLE ENERGY SCHEMES SHOULD BE INCLUSIVE

National energy efficiency/renewable energy schemes should be inclusive, not leaving energy poor households behind. As discussed previously, any cost to the energy poor is a huge barrier to the uptake of energy efficiency/renewable energy interventions. Therefore, national schemes should offer energy efficiency/renewable energy interventions at no cost for energy poor households.

If this is not possible, then combined financing should be enabled, e.g. benefiting from national measures and EEOS in a seamless way for households to access. For example, the framework in France allows subsidy from the national home renovation programmes to be combined with funding from the White Certificate schemes (national EEOS), local municipal support and low cost loans.

Alternatively, schemes/programs should have dedicated budgets for the energy poor, and should offer free support to access the scheme (for example to get a home assessment), and upfront funding rather than cash back.

Over the last two decades, a number of national energy efficiency programs have been launched and implemented in Greece for the energy upgrade of dwellings. A common characteristic of these programs has been that these provide a variable percentage funding of interventions depending on the households' declared family income. This aimed to ensure that households more in need receive more support, and are enabled to implement eligible energy efficiency/renewable energy interventions. More recently, the Exoikonomo 2021 programme included a separate budget for the lowest-income households (with the 75% grant rate) to ensure that energy poor households benefit from the programme and that available funds are not mainly absorbed by other applicants. The introduction of social and economic criteria in the application assessment process further supports this.

7.1.4 ENERGY POVERTY SCHEMES NEED TO BE PRIORITISED IN NATIONAL LEGISLATION

Energy poverty schemes cost more than schemes targeting other sectors or the wider household sector, to deliver energy savings. This is particularly true when these schemes are offered at no cost to energy poor customers. The proposed ringfence introduced under Article 8 of the EED recast is expected to lead the way in prioritising energy poverty schemes, but more can be done at a national level to dedicate limited public funds to prioritise energy poor households (in line with Article 22 of the EED recast).

7.1.5 FACILITATE THE DESIGN OF SCHEMES OFFERED AT NO COST TO THE ENERGY POOR THROUGH COMBINING FUNDING AND FINANCING

Measures should be put in place to increase the financial support/funding provided in energy efficiency/renewable energy schemes to the energy poor. These measures should aim to lift legal and bureaucratic barriers that hinder the use of different and alternative financial instruments to fund energy efficiency/renewable energy interventions.

For instance, under the EEOS, the co-financing of interventions could be facilitated if provisions are put in place so that credits from energy savings are split accordingly to all actors involved (e.g. the obligated party and the national authority).

As energy poor households are often not eligible to receive rebates and loans, another example would be national authorities' acting as guarantors, either directly to energy poor households or indirectly to energy companies/utilities to facilitate for instance on-bill financing.

7.1.6 IF UTILITIES/ENERGY COMPANIES ARE TO HAVE A KEY ROLE IN ENERGY POVERTY ALLEVIATION, A FIRM OBLIGATION SHOULD BE INTRODUCED IN NATIONAL LEGISLATION

Utilities/energy companies often lack of a key driver to contribute to the fight against energy poverty. Furthermore, competing priorities in utilities, difficulties in building a strong business case to target the energy poor and the fact that designing and implementing schemes is a complex and time-consuming process, do pose additional barriers. As such, it is not sufficient to rely on utilities/energy companies good will or Corporate Social Responsibility.

Even within an EEOS, without a firm obligation and target, utilities find it hard to prioritise energy savings for energy poor households, as these are costlier to deliver than savings in other sectors (especially if they have to cover the full cost of schemes). This is further supported by the lack of delivery on energy poor households under EEOS that contained an uplift.

In addition to this, even when utilities do engage in energy poverty alleviation work, there is a preference in low cost and single measures as mentioned above. Similarly one-way information and communication is often preferred.

Therefore, a clear obligation for utilities/energy companies to deliver energy efficiency/renewable energy schemes to the energy poor would enable them to have a central role in energy poverty alleviation.

Ideally, the obligation should be designed in a way to encourage two-way communication and deep-retrofits for energy poor households.

It is important to note that in the last few years, the capacity of utilities/energy companies to contribute to the fight against energy poverty has been susceptible to a number of unforeseen events, such as the COVID-19 pandemic, natural disasters, energy price crisis, and the war in Ukraine, making their ability to deliver long term schemes uncertain. This highlights the importance of ensuring that national government has a central role in tackling energy poverty. Other sectors and actors should also contribute to the fight against energy poverty, such as the construction sector, retailers, housing entities and social entities, as these may be in a privileged position to be part of some of the solutions.

In Croatia the biggest national energy company HEP, owned by government, had to take up a great financial burden for alleviating the impact earthquakes had in a number of areas. This caused financial difficulties for HEP and as a result hindered the development and implementation of schemes.

7.1.7 ESCAPING ENERGY POVERTY SHOULD BE EQUALLY IMPORTANT AS ESCAPING ENERGY POVERTY IN SCHEMES

The implementation of energy efficiency/renewable energy interventions in energy poor households may help households stop energy rationing and escape energy poverty, but at the same time result in lower (or no) energy savings compared to that of a typical household. Monitoring the actual energy consumption of energy poor households to evaluate the impact of schemes could therefore show no or low energy savings.

On the other hand, the actual impact of schemes on energy consumption cannot be evaluated when estimating energy savings on a theoretical basis (i.e. "deemed savings" approach), without requiring the measurement of energy use before and after the implementation of an energy efficiency intervention.

Therefore, when monitoring the effectiveness of schemes to alleviate energy poverty, different indicators should be used. Energy savings should not be the primary focus, but amongst other, the number of households escaping energy poverty, increased comfort, improved living conditions and health should also be considered.

7.1.8 UTILITIES/ENERGY COMPANIES CAN BE WELL PLACED TO ENGAGE WITH AND ADVISE GOVERNMENT

Utilities/energy companies can be well placed to engage with and advise government on energy efficiency and energy poverty alleviation, as they are key national stakeholders and experts in energy (production, efficiency, demand, use etc.).

For example, utilities/energy companies could participate in the network of experts on energy poverty to be established by Member States under Article 22 of the EED recast. However, it should also be noted that nationalised / state owned companies may not be in

a position to make firm recommendations and call governments to account.

HEP commissioned a study to perform an analysis of the solidarity charge in Croatia. One of the key recommendations was that surplus funds are redirected to fund energy efficiency interventions in vulnerable households, through special programs. This has triggered around EUR 7 million per year of investments in energy efficiency improvement projects for energy-poor households and social housing. National government considered this recommendation and decided to start a programme of social housing renovation that uses the unspent solidarity charge funds. The programme started early 2022 and will end by 2025.

7.2 RECOMMENDATIONS TO UTILITIES DESIGNING SCHEMES FOR THE ENERGY POOR

A number of recommendations have been formulated for utilities that plan to design schemes for the energy poor. However, these should be read in conjunction with the lessons learnt described in the previous section.

7.2.1 ENERGY COMPANIES/UTILITIES NEED TO ENSURE REGULATORY COMPLIANCE BEFORE DESIGNING SCHEMES

Energy companies/Utilities need to address any issues related to whether they can, and should, offer preferential offers to some customers and not others, before designing any scheme that aims to alleviate energy poverty. This is why, in some cases, SocialWatt schemes were designed for all customers.

7.2.2 ENERGY COMPANIES/UTILITIES NEED TO UNDERTAKE RESEARCH IN TO WHAT SUPPORT PEOPLE NEED BEFORE DESIGNING A SCHEME

Energy poverty schemes should be designed to cover specific needs of energy poor households, therefore understanding these needs and the different ways to address them is vital. Equally, it is important to understand the status quo in energy efficiency policy, and energy poverty alleviation on-going schemes, in order to identify opportunities and synergies.

For example, utilities/energy companies may benefit from collaborating with social services and supporting an on-going scheme or co-designing a scheme. Utilities/energy companies may identify an opportunity to design a scheme that meets specific needs, such as supplementing existing government grants for energy efficiency interventions so that energy poor households implement these at no cost.

7.2.3 ENERGY COMPANIES/UTILITIES SHOULD ESTABLISH STRONG PARTNERSHIPS WITH KEY STAKEHOLDERS

Energy companies/utilities should establish strong partnerships with key stakeholders in particular, with social services that can help better understand needs, effectively identify, target and engage energy poor households, and design more tailored and successful schemes.

CEZ Vânzare in Romania developed a scheme, named Helping hand, which launched a grant competition aimed to finance projects to reduce energy poverty. CEZ Vânzare developed this scheme in consultation with NGO stakeholders and the competition was organised in partnership with one of the NGOs.

In this way, CEZ Vânzare worked with organisations embedded in the community that understand vulnerable peoples' needs, whilst at the same time ensured it financed a project that effectively identified energy poor households, better addressed their needs, and was implemented by stakeholders that were best placed to do this.

After the successful implementation of the scheme, CEZ Vânzare decided to continue the scheme, without launching a new competition, but by providing further grants to the NGO to continue improving the energy efficiency of dwellings where energy poor people live.

7.2.4 ENERGY COMPANIES/UTILITIES SHOULD INVEST IN BUILDING THEIR CAPACITY

Energy companies/utilities should invest in building their capacity, especially in understanding energy poverty related issues, so that they can design tailored, schemes that they implement successfully, as well as in building the capacity of other key stakeholders (e.g. social services understanding energy efficiency).

Naturgy in Spain developed an Energy Vulnerability Plan, drawing from the experience of social entities and, at the same time, aiming to address the challenges faced when supporting vulnerable households and responding to social entities needs. A key need identified was building the capacity of social workers on energy efficiency and energy management. Key activities in the plan include: the Energy School, the Solidarity Fund for Energy Rehabilitation and corporate volunteering. These three basic pillars have facilitated the design of new schemes, within the framework of SocialWatt, to combat energy poverty and vulnerability.

7.2.5 ENERGY COMPANIES/UTILITIES SHOULD ENSURE THAT SCHEMES THEY DESIGN ALLOW AND FACILITATE COMBINED FUNDING/FINANCING

Schemes targeting the energy poor can be very expensive, especially if they are to be offered at no cost to the customer in order to facilitate their uptake. Therefore, utilities should explore alternative financing instruments, and support energy poor customers to use these in conjunction to the schemes designed, so that the cost of energy efficiency/renewable energy interventions is not prohibitive.