



**SOCIALWATT**

CONNECTING

OBLIGATED PARTIES

TO ADOPT INNOVATIVE SCHEMES TOWARDS  
ENERGY POVERTY ALLEVIATION



# D2.6

EDP NEW Energy Poverty Action  
Plan

**February 2023**



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[WWW.SOCIALWATT.EU](http://WWW.SOCIALWATT.EU)

# PREFACE

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

SocialWatt contributes 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.





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## CONNECTING OBLIGATED PARTIES TO ADOPT INNOVATIVE SCHEMES TOWARDS ENERGY POVERTY ALLEVIATION

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## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>7</b>
1.1	The SocialWatt project.....	7
1.2	Introduction to EDP Energy Poverty Action Plan.....	8
<b>2</b>	<b>EDP NEW Energy Poverty Action Plan .....</b>	<b>9</b>
2.1	Strategy and vision .....	9
2.1.1	National Energy Efficiency Policy .....	9
2.1.2	EDP's Social Responsibility Programs.....	9
2.2	Context and previous analysis.....	10
2.3	Scheme 1: Energy efficiency measures .....	13
2.3.1	Overview.....	13
2.3.2	SWOT analysis .....	14
2.3.3	Planning and resources .....	14
2.3.4	Risk assessment.....	14
2.3.5	Monitoring and evaluation .....	14
2.4	Scheme 2: Energy advice .....	15
2.4.1	Overview.....	15
2.4.2	SWOT analysis .....	15
2.4.3	Planning and resources .....	16
2.4.4	Risk assessment.....	16
2.4.5	Monitoring and evaluation .....	16
2.5	Scheme 3: Photovoltaic panels installation.....	17
2.5.1	Overview.....	17
2.5.2	SWOT analysis .....	18
2.5.3	Planning and resources .....	18
2.5.4	Risk assessment.....	18
2.5.5	Monitoring and evaluation .....	19
2.6	Interaction between schemes in the action plan .....	19

## Figures

Figure 1: The SocialWatt tools .....7

## Tables

Table 1: EDP schemes to alleviate energy poverty .....8

Table 2: Summary of EDP's schemes expected impact ..... 12

# 1 INTRODUCTION

## 1.1 THE SOCIALWATT PROJECT

SocialWatt, a project funded by the EU's Horizon 2020 Research and Innovation Programme, aims to enable energy suppliers and utilities to develop, implement and replicate innovative energy poverty schemes across Europe. More specifically, the project aims to enable energy suppliers and utilities build their capacity and use tools developed within the framework of the project to effectively engage with their customers and implement schemes that alleviate energy poverty.

Three decision-support tools have been developed and tested within the framework of the project to support utilities alleviate energy poverty:

- › SocialWatt Analyser for identifying energy-poor households among clients, based on utilities' real energy consumption and cost data as well as other readily available data;
- › SocialWatt Plan for evaluating the performance of several actions/schemes and selecting the optimal ones (in terms of cost and effectiveness) to design and implement; and
- › SocialWatt Check for monitoring and assessing the effectiveness of schemes implemented.

The SocialWatt tools are a set of user-friendly decision-support tools, with intelligible features to ensure ease of use. The three tools are designed to be used jointly to support utilities' efforts to alleviate energy poverty in an integrated way. They can also be used independently to meet specific needs. Figure 1 illustrates the interaction of the tools.



Figure 1: The SocialWatt tools

The SocialWatt utility partners have used the SocialWatt Analyser and Plan tools to support their analysis of energy poverty within their customer bases and assess the suitability of schemes and finance mechanisms to alleviate energy poverty. These results have helped inform utilities during the development of their energy poverty action plans. The plans of six of the utilities are accessible through the SocialWatt website,<sup>1</sup> whilst EDP's energy poverty action plan is presented in this report. The energy poverty action plans aim to guide the

<sup>1</sup> D2.2 Energy poverty action plans, <https://socialwatt.eu/en/newsandevents/energy-poverty-action-plans>

utilities' energy poverty alleviation work for the duration of the project and beyond.

## 1.2 INTRODUCTION TO EDP ENERGY POVERTY ACTION PLAN

EDP's energy poverty action plan is presented in this report, which is an integral part of a more comprehensive internal plan that is undergoing continued development.

It should be noted that the action plan has been developed in challenging contexts, most importantly the energy crisis due to the rapid post-pandemic economic rebound that outpaced energy supply, and the 2022 Russian invasion of Ukraine. As a result, utilities, including EDP, face new challenges, related to customers' high energy bills and an increased number of arrears on bills. The pandemic and social distancing have also created challenges for face-to-face support and in-home services that are part of the energy poverty alleviation schemes developed within this action plan.

The table below presents the three schemes EDP has developed and is included in its' Action Plan.

**Table 1: EDP schemes to alleviate energy poverty**

Scheme	Details
Energy Efficiency Measures	> Free set of LED lights to eligible households
Volunteering	> Use of specialized volunteers to provide advice on the best measures to improve household conditions
Res4All	> Installation of photovoltaic panels in social housing buildings



## 2 EDP NEW ENERGY POVERTY ACTION PLAN

### 2.1 STRATEGY AND VISION

#### 2.1.1 NATIONAL ENERGY EFFICIENCY POLICY

The majority of Portugal's energy efficiency policies and measures are triggered by EU policies and Directives. For example, the Energy Efficiency Directive (EED) mandates that Portugal must, amongst other:

- › Develop a national building renovation strategy and implement measures to improve energy efficiency in public buildings
- › Minimum energy efficiency standards and labelling for a variety of products, such as boilers and household appliances.
- › Ensure large companies regularly conduct energy audits and identify efficiency measures
- › Require energy suppliers to realise at least a 1.5% reduction of annual energy demand for final consumers through an energy efficiency obligation (EEO) scheme, or alternative measures that achieve the same savings

In this context, Portugal has decided not to develop an Energy Efficiency Obligation Scheme (EEOS) under Article 7 of the Energy Efficiency Directive (EED)<sup>2</sup>. Instead it has designed and implemented alternative policy measures to achieve energy savings among end consumers.

#### 2.1.2 EDP'S SOCIAL RESPONSIBILITY PROGRAMS

EDP has developed a global program called EDP Y.E.S – You Empower Society with more than 500 social responsibility projects and more than EUR 30 million invested worldwide annually. Under this global program, several projects have been developed, notably Energy Inclusion Spain and more recently Energy Inclusion Portugal.

EDP SICO (Social Impact Coordination Office) has already initiated its own program, the aforementioned Energy Inclusion Portugal, to help support energy poor households in Portugal. This initiative will start in 2023 with a 50-household pilot and a budget from EUR 2,000 to EUR 10,000 per household, and an overall budget of EUR 550,000. The plan is that this will grow further next year to a budget of EUR 1 million and a target of 100 households. The program will focus on 5 to 7 municipalities and will be developed by partnering with 3 to 5 NGO's. EDP's

Energy Inclusion Program offers energy efficiency training and solutions to families in energy poverty. These families will be selected either directly by the NGOs or through applications from social tariff clients. The target population will be low-income families and individuals living in a house where essential energy needs are not met in order to live in a comfortable environment. Energy Inclusion Portugal will be a 4-stage program composed by the

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<sup>2</sup> [https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/obligation-schemes-and-alternative-measures\\_en#schemes-and-alternative-measures-by-country](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/obligation-schemes-and-alternative-measures_en#schemes-and-alternative-measures-by-country)

following stages:

- › Audit: Identifying the main problems leading the family/household into Energy Poverty
- › Plan: Selecting the most effective trainings and solutions to tackle the problems identified
- › Training & Solutions: Triggering better habits and behaviours and offering solutions for improving the thermal envelope of the building and for purchasing efficient equipment
- › Assessment: Following up and evaluating the impact

The first two stages are coordinated and implemented by EDP, in particular EDP Comercial which has the expertise in the field, with the cost being fully covered by the project team, which is SICO. The planning phase is also supported by specialized volunteers from within the EDP group. These volunteers are part of a ten person committee, which taking into account the budget for each household and a pre-defined set and ranking of solutions, analyse and select the most appropriate measures for each household, to help improve its conditions. EDP NEW, within the framework of SocialWatt, has given input and feedback towards the planning phase.

The final two stages will be managed by the NGOs and again fully subsidized by EDP. In fact, as a way of incentivizing and motivating the NGOs and in order to accelerate the pace of implementation, all solutions will be subsidized at a rate of 115%, allowing the NGOs to generate a new revenue stream.

Solutions offered under this program include thermal insulation, wall or ceiling insulation, installation of heat pumps and LED lighting.

## 2.2 CONTEXT AND PREVIOUS ANALYSIS

The population of Portugal was 10.3 million in 2021, with 5.98 million households, representing a decrease of 2.1% and an increase of 1.7%, respectively compared to 2011. On average, households consume 3,360kWh of electricity per year, and a total of 7,241 kWh of energy per year<sup>3</sup>.

The National Long-Term Strategy for the fight against Energy Poverty, which is now under public consultation, defines energy poverty as the "lack of ability to maintain the household with an adequate level of essential energy services, due to a combination of low income, poor energy performance of the house and energy costs".

On the other hand, the concept of vulnerable customers is well established at a national level, so that these customers can be identified and offered benefits. For example, vulnerable customers are eligible to be included in the Electric Energy Social Tariff, which grants them a discount of 33.8 % (2022) in the electric bill excluding taxes. More specifically, in order to have access to the Social Tariff, the consumer needs to have an electric supply contract in their name, intended for domestic use in permanent housing, with electricity installed at normal low voltage equal to or less than 6.9 kilo Volt Ampere exclusively, and needs to receive one of the following types of support from social welfare:

<sup>3</sup> According to "Inquérito ao Consumo de Energia no Sector Doméstico" 2020

- › Solidarity supplement for the elderly;
- › Social Integration income (a benefit to protect someone who is facing an extreme poverty condition) <sup>4</sup>;
- › Social unemployment benefit;
- › Family allowance;
- › Social disability pension;
- › Old age social pension.

Moreover, the social benefit can be granted to the beneficiary if the total annual income of their household is equal to or less than EUR 5,808, plus 50% of this amount for each member of the household (up to a maximum of EUR 10,000) <sup>5</sup>. In February 2023 there were 801,394 beneficiaries of the Electric Energy Social Tariff in Portugal <sup>6</sup>.

Due to the absence of a national energy poverty definition, it was deemed important to assess whether EDP's direct customers included in the social tariff, are likely to also be energy poor. As such, the SocialWatt Analyser tool was used to analyse data from a total of 1,000 residential household customers under the social tariff (2021-2022). The analysis<sup>7</sup> identified a high number of customers, which are or were included in the Portuguese Social Tariff, as energy poor. Thus, **the focus of EDP's energy poverty alleviation work will be its clients that are also recipients of the social tariff and households identified as energy poor by social services or NGOs.**

Furthermore, the SocialWatt Plan tool identified three actions as the most appropriate to consider, under the cost driven assessment, with an optimal financing mechanism of crowdfunding<sup>7</sup>:

- › Efficient lighting - this action relates to the replacement of old inefficient lighting with LED lamps.
- › Smart thermostats - this action relates to the installation of thermostats that are enabled by Wi-fi or another (home area network) communications protocol to gather and transmit in-building temperature data in a two-way format that can be accessed remotely via a web portal or mobile application. Smart thermostats ultimately help achieve energy savings, without compromising thermal comfort of the occupants.
- › Photovoltaics (PV) - this action relates to the Installation of a small-scale PV system (i.e., 1-10 kWp of nominal power, selected according to the electricity needs of each building under study).

Based on the analysis from the SocialWatt Plan tool, and most importantly after considering business strategies and priorities, budget, risks and constraints, EDP NEW has selected to develop three schemes for energy-poor households:

<sup>4</sup> <https://en.seg-social.pt/social-integration-income-rsi>

<sup>5</sup> <https://www.dgeg.gov.pt/pt/areas-transversais/politicas-de-protecao-ao-consumidor-de-energia/tarifa-social-de-energia/quais-as-condicoes-de-atribuicao-da-tarifa-social-de-energia/>

<sup>6</sup> <https://www.dgeg.gov.pt/pt/areas-transversais/politicas-de-protecao-ao-consumidor-de-energia/tarifa-social-de-energia/estatisticas/>

<sup>7</sup> SocialWatt. (2022) D2.5 Evaluation of schemes to tackle energy poverty by EDP <https://www.socialwatt.eu/en/node/94>



- › Energy efficiency measures: Information and communication (focused energy advice for energy-poor households) and distribution of efficient lighting
- › Volunteering program, within EDP's established network of volunteering, to give sustainable energy advice to customers, including advice on the most appropriate retrofit measures on a case-by-case basis.
- › Photovoltaic panels installation: Self-consumption will be promoted with installations of photovoltaic panels in various buildings used by vulnerable people.

The table below presents the estimated impacts of the schemes. Energy savings, Renewable energy production and CO<sub>2</sub> emission reductions are cumulative for the duration of the scheme.

**Table 2: Summary of EDP's schemes expected impact**

	Total	Energy efficiency measures		Energy advice	PV installation
		Brochures	LED lighting		
Number of expected beneficiaries	605,000	605,000	60,500 <sup>8</sup>	9,000	1,050
Energy savings (GWh) (in final energy consumption)	106.76	3.31 <sup>9</sup>	95.39 <sup>10</sup>	8.06 <sup>11</sup>	
Energy production (GWh)	37.1				37.1 <sup>12</sup>
RES/EE Investments (millions €)	1.534	-	0.484 <sup>13</sup>	--	1.05

<sup>8</sup> From the 605,000 households that will receive the brochure, it is assumed that about 10% will request the free LED lightbulbs.

<sup>9</sup> From the 605,000 households that will receive the brochure, it is assumed that about 10% will read the information and 30% of them (i.e. a total of 3% of households that will receive the brochure, which is 18,150 households) will change their behaviour and/or implement low/medium cost interventions, with an expected impact of 5% on yearly energy consumption. Of these 18,150 households, 9,000 will get more personalized energy advice so energy savings are not accounted for these households in this scheme. The lifetime of the measure is assumed to be one year.

<sup>10</sup> Annual energy savings (which amount to 12.14 GWh) are calculated by estimating the difference in consumption between regular lightbulbs (assumed to be 60W) and LED lights, multiplied by 1460 hours per year (i.e. assuming around 4 hours of daily use in a year). The lifetime of a LED bulb depends on conditions and can vary from 10,000 hours up to 50,000. For the purposes of this action plan a lifetime of 10,000 hours has been assumed.

<sup>11</sup> Approximately 1% of customers that receive the brochure, contact the energy advice line and follow through with the implementation of the measures that the specialist recommended. Energy savings will be expected to be 895 kWh/year per client that implements the changes proposed in their household. The lifetime of the measure is assumed to be one year

<sup>12</sup> Assuming 1.05 MWp installed, an average yearly production of 1500 kWh per every kWp installed, a lifetime of 25 and a median degradation rate of about 0.5% per year.

<sup>13</sup> The price of the LED lights is estimated at around EUR 8.

	Total	Energy efficiency measures		Energy advice	PV installation
		Brochures	LED lighting		
CO <sub>2</sub> Emissions Savings (ktn) <sup>14</sup>	26.47	0.61	17.55	1.48	6.83

## 2.3 SCHEME 1: ENERGY EFFICIENCY MEASURES

This scheme combines promoting a shift to more energy efficient habits through the provision of information in a brochure, whilst in parallel it offers free LED lights.

### 2.3.1 OVERVIEW

Households that currently have Social Tariff will receive energy-saving and sustainability advice materials through the form of a brochure included in the invoice. This brochure will include a website link and a mobile phone number, which customers can access or call to receive further in-depth advice on energy efficiency and become eligible to gain a pair of free LED lights to further improve their household lighting efficiency. This will motivate the households to access the website or call the advice-line, and in the process enable EDP to further engage with them and help them implement the advice provided in their daily life. The brochures will be sent in batches and the scheme will be adjusted if its reception or impact is not considered sufficient.

There will be an estimated 605,000 beneficiaries in total, considering EDP's market share of the Portuguese electric market and the current number of beneficiaries under the Social Tariff. As indicated above it is expected that 10% of them will read the brochure and 30% of the ones that will read the brochure (3% of total beneficiaries) will adopt a new more energy efficient behaviour. Around half of the customers that will adopt a new more energy efficient behaviour will look for more personalized energy advice and are only accounted for in the following scheme.

The initial costs of this scheme are estimated around EUR 10 per customer, including the development of the brochures and the website, the LED lights and shipping of all the material. These costs can be reduced further by forming partnerships with key stakeholders and through economies of scale.

<sup>14</sup> Assumed carbon intensity of electricity of 0,184 kt/GWh.  
[https://apambiente.pt/sites/default/files/\\_Clima/Inventarios/2022FEGEEletricidade.pdf](https://apambiente.pt/sites/default/files/_Clima/Inventarios/2022FEGEEletricidade.pdf)



### 2.3.2 SWOT ANALYSIS

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Internal</b>	<ul style="list-style-type: none"> <li>- EDP has experience in providing advice and developing informative material, as well as a backlog of material which can be used</li> <li>- Invoicing is already a channel of communication with customers</li> </ul>	<ul style="list-style-type: none"> <li>- It is a challenge to entice people to access the website and call the advice-line</li> <li>-- Difficulty in changing consumption habits</li> </ul>
<b>External</b>	<b>Opportunities</b>	<b>Threats</b>
	<ul style="list-style-type: none"> <li>- To engage customers and support them to implement energy saving advice</li> <li>- Positive public relations</li> </ul>	<ul style="list-style-type: none"> <li>- Usage of LED lights is hard to track</li> </ul>

### 2.3.3 PLANNING AND RESOURCES

Timeline:

- › Development of informational material and brochures: Q2 2023
- › Development of a webpage (within EDP's site) to distribute the informational material and offer the LED lightbulbs: Q2 and Q3 2023
- › First batch of brochures sent: Q4 2023
- › Remaining batches of brochures sent: Q1, Q2 and Q3 2024
- › Review the impact of this scheme and adjust for following quarter: Q1, Q2 2024

The customer care, legal, marketing and public relations departments will be strongly involved in the process, alongside external partners that can potentially support the scheme, like a provider of LED lights and a logistics/courier service to help with the distribution of the LED lights.

### 2.3.4 RISK ASSESSMENT

Risks related to the implementation of the scheme include:

- › People may not use the LED lights
- › It is not possible to differentiate the savings that originate from the LED bulbs from other savings

### 2.3.5 MONITORING AND EVALUATION

Key performance indicators:

- › Total number of customers reached
- › Estimated savings per customer
- › Total number of LED lights delivered

## 2.4 SCHEME 2: ENERGY ADVICE

### 2.4.1 OVERVIEW

EDP group has a vast and solid tradition of volunteering, with employees being able to spend 4 hours per month in volunteering campaigns which are supported by EDP, introduced through an online platform. These campaigns are generally well received and popular among employees. Therefore, to build on this tradition of volunteering and at the same time deal with the lack of provision of energy advice to energy poor customers, EDP plans to create a new volunteering activity.

This volunteering program will be responsible for responding to the calls received by the advice-line (i.e. promoted through the brochures distributed in the previous scheme) and will provide general energy advice on energy efficiency measures. The expectation is that 1% of the customers that receive the brochures on the invoice, will reach out either through the website or through the telephone number to get more detailed advice. This will amount to around 1% of the total Social Tariff customers, reaching 9000 beneficiaries.

Ideally, this activity will also allow households whose application is rejected by the Energy Inclusion Program, due to the lack of sufficient funding, to receive tailored support for planning appropriate energy efficiency measures. Combined with advice on which national funding program to apply for, this will still allow these households to indirectly benefit from applying to Energy Inclusion Program.

Considering an average of 30 minutes per customer during the 12 months of the year, each volunteer will be able to help 8 people per month. Therefore, for the scheme to work in the current conditions, around 100 volunteers per month will be needed. Considering already running volunteering programs and the current participation of employees, the number of volunteers required is reachable.

The current plan for this scheme is for this to run for 1 year, with the possibility of extension if participation by both customers and volunteers reaches its targets.

### 2.4.2 SWOT ANALYSIS

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Internal</b>	<ul style="list-style-type: none"> <li>- EDP's workforce is highly specialized in energy efficiency and can offer good advice at no cost</li> <li>- Volunteering initiatives already exist within the EDP group and time has been allocated for such activities</li> </ul>	<ul style="list-style-type: none"> <li>- Most people that will receive advice cannot afford energy efficiency interventions without national or other funding</li> </ul>
<b>External</b>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>- Raise awareness of the issue of energy poverty and how to best support vulnerable people</li> <li>- Positive interventions for energy poor households</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>- Low number of volunteers for this activity</li> <li>- Challenges in engaging households and/or making them follow the recommendations of volunteers</li> </ul>

### 2.4.3 PLANNING AND RESOURCES

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Timeline:

- › Development of the volunteering program: Q2 2023
- › Utilizing existing material for providing energy advice, volunteers will participate in a short workshop or training seminar to get better prepared for customer interaction: Q2 2023
- › Initial volunteering sessions: Q3 2023

The customer care, legal, marketing and public relations departments will be strongly involved in the process.

### 2.4.4 RISK ASSESSMENT

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Risks related to the implementation of the scheme include:

- › Low number of volunteers
- › Lack of engagement from customers and customers not implementing the energy advice given
- › Lack of funding programs, which may be a big roadblock to overcome.

### 2.4.5 MONITORING AND EVALUATION

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Key performance indicators:

- › Total number of customers reached
- › Number of customers per volunteer
- › Number of volunteers
- › Savings per customer
- › Number of renovation measures



## 2.5 SCHEME 3: PHOTOVOLTAIC PANELS INSTALLATION

### 2.5.1 OVERVIEW

The scheme consists of installing renewable energy sources (RES), namely photovoltaic (PV) panels in buildings where vulnerable people live. The scheme will build on the Energy Inclusion Portugal program, already being developed by EDP, by adding the installation of PVs as a new twist to it. The buildings targeted by this scheme will be mainly social housing, used for residential housing for vulnerable people. These are usually owned either by the government or by social entities. As such, this scheme will help energy poor households living in social housing benefit from reduced energy costs.

EDP has an ongoing relationship with many social service organizations, including amongst others Santa Casa de Misericórdia de Lisboa (SCML). SCML is an ideal partner for such a project, since not only do they have experience with energy poor customers, but also, they are one of the biggest building owners in Lisbon in terms of area and number of households.

These buildings will be used for the installation of PV panels covering part of the building electricity needs and excess production of energy will be shared with the surrounding neighbourhoods. This will allow customers who do not have the space or the funds to invest into renewable energy generation, to profit from the energy produced by these investments. Considering that social housing owned by government is usually located around one big neighbourhood, the number of households in energy poverty that can benefit from these investments could be high.

The PV panel installation will be fully subsidized by EDP, as part of a social program, and the area on the roofs of the buildings will be provided freely by the NGOs or governments who own the buildings to boost renewable energy production and increase the sustainability of their buildings. At the same time, the inhabitants will have a significant discount in their electricity bill due to the new generation installed. Surrounding neighbours will also benefit from this energy generation, as they will be offered energy at a discounted price. In parallel, EDP will be able to make a return on investment from selling the energy generated by the PV panels at a discounted rate. This would make this scheme self-sustainable in the long term. Similar initiatives already exist in Spain, where part of the community invests in PV panels while energy poor neighbours benefit from the generation through a discounted rate.<sup>15</sup>

In the first year, with a budget of EUR 200,000, which is 20% of what is already committed in the Energy Inclusion program for 2024, 200 kWp of PV will be installed, considering an average price of EUR 1/W for large scale PV projects. In the following years, with an expected budget increase from EUR 200,000 to EUR 350,000 for the second year and to EUR 500,000 for the final year of the program, a total of 1.05 MWp will have been installed. Considering that about 1 kWp of installed power is usually sufficient in self-consumption installations in Portugal, because the energy generated needs to be consumed in a fifteen minute span, otherwise it will be sold to the grid at little cost, approximately 1,050 households will benefit from this scheme.

Assuming an average yearly production of 1500 kWh per kWp installed, as calculated by the photovoltaic geographical information system (PVGIS)<sup>16</sup> in the Portuguese territory, the

<sup>15</sup> <https://espana.edp.com/en/news/2020/06/03/zaragoza-will-host-first-solar-neighborhood-spain>

<sup>16</sup> [JRC Photovoltaic Geographical Information System \(PVGIS\) - European Commission \(europa.eu\)](#)



total energy production per year would be 1,575 GWh for all installations. PV installations nowadays have typically a lifetime of 25 to 30 years with decaying production. For the purposes of the Action Plan, a lifetime of 25 years has been assumed, with a median degradation rate of about 0.5% per year<sup>17</sup>, thus cumulative renewable energy produced will amount to 37,1GWh.

### 2.5.2 SWOT ANALYSIS

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Internal</b>	<ul style="list-style-type: none"> <li>- EDP has well established relationships with social organizations that work on the field and have more knowledge on poverty</li> <li>- EDP has the capability to finance the project</li> </ul>	<ul style="list-style-type: none"> <li>- Communication and identification of energy poor people, will be carried out by social organizations</li> <li>- EDP will have to rely on a third-party company to plan each installation and install the panels</li> </ul>
	<b>Opportunities</b>	<b>Threats</b>
<b>External</b>	<ul style="list-style-type: none"> <li>- Establish new partnerships with interested social organizations</li> <li>- Increase the amount of renewable energy sources installed by the company and adding the extra capability to the grid</li> </ul>	<ul style="list-style-type: none"> <li>- Challenging environment where the cost will be fully subsidized by EDP</li> <li>- Old and ill-equipped social housing sometimes make it difficult to install panels</li> </ul>

### 2.5.3 PLANNING AND RESOURCES

Timeline:

- › Plan PV installations and identify households to be targeted: Q3 2023
- › Contact potential customers from the neighbourhood for benefiting from the schema: Q3 2023
- › Contact installation companies and inquire financial offers: Q4 2023
- › Install PV panels in social housing: Q1 2024
- › Measure the impact of the installations and prepare for next year's social project: Q2 2024
- › Repeat same planning process for two more years

### 2.5.4 RISK ASSESSMENT

Risks related to the implementation of the scheme include:

- › Potential problems faced during the installation process. However, these will be successfully mitigated, based on previous experience with such installations and dealing with similar issues, although this could lead to delays on the project implementation

<sup>17</sup> <https://www.nrel.gov/state-local-tribal/blog/posts/stat-faqs-part2-lifetime-of-pv-panels.html>

## 2.5.5 MONITORING AND EVALUATION

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Key performance indicators:

- › Number of households benefiting from the PV installations
- › Total energy cost savings per customer (EUR) as a result of consuming energy produced by the PV panels (EDP has access to the baseline energy bill of its customers)
- › Renewable energy produced
- › CO<sub>2</sub> emission savings
- › Satisfaction survey after the installation of the PV panels

## 2.6 INTERACTION BETWEEN SCHEMES IN THE ACTION PLAN

It is clear that the EDP schemes interact, in particular the first two schemes regarding information and communication. There are important synergies between these two schemes, which will hopefully strengthen each other, as brochures for social tariff customers will originate customers for the volunteers to help, and likewise the advice of the volunteers will lead customers request the LED lights offered and help them benefit from national energy efficiency schemes, but also EDP's PV schemes and Energy Inclusion Portugal.