ASSIST 2GETHER

Deliverable 5.4
ASSIST Action Report

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ASSIST 2GETHER

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1. Presentation of ASSIST Project

1.1 ASSIST overview and introduction

ASSIST is a 36-months European 'market activation and policy orientation' project to tackle fuel poverty and support vulnerable consumers. It intends to actively engage consumers in the energy market and positively change behaviour in relation to energy consumption and to influence design of policy at all levels to tackle fuel poverty issues.

Based on the conclusion of the Energy Citizens' Forum and of the European Vulnerable Consumers Working Group, the project intends to combine activities addressing both energy and social dimensions as fuel poverty is not only an energy issue nor can it be tackled in isolation of the bigger issue of poverty. More specifically, ASSIST strategic objectives are to contribute to:

- tackle energy poverty;
- reduce the main barriers of the energy market faced by vulnerable consumers;
- support vulnerable consumers to be more efficient with their domestic energy consumption (electricity and gas).

To fulfil its goals, the project foresees diversified and correlated research, networking and in-field actions, consistent with the relevant national and European scenarios. Among them, ASSIST intends to create a network of innovative professional figures supporting vulnerable consumers in their domestic energy consumption: **"Home Energy Advisor (HEA)"**.

1.2 "WP5 – ASSIST Action"

The fifth work package aims to design, implement and evaluate innovative support services for vulnerable consumers / energy poor on a country based level with a market-oriented and flexible approach (as recommended "projects based on behaviour change and efficiency should align with existing local initiatives)", through the implementation of pilot actions. The actions will be defined at National level with the support of the National Steering Committee and on the basis of the results of the national context analysis carried out in WP2 and of the market segmentation carried out at the beginning of the work package. The ASSIST actions will address 4.500 vulnerable consumers (750 per country). The tasks foreseen in the work package include:

- Market segmentation, that aims at assigning vulnerable consumers in market groups with common characteristics. It will act as a driver for the design of the actions.
- Designing, initiating and delivering the actions in each country.
- Evaluation of results: in order to assure reaching the set objective and performance indicators, the partners will closely monitor the development of and results achieved within the action.

1.3 Document overview and structure

The main purpose of this document was to present the first results of the implemented actions in the partner countries. However, due to some obstacles and issues in the delivery of the training course and of the action, it has been agreed to use it as a detailed planning of the actions.

After a brief introduction, relating the training of HEAs to the planned actions, for each country all the different types of activities related to the action are presented:

- Engagement strategies;
- Pilot actions;
- Other actions and synergies with other projects.

For all these points, the involved HEAs, the planning and the monitoring are described in detail for each partner country.

2. Introduction and common action planning/tools

ASSIST project foresees the development of innovative support services for vulnerable consumers/energy poor on a country based level with a market-oriented and flexible approach.

In order to do so, a series of categories of pilot actions has been designed in all partner countries, as described in deliverable D5.2.

The first activity related to tackling energy poverty is the engagement of vulnerable consumers, that not always are already involved in structured programmes. To do so, engagement strategies are a crucial preliminary step that can lead to the development of concrete pilot actions.

Moreover, some actions can be implemented directly by ASSIST project, but they remain closed in the domain of behavioural actions. However, since there are several programmes and projects both related to energy poverty and energy efficiency in the residential sector, when it is possible, ASSIST actions will be designed in cooperation with these project, in order to achieve better results.

So, the structure of the activities will be as follows:

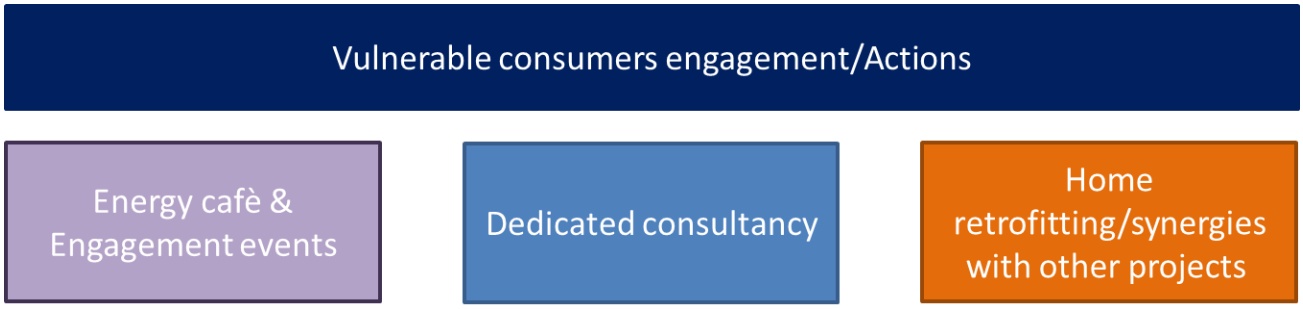


Figure 1 ASSIST activities and actions

2.1 Engagement strategies

Engagement strategies are defined as general events where participants receive advice in the form of “factsheets” or similar material, that can lead to smaller energy savings, mostly related to simple behavioural actions. Examples of factsheets that can be distributed are those related to tips on how to optimize electrical appliances use, how to improve heating systems controls, etc…

These activities will not be counted as “ASSIST actions” in the sense that their results will not be directly measured and thus will not count as resulting in up to 7% savings, as per the project goals, but will only be considered in the goal of reaching 2,000 consumers that will save 2% energy. According to some partners simulations with real data, the combination of tips given in the distributed factsheets and in the general advice (through presentations,

demonstrations, etc) can lead to savings up to 10% if applied all together, starting from a reference point of average consumption. However, considering personal preferences and different behaviours, only 2% savings will be estimated for this group.

2.2 Dedicated consultancy

The category called “dedicated consultancy” is the real ASSIST action, that counts for the results of 7% savings. Depending on the type and number of HEAs, in the different partners countries, it can be developed in various ways:

- Home visits;
- Help desks consultancy;
- Customized calls;
- Customized e-mail advice;
- Other means.

It is characterized by the use of a questionnaire or other means to establish a baseline and by a deep follow-up, performed in a later stage (at least after 6 months), in order to monitor the results for at least 10% of the involved vulnerable consumers, that constitute the control group.

A series of suggestions will be given by the HEAs, in a customized way that considers the household structure and habits, the dwelling type, their current access to financial or other support mechanisms, etc… These suggestions will be integrated with other support activities, e.g. the request of financial measures, the identification of a more convenient energy contract, etc…

2.3 Synergies with other projects

In addition to the above described activities, there can be interactions with other projects that don’t necessary fall into the identified categories of engagement strategies or dedicated consultancy.

It can be, for example, an activity of energy education inserted in a program of social housing structural retrofitting. More details will be provided in the specific countries paragraphs.

2.4 Summary of the activities

A summary of the possible activities (with just some examples of each type) is reported in Figure 2. The rounded figures highlight the savings goal of each type of activity. For example, for engagement events only 2% savings can be achieved, since few data are collected and there is no follow-up, unless vulnerable consumers agree to be included in a dedicated consultancy program.

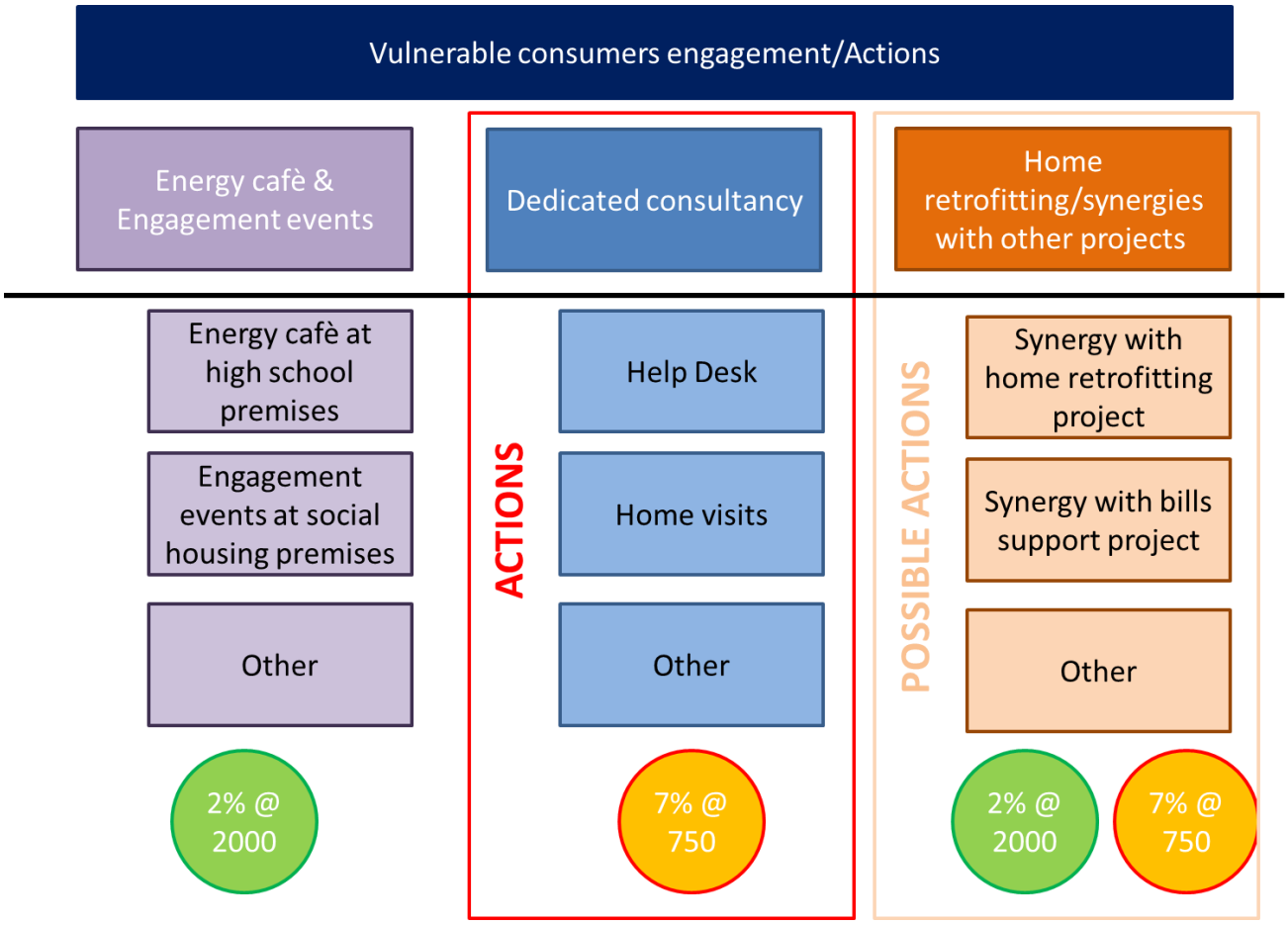


Figure 2 Summary of all possible ASSIST activities

2.5 Monitoring and reporting

Monitoring and reporting will be performed by HEAs mostly through the moodle platform, with a dedicated area. The building of the dedicated area and the KPIs are already described in deliverables D4.3 and D4.4, so they will not be repeated here.

Considering the action, monitoring of the results will generally be done as follows:

- Collection of baseline data, through an on-purpose developed questionnaire, aiming at identify the characteristics of the household, their energy consumption, their energy habits and their expenses;
- For at least 10% of the involved consumers, among those involved in dedicated consultancy actions, a regular follow-up will be performed, at least after 6 months from the baseline collection and first advice giving, up to 12 months after. This will allow to record energy consumption, comfort data, habits modification of vulnerable consumers and get results that have their roots in the real world.

3. Belgium

3.1 National and local initiatives to tackle energy poverty

Table 1 National and local initiatives to tackle Energy Poverty in Belgium

Acronym & Title	Start/ end date	National / Regional / Local level	Summary
Sociale energieëfficiëntie projecten, sociaal dakisolatieproject, isolatiecoach LEVANTO	ongoing	Regional	Improved grants for landlords of low income tenants who invest in energy efficiency measures. Initially targeted at roof insulation but extended to other energy efficiency measures. In the city of Antwerp, a "roof insulation coach" provided guidance to tenants who were willing to install the insulation themselves.
https://www.energiesnoeiers.net/sociale-premies.html			
Energielening via energiehuizen	ongoing	Regional	Loans for energy efficiency measures with a rate of 0% for low income households
Energiescans - Energiesnoeiers	ongoing	Regional	Regional network of energy efficiency auditors, who conduct energy audits and provide advice to reduce energy savings. The service is free for vulnerable households.
https://www.energiesnoeiers.net/energiescan.html			
Business & Poverty	2014-2017	Local	Commercial initiative to create social business models in Belgium in collaboration with industry

http://i-propeller.com/our-work/business-poverty/			
Dampoort Knapt Op!	2014-2015	Local	Collective home renovation in the district Dampoort in the city of Ghent. The project specifically targeted low income homeowners. The renovations were financed using a rolling fund mechanism based on the principles of Community Land Trust (CLT). The initial investments (max. 30,000 EUR) is paid back with the surplus value of the house when the house is sold.
http://cltgent.be/projecten/dampoort			
Collectief Goed	2015 - …	Local	Collective deep renovation of nine houses in Antwerp using a cooperative investment model (cooperation Collectief Goed). The houses will be rented to low income households after renovation.
https://collectiefgoed.be			
Pilot of savings guarantee of energy efficient investments for low income households	2015 - 2017	Local	Collective home renovation pilot for low income households in the city of Ostend. The municipality guarantees that the energy costs saved after renovation equals the investment cost of the renovation. Targeted renovation measures are new condensing boilers or roof/attic floor insulation.
https://www.west-vlaanderen.be/kwaliteit/welzijn_/extradocumentatie/Externe%20partners/Paginas/EOS---autonoom-gemeentebedrijf-energiebesparing-Oostende.aspx			
Goed Plan		Local	Good Plan' is a project to owners of a rental property to fix all kinds of work (also energy efficiency). From small works (that remain too long undone) to a deep renovation. The coordination/support is free of charge.
http://www.heist-op-den-berg.be/www-heist-op-den-berg-be-goed-plan.html			

Warmer Wonen – RenBEN	2014-2017	Local	The project of South-West Flanders has the ambition to create a region with "Warmer Wonen": an energy-efficient region, with a high living comfort and lower energy poverty level
http://www.warmerwonen.be/renben			
RenoseeC Sint Amandsberg	2016-2017	Local	Collective home renovation in the district Sint Amandsberg in the city of Ghent by professional advice, support, group purchases,…
http://www.renoseec.com/			

Flanders already has a network of 'energy scanners', who have a profile very similar to the HEA-role envisaged in the ASSIST project. These 'energy scanners' are people who live or have lived in a vulnerable situation (so called experts by experience) and receive a 4-day training course by FLUVIUS. They give energy advice to vulnerable consumers. The system and the funding is imposed by the government, the practical implementation is coordinated by the DSOs.

There are different types of energy scans, with different fees for the DSO.

- *Basic energy scan*: Home visit to detect opportunities for energy saving, both behavioral as well as structural:
- Analysis of the house and electrical appliances;
  - Give tips how to lower the energy consumption, per room;
  - Make a report for the vulnerable customer with more practical tips;
  - Installation of a free 'energy saving package' (e.g. radiator foil, LED lamp, water saving shower head, tube insulation).
- *Follow-up scan type 1*: for vulnerable customers with really high energy bills:
  - Suggestion of additional modifications to the house/appliances;
  - Additional installation of small energy saving materials
  - Give information about how the free energy market works and guide the VC to the 'V-test' (where you can test, based on your energy consumption and location which energy provider is the cheapest).
- Follow-up scan type 2:
  - People who have the intention to renovate: insulation of the roof, new energy-efficient windows, energy-efficient heating.

As the funding is done by the DSO, the cost is calculated in the energy bill of all grid users. Including the vulnerable consumers. The funding is also limited to the 3 types mentioned above, so there's no room for additional guidance of the vulnerable customer in the current

situation. In addition, most vulnerable customers (about 80%) receive only a basic energy scan, without any follow-up.

Because of the close similarities between the profile and actions required by the ASSIST HEAs and the 'energy cutters', the ASSIST action in Flanders will be closely aligned with the activities of these 'energy cutters'.

3.2 VCSC institution

Stakeholders represented in the Belgian VCSC include:

- **FLUVIUS** (distribution system operator). Regarding energy poverty, DSOs have different responsibilities:
  - Working together with other parties (e.g. public welfare organisations (OCMWs), poverty organisations, etc.) to push back energy poverty.
  - Giving advice on rational energy use to vulnerable customers (amongst others).
  - In the Flemish regulations, it is foreseen that the DSO takes the role of social energy provider of last resort (if customers are 'dropped' by commercial providers).
  - DSOs install budget meters for customers who have difficulties in paying their energy bills.
  - In case a customer with a budget meter still cannot pay the energy bills, the DNB works together with a local advisory commission (including the social worker responsible for debt mediation) to look for solutions adapted to the situation of the customer. Only after a negative advice of the LAC can the customer be disconnected from the grid.
- **Herwin (KOMOSIE + SST). Komosie** (social economy umbrella organisation) coordinates a.o. the working of 29 organisations of 'energy cutters' ('energiesnoeiers', home energy advisor organisations working in the social economy). 20 of these organisations perform energy scans, 9 organisations are mainly concerned with implementing social home improvement actions. About 20.000 energy scans are performed on a yearly basis. There are 6 target groups that qualify for receiving a free energy scan (e.g. customers with a social tariff, customers with a budget meter, customers who rent at a price below a certain threshold value, customers in debt mediation who are at risk of being disconnected etc.).
- **Netwerk tegen Armoede** (network against poverty) is an umbrella organisation of groups fighting against poverty. The Netwerk tegen armoede is active within a network of OCMWs and vulnerable customers. The network is lobbying for structural solutions to poverty problems. In its activities, the network always insures that the voice of the vulnerable customer is represented and heard.
- **OCMW Antwerpen**. OCMWs (local social welfare organisations) are also active in the field of energy poverty. The perform many activities, e.g. organising a helpdesk, supporting people in the management of their debts (including energy debts), looking for adequate housing opportunities, etc.

- **SERV** (socio-economic council of Flanders). The SERV is the main advisory body to the Flemish government on Flemish socio-economic policy. It represents trade unions and employer associations. In 2016, the SERV published an advice on Flemish energy poverty policy.
- **STEBO** is a social profit organisation active mostly in the Limburg area in Flanders. STEBO carries out the free energy scans on behalf of Infrax, the local DSO. STEBO does not employ vulnerable customers in a role of 'energy cutters'.
- **Universiteit Antwerpen** (University of Antwerp) is the Flemish academic partner in Belgium contributing to the publication of the energy poverty barometer.
- **VEA** (Flemish energy agency). VEA follows up the implementation of numerous policy instruments aimed at alleviating energy poverty, e.g. take-up of subsidies and grants for energy efficiency improvements to homes by vulnerable customers, evolution in the number of vulnerable customers dropped by a commercial energy provider, evolution in the number of budget meters installed, following up on the social renovation grant, etc.
- **VVSG** (organization of Flemish cities and communities). VVSG supports municipalities and cities on their energy poverty strategies (advice); works together with DSOs to support the working of local advisory committees (LACs); and participates in working groups/sounding boards on energy poverty (in the context of consultations when new policies are being negotiated).

3.3 Barriers to actions against energy poverty

The following barriers to actions against energy poverty were identified by interviews with the stakeholders represented in the VCSC:

Barriers relating to conditions of poverty/energy poverty

- Energy poverty is only a derived consequence of living in poverty more generally. Living in poverty entails living in dwellings of poor quality, and this entails high energy demand.
- There are also a number of structural reasons for energy poverty problems in Flanders: poor quality of buildings (especially those buildings on the market for people with low incomes), high share of vulnerable customers on the rental market (with 'split incentive' problems: owners have to invest in energy efficiency measures, while the tenants enjoy the benefits of those investments, and generally cannot afford a higher rental price if the owner decides to recuperate the energy-efficiency investment).
- About 1 million dwellings in Flanders do not comply with the minimum required standards of the residential code. For most of these houses, minor adjustments are in order, but for about 350.000 the problems are structural (e.g. moisture problems). Often it would be better to demolish these existing buildings and build a new dwelling (rather than investing in renovation measures). Most vulnerable customers live in this type of dwelling, other (structural) problems have to be addressed more urgently than energy-related investments.
- Most vulnerable customers are renting an apartment or a house of poor quality. In addition, in Flanders the private rental market is dominated by small-scale owners

(i.e. owners having one or only a few properties on the rental market). Compared to a situation where rental dwellings are owned by big corporations this makes it more difficult to take structural improvement measures in the Flemish rental market.

- Poor households generally have difficulties to pay monthly bills for numerous items (e.g. rent, telecom, food, transport, etc.). One should first understand how and why these households decide on which bills to pay first. For instance, the threat of disconnection is higher for telecom than for energy, since in Flanders there is the system of the social energy provider of last resort (i.e. the DSO). This system therefore tends to work in a counterproductive way: because the vulnerable customers know that they will not be immediately disconnected from the electricity or gas grid, when faced with budget constraints they often decide to pay the other bills first.

Barriers relating to energy costs

- Over the last few years, the energy bill for residential consumers has been on the rise. There are a number of reasons: the transition to renewable electricity is financed via the electricity bill, the system of free kWh has been abolished, etc.
- Furthermore, the tendency has been to increase the 'fixed' part of the electricity bill (e.g. a yearly fixed surcharge on the electricity bill to pay for the debts incurred by subsidizing green electricity production, recent proposals to move towards a capacity-based distribution tariff), whereas energy bills should be related to the amount of energy you consume (so that energy savings also 'pay off'). Increasing the 'fixed' part of the energy bill is generally detrimental to vulnerable customers (who generally consume less energy).

Barriers relating to energy poverty policy

- The financial instruments available for energy-efficiency improvements are not taken up by vulnerable customers because of numerous barriers (e.g. administrative burdens, upfront expenditure needed, etc.).
- Energy poverty policy in Flanders is predominantly curative, but also counterproductive according to some:
    - E.g. there is a social 'safety net' (the DSO as energy provider of last resort), but the tariff charged by the DSO is based on the average of commercial tariffs available in Flanders so the customers could in fact save money if he/she would chose for the cheapest option on the market;
    - E.g. the installation of a budget meter, in case the customer has debts with the DSO, this acts as a stigmatization and a further barrier for lifting these customers out of the 'poverty trap'. (But the budget meter will be replaced by a Digital Meter in the coming 2 years).
- Energy poverty policy is the responsibility of the minister of energy and energy administration and other institutions (e.g. Flemish energy agency, the regulator VREG, the DSOs). Each of these organisations has specific tasks and responsibilities, and therefore also operate on 'their own little island'. There is no integrated policy view on energy poverty as part of the more general poverty problem. Ideally, energy poverty should be addressed by the ministry of housing.
- Energy poverty policy is the subject of an 'ideological' battle in Flanders. On the one hand, there are those who believe that measures to alleviate energy poverty (e.g. zero interest energy loans for efficiency improvements) should be an integral part of

the regular economy (i.e. commercial banks providing the loans); on the other hand there are those who believe that these measures should be part of social policy. As it is now, energy poverty policy is part of social policy (e.g. 'energy houses' providing the zero-interest energy loans, free energy scans provided by social economy organisations), but there are proposals circulating to cut back the subsidies to the social sector for energy poverty alleviation. Also, DNBs in Flanders are under pressure to focus exclusively on core activities (i.e. managing the distribution grid).

Barriers relating to the existing system of energy scans

- The existing system of energy scans provided by 'energy cutters' (energiesnoeiers, cf. infra) working for social economy organisations has the advantage of being very accessible to the target group of vulnerable customers. However, currently the effect on energy savings is limited because the energy scans only rarely lead to energy-efficiency investments.
- Regarding the system of energy scans, the 'energy cutters' are required now to work with target groups of vulnerable customers. Some of these targets groups (e.g. customers at risk of being disconnected from the grid because they refuse to install a budget meter) are very difficult to reach even though an energy scan and energy saving advice could be highly beneficial to them.
- Because of the focus on directing the energy scans toward vulnerable customers, more effort needs to be put into each individual energy scan. This means that less energy scans are performed per 'energy cutter' per year (-25% over the years), also leading to less income since the 'energy cutter' organisations are paid per energy scan;
- The work of the 'energy cutters' is challenging because of the poor quality of information available at the start of the scan (e.g. self-reported energy consumption) and the constantly changing (complex) system of energy efficiency premiums

3.4 Proposals for effective action

3.4.1 Findings market research

The survey in WP2 has revealed a number of structural reasons that determine energy poverty::

- Precarious financial situation (rent high, life of benefits, debt mediation ...
- Poor quality of living (especially in the private rental market), vulnerable customers have a very limited budget for structural insulation and renovation work
- High energy cost in Belgium (cost of switching to green energy, etc.)
- Policy measures are primarily curative

The research shows that a lot is already being done in Belgium to reduce energy poverty,such as energy scans, roof insulation projects, energy houses, renovating, consultation on energy poverty, etc.

It is therefore the challenge for ASSIST to improve these existing services.The ambition to realize thorough renovations of the home in order to combat energy poverty as structurally as possible is not an objective of the ASSIST project, as this requires a lot of resources and the intended target group has very rarely. However, maximum referral and cooperation from the project with existing initiatives are available if the customer can claim this.

3.4.2 Ideas and proposals from the steering committee and brainstorming

The following suggestions from the steering committee were recommended for implementation via the ASSIST project.

- Adapt the advice that is given even better to the detail needs of each customer.
- Opening up information to target groups that are now difficult to reach.
- Closer cooperation between energy advisors and support services.
- Emphasize the savings that can be achieved by switching energy suppliers.
- Promote the system of energy pruners at European level.

3.4.3 Role of the HEA

The HEA is an advisory role focused on energy consumption savings, it is important that he / she understands the environment of the vulnerable customer. This role will either be taken up by volunteers or added to a social role. We do not see this profile as a professional role.

He / she informs, advises, supports vulnerable customers with the aim of reducing energy consumption in order to tackle the phenomenon of energy poverty.

HEAs will perform various tasks:

- Performs an energy scan of the state of the home and the energy behavior of the residents
- Provides information about premiums, subsidies and discount coupons for energy-efficient appliances.
- Provides advice on structural measures that increase energy efficiency
- Gives tips for saving energy through behavioral changes, by providing insight into energy consumption
- Gives tips for implementing low-cost measures with energy efficiency (eg installation of LED lamps, adjustment of heating device, etc.)
- Learns to read an energy bill and clarifies the various components.
- Checks whether there are cheaper suppliers on the market, and guides the customer if he wishes to switch suppliers. (V test)
- Customers with a budget meter who are debt-free lead back to the regular market, where rates are cheaper.
- provides a home meter, which measures the humidity and temperature

The HEAs will be candidates who already have a technical or social background. Depending on their prior knowledge, energy knowledge, social issues and communication skills will be trained. Within the training of the ASSIST project, special attention is paid to the issue of energy poverty and vulnerable customers.

3.4.4 Target audience

In Belgium the system of free energy scan already exists for the following target group:

- You are a protected customer and you enjoy the social rate for natural gas and electricity.
- A request has been submitted to the Local Advisory Committee (LAC) to close your gas and / or electricity supply.
- You have an active budget meter for gas or electricity.
- Persons belonging to the priority target group in the context of the Energy Loan (0% loan).
- Details of 0% target grouppersons who are entitled to an increased reimbursement from the health insurance fund (sticker ends in 1)
- households with an annual gross taxable income lower or equal to € 18,363.39 plus € 3,399.56 per dependent person
- persons who are in debt mediation and who cannot pay their heating bill
- persons assisted by the OCMW because they cannot pay the invoices for gas and electricity;
- protected customers
- families with a joint taxable income of a maximum of 30,640 euros (the income from 3 years ago is taken into account).
- You are a tenant at a social housing company or social rental office.
- You are a tenant and your monthly rent does not exceed 500 euros.

The target group of the ASSIST project will include the above groups, but we also see it more broadly, while we also want to pay attention to the group of high-risk users who end up in energy poverty. We are thinking, for example, of single parents and single people with a limited income.

Within the project, the target group of the existing legal group of vulnerable customers will be expanded with a few specific groups that are at extra risk of energy poverty, such as large-scale consumers, one-parent families, single people, etc., to work complementarily with existing energy pruners.

Approaching this target group, previous initiatives have shown that close cooperation with municipal or local services, which are already working on energy poverty, increase customer confidence and significantly improve the chances of success.

Use can also be made of some of the information available to the utility companies, if they fall within the existing legal framework.

3.4.5 Actions

3.4.5.1 Home visits

We know from experience with energy cutters in Belgium that this method produces results. During this action, the HEA will show the customer how to use their energy and make them aware of where the customer is wasting energy and can therefore be saved.

To achieve results, he / she will take the following steps:

- A basic scan of the home (insulation, ventilation, ...) and devices (consumption class, age, maintenance ...) of the customer
- A basic scan of the energy behavior of the customer
- Find out which supplier is the most advantageous for the customer
- Discussing the results with the customer (eg explaining premiums, the operation of the heating system, referring them to specialists (eg renovation, energy loan) ...)
- Set up an action plan with the client (agree in consultation with the client, which improvements can be implemented and which will be tackled first ...)
- Install equipment to measure consumption if in doubt about consumption supervise behavior
- provides a home meter, which measures the humidity and temperature
- Provide guidance if the customer wants to switch energy suppliers
- Administration of the home visit

3.4.5.2 Home visit follow-up

If the home visit shows that customers can still save on their energy behavior or other actions in which the HEA can still play an active role. (eg invoice data were not present at visit ...)Then a follow-up process will be started with the customer. This is possible depending on the action and background of the customer via telephone, mailing, follow-up visit ...The frequency with which this happens will depend on the measures to be taken. Changing a behavior requires more intensive follow-up than replacing a device.

3.4.5.3 Renovation projects

As these are projects that require a lot of resources and have a long lead time and ASSIST pilot project has only limited resources and time, the role of ASSIST will be to refer the customer to the relevant services.

3.5 Methods, timing and expected results of the selected action

3.5.1 Homevisits HEA's

3.5.1.1 Materials

We provide a supported folder with basic energy tips, action plan, consumption registration sheet and a living room meter to be left with every customer.

3.5.1.2 Organisation

The HEA will him/herself be responsible for making and following up its agreements.

3.5.1.3 Action

The HEA will perform the following actions for a home visit. Depending on the results of the scan, extra time may be required, which can then be included in a follow-up visit. (eg supplier change)

1. Action	2. Number	3. Duration	4. Total time per HEA
5. Preparation	6. 10	7. 0,5 hour	8. 5 hour
9. Energyscan home	10. 10	11. 1,5 hour	12. 15 hour
13. Energyscan behaviour	14. 10	15. 0,5 hour pp	16. 5 à 15 hour
17. Draw up discussion, advice and action plan	18. 10	19. 1 hour	20. 10 hour
21. Administration	22. 10	23. 1 hour	24. 10 hour

25.

3.5.1.4 Timeline

The home visits will start after training the HEAs. The duration of the actions is included in the actions table. The maximum duration of support is the duration of the ASSIST project.

3.5.1.5 Results

Through these actions we mainly want to anchor the behavioral changes with the customer. The focus here is on 7% energy savings with 750 vulnerable customers. According to the measures it is possible to estimate the potential savings or the improvement of consumption patterns.

In the event that it is possible to keep in touch with the consumers to whom the advice is being given, at the end of a process you will be asked to pass on the use of electricity and gas.

3.5.1.6 Cost

There will be a cost to insure the volunteers.

If HEAs come from vulnerable groups, a travel allowance where the actual costs are reimbursed may be required.

2.5.2 Home visit follow up

2.5.2.1 Materials

The action will be included in the HEA training. We want to support the follow-up electronically wherever possible. Where this is not possible, a follow-up visit will take place. You can then use flyers or other paper documents as support.The supply of tips will be taken from the ASSIST project. The material will be distributed electronically by Fluvius to the relevant target group.

2.5.2.2. Organisation

The practical approach and the frequency with which this happens will be a task of the HEA. Depending on the possibilities and the measure (s) to be followed by the customer, this can be done by telephone, via SMS, e-mail, facebook ... or via a follow-up home visit

2.5.2.3. Action

To further support the target group with soft measures to save energy, vulnerable customers require more customized support. The HEA will guide him intensively with his behavioral change or other measures. We want to do this by establishing a relationship of trust through regular contact between the HEA and the customer.

2.5.2.4. Timeline

the meetings are scheduled for and the duration will be tailored to the measure for which the client requests support. The maximum duration of support is the duration of the ASSIST

2.5.2.5. Resultats

Through these actions we mainly want to anchor behavioral changes with the customer, but also support him with advice. The focus here is on at least 7% energy savings with 750 vulnerable customers.

Depending on the measures, it is possible to estimate the potential savings or the improvement of consumption patterns.

In the event that it is possible to keep in touch with the consumers to whom the advice is being given, at the end of a process you will be asked to pass on the use of electricity and gas.

2.5.2.6 Costs

There will be a cost to insure the volunteers.

2.5.3 Follow-up after energy scans

2.5.3.1. Materials

The action will be explained to the existing energy cutters via a presentation. The necessary paper or electronic documents are then also supplied to support the campaign on site.

The supply of tips will be taken from the ASSIST project. The material will be distributed electronically by Fluvius to the relevant target group.

2.5.3.2. Organisation

This will be included as an agenda item at the **"scan drink" meeting**, which is being organized by Fluvius. At this meeting ASSIST will inform the energy cutters of the additional task with an energy scan. And we will provide them flyers for the households.

The "scan drink" is an existing networking moment that takes place annually and where the energy cutters are informed of new evolutions.

We will provide also an additional training to the Energy Cutters.

2.5.3.3. Action

To further support the target group with soft measures to save energy, vulnerable customers require more customized support. The energy pruners will then, if the customer signs up for this, register him for this ASSIST project action, to guide him intensively in his behavioral change. We want to do this by sending targeted communication via digital channels such as SMS, e-mail, Facebook ... whereby tips or reminders are sent in order to get more results from an energy scan.

3.5.1.7 Timeline

These meetings are scheduled on 24/05/2019 and 07/06/2019, and the duration will be tailored to the measure for which the customer is requesting support. The maximum duration of support is the duration of the ASSIST project.

3.5.1.8 Results

Through these actions we mainly want to anchor the behavioral changes with the customer. The focus here is on at least 2% energy savings with 2000 vulnerable customers.

Depending on the measures, it is possible to estimate the potential savings or the improvement of consumption patterns.

In the event that it is possible to keep in touch with the consumers to whom the advice is being given, at the end of a process you will be asked to pass on the use of electricity and gas.

3.5.1.9 Costs

No extra costs

3.5.2 Renovation projects

Here the action for the HEA is limited to referring to existing options, premiums or projects. The action here is to ascertain when this additional advice has been given.

3.6 Current number and type of HEAs

The table contains the trained HEA's, the chapters below describe the number of planned to follow the HEA training.

Table 2 Current number and type of HEAs

Type of HEA	Reference	Trained number of HEAs	Number of effective HEA's 07/05	Geographical coverage
Utilities/energy sector	Fluvius VITO employees pensioners or friends	36 3 3	31 2 3	National
Municipalities	Social workers from municipalities St Niklaas	4	2	Regional
Social sector	Kamp C Community Building City of Sint-Niklaas Social housing (woonwinkel Zennevallei) De schakelaar …	21 2 2 1 3	17 2 2 1 3	Regional
Existing energy cutters		0	0	National
TOTAL		75	63	

3.6.1 Utilities/energy sector

Fluvius has sent a newsletter with the job offer for HEA. There were 64 people who were interested, but only 36 completed the course.

The elderly association of retired personel of Fluvius has sent a newsletter with the job offer for HEA. Only 3 persons were interested.

Also VITO has sent a newsletter with the job offer for HEA. There were 2 persons of VITO that finished the training.

3.6.2 Municipalities

In the city of Lochristi, Affligem, Sint-Niklaas, Hasselt, Kuurne, Kasterlee and Oostende there was a info session were the project ASSIST was presented to personnel who works for the Public center for Social Welfare of the city.

There were 5 people that were interested in the job offer HEA. 2 persons finished the training : only the personel of the city St-Niklaas.

3.6.3 Social sector

Fluvius had a personal meeting with the social sector VVSG, kamp C , De Schakelaar, EnerGent, Samenlevingsopbouw and Woonwinkel Zennevallei to present the project ASSIST.

- There were 57 people interested:
- 34 people have dropped out.

3.6.4 Existing energy cutters

We will give the existing energy cutters an additional training on assist. Here for we will use modules of the general HEA training. We plan to train 30-50 existing energy cutters.

3.6.5 Next steps

We stoped recruiting HEA's. We have trained 75 volunteers and there are 63 that still is engaged.

3.7 Foreseen activities

In Belgium the focus of the actions is on home visits, for the 750 and 2000 group.

- For the 750 group, extended follow-up guidance is foreseen. Each HEA wil guide +/- 10 Vulnerable consumers. After the first home visit, the HEA will keep in contact with the vulnerable consumer, to follow up on the results and actions they agreed on. The focus is on empowerment of the vulnerable consumer, as he's encouraged to compose his personal actionplan
- For the 2000 group, one home visit will be carried out. During this visit, a 'saving package' will be installed. There's an option to subscribe for one follow-up visit, to look at possible structural measurements in the house (roof insulation, high efficiency

boiler or high efficiency glass). This follow-up is only for people who are able to finance these measurements.

The 30000 group (5000 for Belgium) will receive e-mails with energy saving tips.

3.7.1 Engagement strategies and soft actions

The identification of vulnerable consumers will be done in collaboration with the social sector (OCMW's) and existing energy cutters. As DSO we also have access to lists of vulnerable consumers (people who have a budget meter, protected consumers and people who can't pay their energy bills.

Furthermore, e-mail information will be sent to several customers with general information on energy poverty and energy saving tips.

E-mail information

E-mail information, aimed at reaching 5000 consumers, will be sent via flex-mail.

Table 3 Overview of the action to reach 5.000 vulnerable consumers

Action/event title	Advising via E-mail/ energy-efficiency newsletter
Action description	
Action target	Protected consumers, people with an active prepayed budget meter, people with low income.
Geographic dimension	National
Geographic area	Flanders
Number of involved users (estimated)	5000
Success rate	Not applicable
Action tools	E-mail with information concerning energy-efficiency (e.g. factsheets, brochures…), helpful links (e.g. V-test, subscription for energy scan, …
HEAs involvement	
Type of HEA	Fluvius volunteer
Foreseen involvement	Editing and management of the e-mails
Action monitoring	
HEAs activity	Lay-out and content of the newsletter
Control group	NA
Monitoring tools	Flexmail report on bounced e-mails, clicks, readers, …
Large control group	Not foreseen for this type of action
Estimated energy savings	NA
Monitored group	NA

Home visits

The existing energy-cutters will take an additional Assist-training. To become a licenced energy cutter they receive already a 4-day training by Fluvius. They will conduct the home visits integrated in their day-to-day job. A home visit is conducted via a standardized procedure and reported in a tool called Supernova. The vulnerable consumers receive

advice on their energy usage, energy provider, and a report with the most important conclusions. The HEA also installs a 'saving package'. This consists of some low-budget materials (LED-light, radiator foil, energy saving shower head, …) and according to the vulnerable consumers need, a package of the amount of 25€ is installed. The HEA also makes an assessment if the client is a good candidate for a follow-up visit. If this is the case, the follow-up will be planned and conducted by the HEA.

Table 4 Overview of the action to guide 2.000 vulnerable consumers

Action/event title	Home visits
Action description	
Action target	Protected consumers, people with an active prepayed budget meter, people with low income.
Geographic dimension	National
Geographic area	Flanders
Number of involved users (estimated)	4000 households
Success rate	Target to do home visits at 2000 households for 2% energy saving
Action tools	Advice during home visit + possibility to subscribe for 1 follow-up visit to receive further guidance
HEAs involvement	
Type of HEA	Existing energy cutter, with HEA training
Foreseen involvement	Integration in day-to-day job.
Action monitoring	
HEAs activity	House visit + potential follow-up
Control group	5% of 2000 (all will be motivated to register energy usage regularly, as to create awareness)
Monitoring tools	Supernova
Large control group	NA
Estimated energy savings	2%
Monitored group	2000 VC's @ 2%

3.7.2 Pilot action: Home visits + extended follow-up guidance

Home visits will be conducted by HEA's, tailored to the need and situation of the vulnerable consumer. The advise will be given room per room, and around certain activities (e.g. personal hygiene, washing and drying, cooking, cooling, heathing, …). The focus will be on the involvement of the vulnerable consumer in choosing the measures he will take to reduce his energy usage. The goal is to empower the vulnerable consumer and by involving him in the choice what concrete actions to take, instead of giving him a list of advises he needs to follow. Working this way, we want to create maximum motivation towards the agreed actions.

With each vulnerable consumer, a plan will be agreed on. This plan will be followed up by the HEA. In consultation with the vulnerable consumer, the way the actions will be followed up will be discussed. We want to tailor this as much as possible to the preferred medium of the client: home visits, e-mail, SMS, telephone, letter, …

The goal is to guide the 750 vulnerable consumers during 10 months, for the period April/May 2019 – February 2020.

Table 5 Overview of the action to guide 750 vulnerable consumers

Action/event title	Home visits + extended follow-up guidance
Action description	
Action target	Vulnerable clients
Geographic dimension	National
Geographic area	Flanders
Number of involved users (estimated)	5-10 households per advisor doing home visits, in order to reach 750 households
Success rate	% of the involved households
Action tools	Tailored advice during a house visit, per room/activity (e.g. washing and drying, cooking, personal hygiene, …), check for cheapest energy provider. Focus on empowerment and participation of the VC, involving him or her in the choices and commitments regarding energy efficiency. Also follow up via telephone, additional house visits, e-mail, SMS, … depending on how the VC wishes to be contacted.
HEAs involvement	
Type of HEA	Home visits will be delivered by all trained HEA
Foreseen involvement	Some of the HEA will integrate it in their day-to-day job, while others will do it in their own free time.
Action monitoring	
HEAs activity	House visits, telephone calls, e-mail, sms, letters, …
Control group	5% of 750 (all 750 will be motivated to register energy usage)
Monitoring tools	HEA reports in excel, Sharepoint and via moodle.
Large control group	NA
Estimated energy savings	7%
Monitored group	750 VC @ 7% energy saving

3.7.3 Synergy: Collaboration and knowledge sharing with existing network

There's a collaboration with the existing network of energy cutters. The goal is to share with them the insights learned from the assist-approach, as opposed to the regular way of working.

3.7.4 Synergy: integrating existing social organisation in the action

There are multiple social organisations, already working on energy poverty (e.g. samenlevingsopbouw, Kamp C, …). We also want to share the insights from assist with them and integrate them as much as possible in the project, as HEA's where possible.

3.8 Monitoring tools

3.8.1 Soft action: home visits 2% group

The meter readings will be compared at the beginning and the end of the action to evaluate the energy saving (target 2%).

The Energy Cutters will report in the tool Supernova what actions they have taken at the vulnerable consumers home. For the 2% group, the measuring will take place 2 times (home visit + follow-up visit).

3.8.2 Pilot action: home visits + extended follow-up guidance 7% group

The HEA's of the 7% group will also report via Sharepoint. In addition they will register the follow-up actions in Moodle (number of calls, e-mails, …) and register the actions defined in consultation with the vulnerable consumers in excel. We will follow-up on the results on a monthly basis. The meter readings will be regularly noted by the vulnerable consumer and the evolution will be followed-up by the HEA.

Around the summer 2019 we will organise a workshop for the HEA's, where we will present the intermediate results and adjust the actions where needed.

3.8.3 Advising via E-mail/ energy-efficiency newsletter

The e-mails will be sent via a tool called flex-mail. This tool provides a standardized report on how much people have opened the e-mail, clicked on links, bounces of the e-mail.

3.9 Conclusions

The ASSIST action is designed to add as much as possible to the already existing way of working of the energy cutters network. By empowering the vulnerable consumer, we want to prove this can lead to greater energy savings. By regularly following up on the intermediate results and communicating them to the HEA's and inviting them to share their best-practices, the energy saving goals will be met as much as possible.

4. Finland

4.1 Official definitions of energy poverty

In Finland, there is no official definition, statistics or specific information sources for measuring, energy poverty or vulnerability in regards to energy markets in Finland. Energy poverty as an issue is not ackowledged in Finalnd and is viewed as part of a larger poverty issue. No measures targeted specifically to alleviate energy poverty are in place in Finland.

4.2 Energy poverty statistics

There are still very few studies or statistical data in Finland on energy poverty. Two previous studies have been done for the Ministry of Environment on risk of energy poverty in Finland: Ympäristöministeriön raportteja 21/2013: Selvitys energiaköyhyydestä **Errore. L'origine riferimento non è stata trovata.** and as follow up Ympäristöministeriön raportteja 6/2015: Pienituloisen omistusasujan energiaköyhyys **Errore. L'origine riferimento non è stata trovata.**. The first study by the Ministry of Environment estimated the risk of fuel poverty and energy costs in different type of households. It identified that the people most at risk of energy poverty are low-income households, such as low-income families and pensioners, living outside the urban area in large-non-energy efficient dwellings (p. 38 **Errore. L'origine riferimento non è stata trovata.**).

In order to estimate the risk for energy poverty and the characteristics affecting the energy expenditure of a household, in Assist research, we have analysed the results of the Market survey on vulnerable consumers' needs, expectations and interests, (further described in the Vulnerable Consumers Fuel Poverty Report) that was conducted as part of Assist project. The survey was distributed both electronically with an email link to home owners via Home Owners Association and with paper version to the elderly that does not have access to an electronic survey via The Association for welfare of the elderly. In total the survey was distributed to 24 484 people and 4660 answers were collected.

It should be noted that the sample for the survey in Finland was selected based on previous research in to energy poverty, and the survey was targeted to homeowners and elderly. Thus, the socio-demographic aspects in the data acquired through the survey, such as age employment status, dwelling characteristics cannot be considered statistically representative of the whole Finnish population.

The purpose of the analysis was to identify categories/clusters of customers that might be vulnerable, taking under consideration their Annual Electricity and Heating costs as a share of their income (Electricity/Heating costs). For this reason, a feature selection and clustering methodology has been designed and implemented, in order to first select the most important variables and then use them as the criteria for separating customers into clusters.

Table 6 Characteristics of cluster participants based on decision rules

CLUSTERS	# SAMPLES	% OF SAMPLE	CHARACTERISTICS
CLUSTER1	84	2%	• Financial situation: *1 or 2* • Employment status: *Employed, Student, Unable to work, Home-maker or Inactive* • Year of building: *<=1970*
CLUSTER2	123	3%	• Financial situation: *1 or 2* • Employment status: *Employed, Student, Unable to work, Home-maker, Inactive* • Year of building: *>1970*
CLUSTER3	43	1%	• Financial situation: *1 or 2* • Employment status: *Retired* • Ability to maintain adequate temperature: *No*
CLUSTER4	316	8%	• Financial situation: *1 or 2* • Employment status: *Retired* • Ability to maintain adequate temperature: *Yes*
CLUSTER5	25	1%	• Financial situation: *1 or 2* • Employment: *Unemployed* • Marital status: *Married or cohabitant* • Central heating and cooling: *No*
CLUSTER6	260	6%	• Financial situation: *3 or 4* • Employment status: *Employed, Student, Unable to work, Home-maker, Inactive or Unemployed (not Retired)* • Marital status: *Divorced/separated, Unmarried or widow (not married or cohabitant)*
CLUSTER7	1325	32%	• Financial situation: *3 or 4* • Employment status: *Employed, Student, Unable to work, Home-maker, Inactive or Unemployed (not Retired)* • Marital status: *Married or cohabitant*
CLUSTER8	1036	25%	• Financial situation: *3* • Employment status: *Retired*
CLUSTER9	915	22%	• Financial situation: 4 • Employment status: *Retired*

After clustering some vulnerability criteria of the clusters are examined, to identify clusters that have a high possibility to include vulnerable customers (see Table 7). These criteria are:

- The proportion of people in the dataset with Electricity/Heating costs greater than 10%. We have used 10% as threshold, following the definition of energy poverty in several EU countries such as UK, even though this is not an official criteria or threshold in Finland.
- The proportion of people in the dataset with Electricity/Heating costs greater than 20%.
- Average proportion of Electricity/Heating costs per cluster.
- Share of survey participants that declared inability to maintain adequate temperature in their household.

- Share of survey participants that receive social benefits.
- Proportion of people that declared they do not have enough money for primary needs (Perception of Financial situation = 1)
- Proportion of people that declared they have enough money for primary needs, but not for non-basic expenses (Perception of Financial situation = 2)

The classification of the clusters into vulnerable and non-vulnerable was done based on the combination of the examined characteristics and is shown in Table 7 using colours (red for vulnerable, green for non-vulnerable).

Table 7 Identification of vulnerable clusters (Red: vulnerable, Green: not at risk)

CLUSTERS	E/H costs > 10%	E/H costs > 20%	Average E/H costs	No ability to maintain adequate temperature	Social Benefits	Financial situation=1	Financial situation=2
CLUSTER3	70%	28%	17%	100%	26%	14%	86%
CLUSTER4	44%	9%	11%	0%	10%	15%	85%
CLUSTER5	36%	12%	12%	20%	64%	4%	96%
CLUSTER1	35%	8%	10%	33%	35%	6%	94%
CLUSTER8	24%	4%	8%	3%	6%	0%	0%
CLUSTER2	17%	3%	6%	15%	23%	15%	85%
CLUSTER6	13%	3%	6%	4%	10%	0%	0%
CLUSTER9	10%	2%	5%	1%	4%	0%	0%
CLUSTER7	5%	1%	4%	4%	16%	0%	0%

It appears from the statistic clustering analysis, that, the households that can be considered most at risk of being vulnerable or energy poor are households that have retired, unemployed, student, unable to work, home-maker or inactive and feel that their financial situation is so weak that they cannot afford the basic needs such as food, heating and electricity or that they can just manage but are unable to afford anything more. The result puts emphasis on perception of one's situation.

4.3 ASSIST Finland Vulnerable Consumer Steering Committee (VCSC)

The VCSC is compiled of local regulators and industry professionals that lead house energy and renovation advisory services. The steering committee feedback has been a crucially valuable resource in aligning ASSIST actions to fit the local context and service chains.

Table 8 Action recommendations by the VCSC

Name	Title	Organization	Deputy member
Juha-Pekka Maijala	Construction Councellor	Ministry of the Environment	

Irmeli Mikkonen	Leading Expert	Motiva Ltd	Päivi Laitila
Riina Heinimäki	Leading Expert	Finnish Energy Ltd	Pekka Salomaa
Eero Otronen	Specialist	Petroleum and Biofuels Association	
Tiina Saarela	Chairperson	European Anti-Poverty Network Finland	
Kaija Savolainen	Director	Finnish Homeowners Association	
Jukka Laakso	Head of renovation advisory	Finnish association for the welfare of the elderly	
Jussi Ahokas	National level expert on vulnerable consumers	Soste ry Finnish Federation for Social Affairs and Health	Anna Järvinen
Johanna Kirkinen	Leading Expert	The Energy Authority	
Ritva Liukonen	Policy maker	Ministry of social affairs and health	
Timo Ritonummi	Policy maker	Ministry of employment and the economy, energy department	
Marianne Jauhola	Head of Development	The Housing Finance and Development Centre of Finland, ARA	

Finland has an extensive social welfare system which aims to provide the minimum income for all. There are no subsidies or welfare programs targeted especially to energy poor, but part of the social welfare mechanisms can be considered to alleviate energy poverty. Especially financing programs that lower the costs of living are considered in this category. Housing investment subsidies, housing allowance, income support, lower VAT level for some necessities and household tax credit are all mechanisms that while providing equal benefits for the whole population, tend to assist most the vulnerable consumers.

VCSC generally consideres that there is no need to radically remodel the social sector or social welfare structure to support especially vulnerable consumers in the energy markets. This opinion is partly formed due to Europe's lowest energy poverty levels in Finland, low energy prices and partly because no more cost-efficient solutions have been found so far, than the current approaches. The research work of ASSIST is highly appreciated, but the already established publicly funded advisory services are preferred as the first point of contact for the vulnerable consumers. Motiva, Home Owners Association, Ministry of the Environment, Ministry of Employment and the Economy, The Finnish Real Estate Federation, EAPN-FIN, The Energy Authority and the Finnish association for the welfare of the elderly and a selection of specialized third sector organizations all have existing publicly funded and free-to-use advisory hotlines which have secured funding for years to come. It was considered as a preferred option to disseminate information about the existing services

through the HEA network. Increased interaction and better inter-organizational understanding about the available services for vulnerable consumers is considered useful. Further outreach efforts to involve more vulnerable consumers

4.4 ASSIST Actions proposal

The goals of ASSIST project are to educate HEAs so that the learnings can be onboarded to the every day work of the advisors. This would be an ideal way to ensure the continuity of the project results after the project time ends.

 Good time/cost for action in relation to the available resources

 Unsure time/cost suitability for action in relation to the available resources

 High time/cost for action in relation to the available resources, can be only implemented in collaboration with another project or organization

Type of service	Action	Time	Cost	Notes	Enabling factors
Advisory on competitive tendering of energy suppliers	Advisory via phone, email, virtual community or face-to-face				
Advisory on energy efficient home appliances	Advisory via phone, email, virtual community or face-to-face				
Individualized advisory on home energy efficiency improvement	**House visit**			Doable for professionals a part of home energy certification process	May be included in the house visits of professional HEAs
	Energy cafes and events organized by collaborative parties			Advises based on the age, structure, heating system, consumption habits and location of the house, investing capacity of the VC and other issues raising from the discussion	
Advices on simple energy efficiency improvements	**House visit**			F. ex. Switching bulbs to LED	May be included in the house visits of professional HEAs
	Advisory via phone, email, virtual community or face-to-face				
General advisory about heat source renovations and replacements	**House visit**			Detailed planning of the renovation works	May be included in the house visits of professional HEAs
	Advisory via phone, email, virtual community or face-to-face			Identification of improvement needs and	

				provision of suggestions during discussions	
Advisory on energy efficient behaviours and habits				Assist in critical evaluation of consumption habits	

4.5 Current number and type of HEAs

Table 9 Type and number of HEAs in Finland

Type of HEA	Reference	Trained number of HEAs	Geographical coverage	Status	Actions
Existing professional energy advisors	Association and other organisations with existing consumer advise services relating to energy, renovations and housing	(min.20)	National	Planned	Phone advisory, content creation
Social workers	Social workers from municipalities, Social security office, diaconal workers	(min.15)	Regional	Planned	Home visits
Energy company consumer advice services	Customer helpdesk workers in energy companies	(min.5)	Regional	Planned	Phone advisory
Social degree university students	Students working on geriatry and social care programmes	(min. 20)	Regional	Planned	Home visists, content creation
Energy degree university students	Students working in energy efficiency and renowation engineering programmes	(min. 10)	Regional	Planned	Home visits, content creation, energy cafes
Representatives from vulnerable groups	Representatives of vulnerable groups; vanhusneuvoston jäsenet, different migrant groups	(5-15)	Local	Planned	Content creation,
In total		**min. 75**	National		

The scheduling of the training courses is still ongoing with the local stakeholders and no HEAs have started the official training so far. First HEAs are expected to graduate by latest in February 2019.

4.5.1 Existing advisors

Finnish state-owned Motiva Oy is a company working on energy efficiency improvements. It is coordinating a network of 13 companies offering energy saving advisory to Finnish consumers. Also some of the construction, housing and service associations have advisors who are providing energy related advisory services for their clients. Part of these advisors will be trained as HEAs. Since the advisors already have good background knowledge about the technical solutions for energy efficiency improvements, the trainings will focus on improving the understanding of the social aspects of energy poverty, identifying vulnerable

consumers, ways to approach the situation of vulnerable consumers and assistance network in the social sector. The goal of the Finnish HEA training is to train minimum 20 HEAs from this segment.

4.5.2 Social workers

A range on third sector associations and state services are providing social assistance services to vulnerable consumers. These HEAs work closely with the risk groups and have advisors for housing, rehabilitation, life management and financial management. Since the social workers are already familiar with the structure of Finnish social security sector and work with vulnerable consumers, the training content focus more on the technical solutions. The goal of the Finnish HEA training is to train minimum 15 HEAs from this segment.

4.5.3 Energy company consumer advice services

Finnish energy companies have customer service personnel that are providing diverse advisory services for their clientele. Many of the enquiries from the clients include finding out ways to reduce the energy bill by either switching the contract type or finding out methods how to reduce the energy consumption at home. The ASSIST HEA training aims to improve the knowledge of the energy company customer service personnel in cost-efficient home energy saving renovations and consumption habits; and sensitize the energy company staff to identify and assist vulnerable customer groups. The goal of the Finnish HEA training is to train minimum 5 HEAs from this segment.

4.5.4 Social degree university students

A majority of Finnish social sector university of applied science training happens in Diaconia University of Applied Sciences. These students are learning various methods to assist their clients and patients in vulnerable consumer groups. Financial savings in everyday life is a relieving issue in many of the service cases and being empowered to be able to advice in energy savings is a beneficial trait also in the work markets. Training content for the chosen group is crafted together with the supervising heads of degree programme to address the educational needs of the students. The goal of the Finnish HEA training is to train minimum 20 HEAs from this segment.

4.5.5 Energy degree university students

Energy related education programmes train engineers that have the capabilities to assist clients in energy efficiency, energy service availability and in the energy system transformation. Study programmes focused in the less densely populated parts of Finland will be addressed to extend the HEA service network to areas which have statistically significant risk levels of energy poverty. Training content for the chosen group is crafted together with the supervising heads of degree programme to address the educational needs of the students. The goal of the Finnish HEA training is to train minimum 10 HEAs from this segment.

4.5.6 Representatives from vulnerable groups

Through the stakeholder networks it is possible to find vulnerable consumer group representatives who are working with the associations in peer-to-peer advisory. These advisors have hands-on experience with assisting people in similar situations and know how to identify and approach the advised people. These HEAs will be empowered with financial, technical and network knowledge so they are able to provide more assistance to the people they work with. The goal of the Finnish HEA training is to train minimum 5 HEAs from this segment.

4.6 Foreseen activities

A summary of the main activities is reported in Table 10.

Table 10 Foreseen activities

Activity	HEAs involved	Status
Phone advising	Existing professional energy advisors, Energy company consumer advice services	Planned
Advising via e-mail	Existing professional energy advisors	Ongoing
Advising via virtual community page	Existing professional energy advisors, Social degree university students, Energy degree university students, Representatives from vulnerable groups	Planned
Home visits	Social workers, Social degree university students, Energy degree university students	Planned
Energy cafes	Energy degree university students	Planned

4.6.1 Engagement strategies and soft actions

Here are the planned actions and events to be conducted to provide the energy and money saving information for the vulnerable groups.

Energy cafes at universities

Energy cafes are events in the school campuses where the trained HEAs from the degree study programmes organize information stands to disseminate the project materials. Students are helped by providing informational leaflets and other materials according to the possibilities. Students make the practical arrangements, invent activities to attract other students to learn about energy saving and energy related service consumption money savings. HEAs get practical experience in the energy advisory work and reach out to

students who according to the national statistics are considered as a vulnerable consumer group. The events last from 2 to 8 hours.

Table 11 Energy cafés

Action/event title	Energy cafes at variety of locations (planned)
Action description	
Action target	target groups depends on location: in urban area students and minorities such as immigrants, in rural area especially elderly
Geographic dimension	Multiple location around Finland: Capital area, Pirkanmaa, Eastern Finland
Geographic area	
Number of involved users (estimated)	Estimated at least 300 households
Success rate	All participants supplied with basic energy saving information leaflets, estimated that around 20% of households will leave contact information for follow up
Action tools	Trained student HEAs will organize energy cafes to distribute energy saving information, information leaflets and get further contact details
HEAs involvement	
Type of HEA	University students in the fields of energy engineering and social sciences, Vulnerable consumers such as elderly and immigrants offering peer to peer advice
Foreseen involvement	Estimated 3-5 University and/or Universities of applied sciences units each organizing at least one event Estimated at least one energy café per vulnerable group (peer to peer)
Action monitoring	
HEAs activity	Organizing the energy cafés, dissemination of factsheets and other program materials, providing tutoring services for the visitors
Control group	Estimated that 20% will leave their contact information for a follow up survey, these will act as control group.
Monitoring tools	Number of leaflets distributed, number of e-mails collected, number of regional web site visits to the targeted consumer website within a week from the event. Responses from the survey to the people leaving their e-mail addresses.
Large control group	All people receiving the energy saving information materials during the energy cafés, estimated 100 people per energy café.
Estimated energy savings	Estimates will be defined for individual actions, savings estimation will depend on control group results on applied actions
Monitored group	People who submit their e-mail addresses during energy cafés and answer the survey sent to them after the event.

Advising via e-mail

Third sector assistance associations have newsletter lists that reach different segments of vulnerable consumer groups with given consent. ASSIST program materials are being disseminated through the program and stakeholder newsletters to the e-mails of the end

beneficiaries. According to the previously sent surveys and their results; newsletter receivers read the messages actively and participate in the recommended actions with significant conversion rates.

Table 12 Advising via e-mail

Action/event title	Advising via e-mail (planned)
Action description	
Action target	Different vulnerable groups depending on contact point
Geographic dimension	National
Geographic area	National
Number of involved users (estimated)	1200
Success rate	80%
Action tools	Providing preferably tailored advice or "Soft measures" which will include advising and sending materials with energy saving measures
HEAs involvement	
Type of HEA	Almost all HEA groups excluding home care
Foreseen involvement	Compilation and classification of assistance requests, responding to assistance requests
Action monitoring	
HEAs activity	Gathering e-mail lists for different type of assistance requests. Providing individuals with information assistance by request. Sending energy saving advisory materials for the e-mail lists.
Control group	Preferably some portion of contacted people will repond to surveying but expected monitoring results for this group is low
Monitoring tools	Number of contacts and materials provided, Surveying
Large control group	Estimated 1200 people
Estimated energy savings	Energy savings will need to be estimated based on materials/advice provided, around 2%
Monitored group	People responding to the attached survey. Estimated 50 people.

Advising via virtual community page

A virtual community has been established to compile energy saving information to be available for the vulnerable consumer groups. This community page is an open site in Facebook, that get's updated with the relevant information for the consumers. The community page will also have a chatbox for the vulnerable consumers and other visitors to leave feedback and questions about the project. The questions and feedback will be processed and answered regularly by the site administration.

Action/event title	Advising via virtual community page (planned)
Action description	
Action target	Computer using vulnerable groups, mostly youth
Geographic dimension	National

Geographic area	National.
Number of involved users (estimated)	350
Success rate	80%
Action tools	Providing “Soft measures” which will include sending materials with energy and energy related money saving measures
HEAs involvement	
Type of HEA	Each type of HEA
Foreseen involvement	Content production and virtual community promotion
Action monitoring	
HEAs activity	Production of content to be shared on the platform. Advertising the virtual community for vulnerable consumers.
Control group	350 people following the page
Monitoring tools	Commitments and views in the community page
Large control group	350 people following the page
Estimated energy savings	Energy savings will need to be estimated based on materials/advice provided, around 2%
Monitored group	People responding the shared questionnaire in the virtual community. Expected answers 35.

4.6.2 Engagement/pilot action: Phone advising

Help desk and customer support service representatives are being trained to identify vulnerable customers during conduction of the advisory work. Remote support workers are doing their normal duties and get a larger selection of advises that can be targeted for the vulnerable consumers. Low cost and cost-efficient solutions designed especially to the vulnerable consumer groups are being provided to the clients who have very limited investment resources for energy renovations.

Table 13 Phone advising

Action/event title	Phone advising
Action description	
Action target	Different vulnerable groups depending on location
Geographic dimension	Regional
Geographic area	Capital region
Number of involved users (estimated)	estimated minimum 50
Success rate	80%
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, but also service and support available e.g. if person is eligible for financial support targeted at elderly
HEAs involvement	
Type of HEA	Energy advisors working for energy agencies or utilities providing phone advising

Foreseen involvement	Identifying vulnerable consumers and providing additional segment crafted information about further support services for improved energy efficiency
Action monitoring	
HEAs activity	Reporting in the HEA network area the amount of customer calls identified coming from vulnerable consumers. Offering an opportunity for the VC to participate in the ex-ante and ex-post surveys.
Control group	Estimated that around 20% would give their contact information for further contact/ ex-post surveying
Monitoring tools	HEA reports on the engaged vulnerable households, ex-post surveying when possible
Large control group	50
Estimated energy savings	between 2% and 7%
Monitored group	People seeking further HEA network assistance and conducting the survey, estimated minimum 10 people

4.6.3 Pilot action 1: Home visits

Pilot Action 1 – Energy degree student home visits will conduct house visits as a part of another energy survey programme HARKKA organized by Motiva and a group of Universities of Applied Sciences. Students will deliver ASSIST energy saving materials for the vulnerable households and ask for the permission from the households to conduct another survey within 6 months from their visit. This action aims at 7% savings in the households. This task will be executed during Feb-Jul of 2019.

Other home visits include social workers, renowation advisors and senior advisors conducting home visits to the vulnerable consumers during their normal duties. Among the other everyday tasks the visited vulnerable consumers are being guided by the HEAs on energy savings and energy related money saving opportunities. The HEAs also present the sources where the end beneficiaries can find more information about the home energy savings topic. The HEAs main responsibility is to identify the VC needs and provide additional information about the sources of support. These activities take place during the time period between Feb-Dec 2019.

People visited are offered an opportunity to join the monitoring group of the pilot project. This means that their energy consumption and energy bill costs are monitored for the following 6 months to form a control group to evaluate the effectiveness of this type of advisory service. The people receiving home visit services are expected to reach the 7% ASSIST indicator level, which considers the saved energy, comfortability and energy bill pricing changes.

Table 14 Home visits

Action/event title	Home visits
Action description	
Action target	Elderly receiving home care or seeking help for home improvement
Geographic dimension	National

Geographic area	Capital region, Central Finland, Northern Ostrobothnia
Number of involved users (estimated)	5-10 households per advisor doing home visits estimated minumum around 75 households
Success rate	% of the involved households
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, but also service and support available e.g. if person is eligible for financial support targeted at elderly
HEAs involvement	
Type of HEA	Home visits will be delivered by trained HEA that are working in organisations that do house visit as part of their daily tasks such as home care personal or renovation advisors
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	House visits
Control group	Control group is aimed to be at least 10% that consumption can be verified, if consumption cannot be verified aim is to collect usage information from bills
Monitoring tools	HEA reports on the engaged vulnerable households
Large control group	750 households receiving services in total
Estimated energy savings	With this group energy saving is targeted at 7%, over all will depend on measures incorporated
Monitored group	75 households receiving advisory services and ex-ante and ex-post questionnaires

4.6.4 Pilot action 2: Energy Cafés follow-up

The more interested and committed energy café visitors are being offered handout materials and discussion opportunities about the ways they could save in energy consumption and energy related costs the most effective ways. HEAs will ask about the apartment type, used heating methods and consumption habits from the visitors and guide them to the most relevant information regarding to the situation.

The more interested energy cafe visitors are asked to join the pilot project monitoring group where their e-mail address is added to the program material dissemination list and their energy consumption is being monitored during the following 6 months through a questionnaire to form a control group to evaluate the effectiveness of this type of advisory services. The people receiving home visit services are expected to reach the 7% ASSIST indicator level, which takes into account the saved energy, comfortability and energy bill pricing changes.

4.6.5 Synergy: Motiva Energy Advisory Network collaboration

Finnish state owned Motiva Oy has a network of subcontractors providing professional-level energy advisory to Finnish consumers. As a part of the ASSIST program; Motiva network is being consulted about the energy poverty issues and part of the advisory network will be

sensitized to better identify and serve the vulnerable consumer groups that contact the energy advisor helpdesks.

4.6.6 Synergy: Mun Talous – My Finances network collaboration

Mun Talous – My Finances network is collective action to improve young peoples' financial literacy skills. It connects business, education, NGO and public sector actors to work together to provide youth advisory and discussion platforms to prevent young people from getting into financial troubles. ASSIST is joining the network seminars to offer information about energy related money saving opportunities and find ways of collaboration with the other network members.

4.7 Monitoring tools

To ensure the results of the conducted actions, monitoring methods for each stage are put in place. This section describes the used monitoring mechanisms and information gathered from each activity. Some of the activities such as the larger dissemination actions are based more on estimations about the impacts while more interactive actions such as the pilot activities collect more in detail information that can be used to calculate the actual savings.

4.7.1 Energy cafes at universities

The energy cafe organizing HEAs will record the number of informational handout leaflets printed to be disseminated. This amount is counted before and after the event to calculate how many handouts were received by the fellow students. HEAs will also collect a newsletter e-mail list from more active visitors. E-mail addresses on this list will receive an informational energy saving kit and are being asked to join the monitoring group of the activity. The organizing HEAs will also estimate the amount of people visiting the energy cafe during the day. These numbers are reported to the national program coordinator.

Each given handout and estimated visitor at the stand is being estimated as a energy saver in the 2% savings category based on the research findings in the *EEA Technical Report 5/2013 – Achieving energy efficiency through behaviour change: what does it take?*

Each person in the e-mail list who are receiving more in detail information about energy saving methods will be considered to reflect the results of the monitoring group. The monitoring group will be among the mailing list people who later on attend into the pilot project monitoring by providing their energy bill consumption and cost information of the ongoing month and during the next 5 months. The national ASSIST program manager will calculate the energy savings of the monitoring participants normalizing the results with the heat degree days. This approach is chosen to minimize the impacts of outdoor temperature variations. The monitoring group will also answer questions related to the Comfort Indicator, Energy Price Indicator and Vulnerable Empowerment Indicators which are used together with the heat degree day weighted energy saving results to define the level of ASSIST indicator. ASSIST indicator is a vulnerable consumer benefit indicator that indicates together

the level of energy savings, change in experienced comfort and change in price paid per kWh. The group in the e-mail list is expected to experience the same impact as the monitored group.

4.7.2 Phone advising

The phone advising is being provided by HEAs conducting remote customer service and helpdesk services. The HEAs will estimate the amount of vulnerable consumers they have assisted during the monitoring period. This is done by estimating the percentage of calls coming from vulnerable customers and taking the same percentage from the overall average number of customers served. These contacts are being assumed to be in the 7% energy saving group due to facts that self initated engagement indicates strong will to act on the energy saving and receiving personal advisory by highly skilled energy saving professionals increases the likelihood of clients achieving the mentioned target.

4.7.3 Advising via e-mail

Energy saving advices and questionnaire participation requests are being disseminated through the ASSIST program national newsletter and stakeholder newsletters. Vulnerable consumers are being encouraged to join the mailing list in events, and in the vulnerable consumers' community page. Factsheets and news about policies and practices about energy efficiency are being sent to the newsletter receipients to encourage them to take energy saving actions at home. The size of the newsletter e-mail databases indicate the amount of people receiving the advices. These receipients are estimated to have an average 2% energy savings based on the research findings in the *EEA Technical Report 5/2013 – Achieving energy efficiency through behaviour change: what does it take?*

4.7.4 Home visits

HEAs will report the amount of home visits where energy saving advisory has been provided. This is done via report templates in the community working area. Volunteers among the visited people participate in the monitoring group. People in the monitoring group provide their energy bill consumption and cost information for the 6 months monitoring period. This group is used as a reference group to evaluate the impact of this approach.

4.7.5 Advising via virtual community page

Virtual community page will provide statistics about the amount and region of visits, time spent on the page per user and links utilized by the visitors. This information is compiled to identify unique visits. Also the amount of feedback messages in the community page are counted and the feedback is used to further improve the content on the page.

4.8 Conclusions

The planned actions utilize the most mature existing vulnerable consumer energy service networks available in Finland. The actions are expected to reach the overall program goals in terms of vulnerable consumers reached and energy savings. The monitoring tools are designed to provide in detail information about the overall amount of people served and more detailed information about the monitoring group that will be used as reference when evaluating the overall program impacts.

5. Italy

5.1 Existing policies and measures to tackle energy poverty

In order to understand how to proceed in the action planning, it is necessary to have a wide understanding of the already existing policies and measures to tackle energy poverty.

5.1.1 National policies

At national level, the main existing policy is the “Social Bonus”, that foresees a discount in the payment of energy bills (electricity, natural gas and water) for low-income households.

The criteria to access the bonus are the following:

- Income, measured with ISEE indicator, lower than 8,107.5€ for families with up to 3 children; lower than 20,000€ for families with 4 children or more;
- Being connected to a life-saving electrical equipment (valid only for electricity bonus), without threshold on the income.

The bonus consists in a discount on energy bills, measured as follows:

- For electricity, the only constraint is the number of people in the household and, for 2018, the bonus varied between 132€/y (singles and couples) and 194€/y (families with 4+ children);
- For natural gas, there is the double criterion of climatic zone and people in the household, with a variation between 122€/y (warm climate, South coastal areas and islands) and 254€/y (cold climate, North mountain areas) for families up to 4 members and between 176€/y and 371€/y for families with 5+ members;
- For water, a basic need of 50l/day per person is established, so the discount covers 18.25m^3/y per family member.

The access, at the moment, is quite low (around 35% according to the Regulatory Authority), mostly because the process to request bonuses is perceived as difficult and the steps to take are not clear: in order to obtain the ISEE income declaration, the family needs to collect several documents from different offices, take them to a dedicated office that might or might not be the same where to request the bonus (in some cities the request is collected directly by the municipality, in others it is demanded to trade unions). This has to be repeated every year. So, many families decide not to request the bonus for a second year, after having it for the first time. This is also related to the amount of the discount that, especially for heating, might be quite low when compared to the actual needs of the household.

Moreover, several families can’t have access to the natural gas discount, because this is available only for users connected to the national grid. In some rural or mountaineous areas and in Sardinia, the grid is not available, and buildings are heated either with coal, biomass or propane in periodically refilled tanks.

5.1.2 Regional initiatives

In Italy, every region has the chance to issue local regulations to tackle energy poverty. Some of them are not acting, not even promoting the Social bonus, while others are more focused on energy efficiency at higher level, without addressing their policies specifically to vulnerable consumers.

There are however some cases in which the regions act specifically in tackling energy poverty or in increasing subsidies for energy efficiency for low-income families. In particular, the most relevant measures in terms of supporting low-income consumers, are:

- Valle d'Aosta, "Bon de Chauffage": subsidy to the payment of heating bills, based on income, building energy need and climatic zone of the house; it is very relevant, being available in a montaineous, Northern area, with very low temperatures in winter;
- Basilicata (2008): for low-income households, it is possible to request a natural gas bill discount from 10.5% to 30.5% (depending on income). If the family is not connected to the national grid, the bonus is a lump sum;
- Basilicata(2014): the region made available some funds for energy efficient renovation of buildings, with a contribution varying from 40% to 100% of the expenses based on income (the lower the income, the higher the subsidy).

Some other regions (Trentino Alto Adige, Sicilia, Friuli Venezia Giulia) opened free helpdesks for the population interested in achieving energy savings and improving the efficiency of their houses.

5.1.3 Local initiatives

Considering local initiatives, there are several measures put in place either by local public authorities or private companies that aim to tackle energy poverty. Most of them are related to financial subsidies, information activities, energy efficiency refurbishment.

Table 15 Local and private actions to tackle energy poverty

Initiative	Promoter	Place	Description
Banco dell' Energia Onlus	A2A, fondazioni AEM e ASM, fondazione Cariplo	Lombardia	NGO that every year issues a call for tender for charities supporting vulnerable people in their social and economical issues. They fund projects about social inclusion, basic goods distribution and energy bills payment, thanks to the donation of A2A clients and other energy consumers, that can donate kWhs (then converted in money) or money directly.
https://www.bancodellenergia.it/index.html			
Profit loans	Provincia di Milano with 6 Banche di	Municipalities in Milan Area	Loans at 0 interest rate for energy saving, in order to support consumers in retrofitting hteir houses. The interest rate is paid by

	Credito Cooperativo		Milan province and the banks that signed the agreement.
https://mutui.supermoney.eu/news/2014/01/mutuo-a-profitto-prestiti-a-tasso-zero-con-interventi-di-risparmio-energetico-a-milano-0057101.html			
PadovaFIT	Comune di Padova, with Banca Popolare Etica, Innesco, Fondazione ITS RED, SOGESCA s.r.l.	Comune di Padova	IEE project with the aim to retrofit private residential buildings, with the public institution acting as intermediary between building managers and ESCOs. Retrofitting of around 200 blocks of flats in the town of Parma.
http://www.padovafit.it/			
BuildHeat	Rete Rigenera + other partners	Roma	EC-funded project, with several case studies: the Italian one was a block of flats with 80 apartments in Rome. The aim was to reduce energy consumption of 80% by increasing the energy class from G to A+. The investment was sustained by the inhabitants and shall be repaid through energy savings.
http://www.buildheat.eu/			
Energia: Diritti a Viva Voce	17 consumers associations	Italy	30 helpdesks, run by consumers associations, that offer support to citizens about energy efficiency, subsidies, incentives, etc…
http://www.energiadirittiavivavoce.it/			
-	ENI	Italy	Information activity with the inserion of notes about Social bonus in 12 million energy bills.
Power Gift	Enel	Italy	PV-plant owners can donate some of the non-used energy they produce to vulnerable consumers. The donated energy is given to charities, that support energy bills payment for vulnerable consumers. Energy producers can also choose who to donate energy (money) to.
http://www.powergift.it/			

Energia su Misura	R.S.E.	Milan	Smart metering of electricity consumption in a social housing building in Milan. Dedicated advice to vulnerable consumers on how to optimize their energy use, in order to reduce their bills.
https://youtu.be/gDUTHLNvZAw			

5.2 VCSC institution

More details can be found in Deliverables D7.1 and D7.2.

5.3 Think Tank Events

A very useful tool to broaden the horizon of the project and discuss actions and HEAs role have been “Thin Tank Events”, where a large number of different stakeholders was invited. At the moment of issue of this report, in Italy two such events have been held: one in October 2017 and one in April 2018.

5.3.1 The first think tank event

After the first VCSC meeting in Rome, on 26th October 2017 the first think tank event has been held. The goal was to discuss barriers and opportunities of tackling energy poverty in Italy, in order to plan the HEA course and the action(s).

Different types of stakeholders were involved, almost equally distributed between social sector, academia and policy makers. A summary is reported in the figure below.

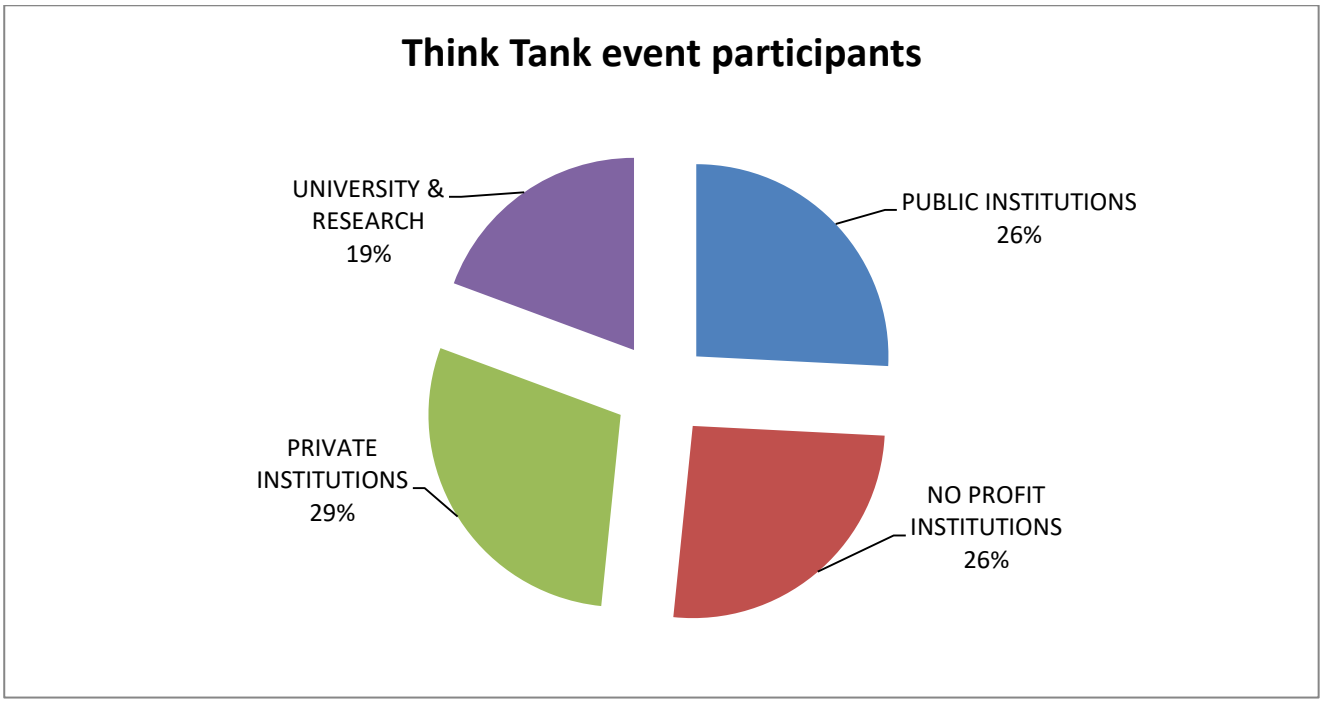


Figura 1 Think tank event participants

The first part of the event consisted in the presentation of previous projects about energy poverty and an introduction about ASSIST project. Then, all the participants to the event have been asked to answer some question, in brainstorming mode.

1. At the moment, in Italy, what are the most effective initiatives to tackle energy poverty? Which are the most relevant involved actors (both at local and national level)? Do you think it is possible to find synergies between the ASSIST action and those initiatives? How do you think it is possible to extend local actions at national level?
2. Based on your previous experiences, which were the most difficult steps in the implementation of actions to tackle energy poverty? How could the difficulties be solved? Which were:
    a. The means of communication used with vulnerable consumers, their pros and cons?
    b. The results, and their reliability?
3. Thinking of ASSIST action and the already existing policies to tackle energy poverty, which might be the main goals of the HEAs in supporting vulnerable consumers?

    Is it possible to plan an action that supports vulnerable consumers not connected to the gas network (that don't have access to national subsidies)?

    Do you think it is possible to test a financing mechanism that allows to adopt energy efficiency measures at residential level? How? Which could be the barriers for vulnerable consumers? How would it be possible to make it accessible to everyone?
4. Do you think there should be a specific target (families with children, elderly, young people) of the ASSIST action? What is the preferred communication mean to get to them? Do you think it is possible to implement the pilot action at national level or is it better to focus on local actions? If so, which could be the most interesting areas?

The questions have been useful to stimulate a productive debate and to highlight the point of view of different types of stakeholders.

5.3.2 The second think tank event

On April, 12th 2018 a second think tank event has been organized in Milan, together with Banco dell'Energia Onlus (an associations, lined to an energy provider, financing energy poverty projects for NGOs).

During this event, the proposed ASSIST actions have been presented, in order to collect ideas and suggestions about them.

At the event, different stakeholders participated: social workers, NGOs, third sector associations, consumers associations, energy providers, environmental associations.

5.4 Barriers to the implementation of pilot actions to tackle energy poverty

Barriers to the implementation of pilot actions were analysed at two levels:

- Through a literature review;
- Through de discussion with stakeholders during the VCSC meeting and the first think tank event.

5.4.1 Literature review

The main barriers identified through the literature review were:

- Lack of a unique definition of "energy poverty" and of indicators globally applicable; difficulty in understanding the boundaries between energy poverty, energy vulnerability and fuel poverty (synonims or not?);
- Effectiveness of subsidies and discounts on energy bills: they are useful in the short term but are not acting at the roots of the problem; they are a disadvantage for those who are slightly above the threshold to access subsidies that, in addition to not receiving any support, have to pay more to finance the mechanism;
- Effectiveness of the policies to avoid disconnection: they are useful in the short term but don't solve the problem at its roots;
- Effectiveness of education and information campaigns: it is very difficult to reach vulnerable consumers, both because the lack of indicators makes it unclear who should be the target and because vulnerable consumers are often not aware/not willing to recognise that they need a support;
- Effectiveness of energy efficiency policies: financing schemes for energy efficiency are usually effective to lead to building refurbishment, but are rarely accessible for vulnerable consumers, that don't have access to mortgages and don't have money for the initial investment (or for covering part of the expenses).

5.4.2 Barriers identified by VCSC and think tank participants

The main barriers and solutions identified during the VCSC meeting and the first think tank event are summarised in the table below and are further explained in the next paragraphs.

Barrier		**How to overcome it**
Lack of an official definition and indicators of “Energy Poverty”		ASSIST should give a definition and indicators of “Energy Poverty”
Lack of data or difficulty in collecting them;		Cooperation among different institutions to collect and share data
Climatic barriers (wide climate difference North vs. South);		Take climatic zones into account when defining policies
High investment costs of energy efficiency measures		Financing schemes that allow access also to people with low budget (e.g. through ESCOs)
Consumers not connected to the national network (especially for Natural gas)		Support schemes shall take into account some subsidies
Psychological barriers	Lack of awareness of each own conditions	Spread the information, with the use of media that allow to reach all the concerned people: this shall focus on educating people on energy issues and on the possibilities to access support schemes.
	Lack of education/information	
	Passive role of consumers (receiving benefits)	
	Lack of confidence in sharing personal data	Clarify the scope of data collection in advance.

5.4.2.1 Lack of a definition of energy poverty

Italian energy poverty mitigation policies are based on income, not on a definition of energy poverty. A clear and shared definition of energy poverty was not available at the moment of the first VCSC.

5.4.2.2 Data collection

In order to analyse energy poverty in deep, a large amount of data is required. However there are some issues in that:

- Effective questionnaires and interviews are very expensive, both in terms of financing and time. Moreover, the target is quite difficult to reach, both due to the lack of a definition and to a lack of trust, as highlighted in the par. “Psychological barriers”;

- Get disaggregated statistical data from existing sources: for privacy issues, it is often difficult;
- Get data from statistical surveys about energy poverty/poverty in general: they are not always useful, due to the quality of data, and sometimes data from different surveys are not relatable.

5.4.2.3 Climatic issues

Local climate can significantly affect energy consumption and energy poverty, that are not always taken into account in the policies. In particular, cooling needs during summer, that lead to a significant increase of electricity consumption in the southern part of Italy, are not considered in the subsidies.

Moreover, the type of building and the context (rural or urban area), thus the energy need for heating and cooling, is not considered in the subsidies.

5.4.2.4 Energy efficiency investments

The best method to tackle energy poverty is energy efficiency refurbishment of buildings. However, there are three barriers for vulnerable consumers:

- High investment costs, with the need to pay for the intervention and then be partially refunded (in 10 years) through subsidies: vulnerable consumers lack the availability of money and the access to mortgages to do that;
- Landlord interests: vulnerable consumers often live in low-cost rented houses, whose energy performances are very bad. In most cases, the landlord has no interest in investing in energy efficiency, not being the one paying energy bills. When vulnerable consumers live in social housing, the managers of the building often lack the money to invest in energy efficiency.
- Condominium meeting issues: when consumers live in block of flats, all major refurbishment work shall be approved by the condominium board; when some inhabitants don’t want or don’t have the money to invest in energy efficiency, refurbishment can not be made.

5.4.2.5 Non-connected consumers

In Italy, several consumers are not connected to the national network, especially in rural or montaineous areas. This issue is widely spread for natural gas, much less for electricity. The current subsidy mechanisms don’t allow non-connected users to acess discounts on natural gas bills.

5.4.2.6 Psychological barriers

There are four main psychological barriers:

- Lack of awarenes or unwillingness to admit difficulties: vulnerable consumers are often not aware of their situation or are afraid to share their difficulties with others, especially in small villages in rural areas, where there is a high perceived risk of stigmatization.

- Lack of confidence in sharing personal data: also when a trust relationship between consumer and operator is established, one of the main issues is to get data about energy consumption, mostly related to a series of frauds in the last years;
- Lack of education/information: very often, those who have the rights to access incentives and subsidies don't know that. Information on how to access subsidies are not well promoted on general media, like television and newspapers, often the main information channels for the elderly or for vulnerable consumers; moreover, long procedures to get the income certification to request the subsidy (every year) is discouraging;
- Passive role of consumers: through the subsidy in energy bills payment, consumers are not directly involved in how to understand, analyse and optimise their energy consumption.

5.4.3 Possible solutions to overcome barriers

Through the discussion with experts and stakeholders, several possible solutions have been identified.

5.4.3.1 Energy poverty definition and indicators

Both at national and European level it has been very challenging to find the definition: however, ASSIST project has this as one of its goals. In Italy, at the moment, policy makers are trying to combine indicators that take into account both energy need and energy expenses, as also defined in the National Energy Strategy (2017).

5.4.3.2 Climatic issues

A precise modelling of energy needs according to standard climatic zones (e.g. as defined by D.P.R. 412, 26th August 1993) is very useful in order to define subsidies.

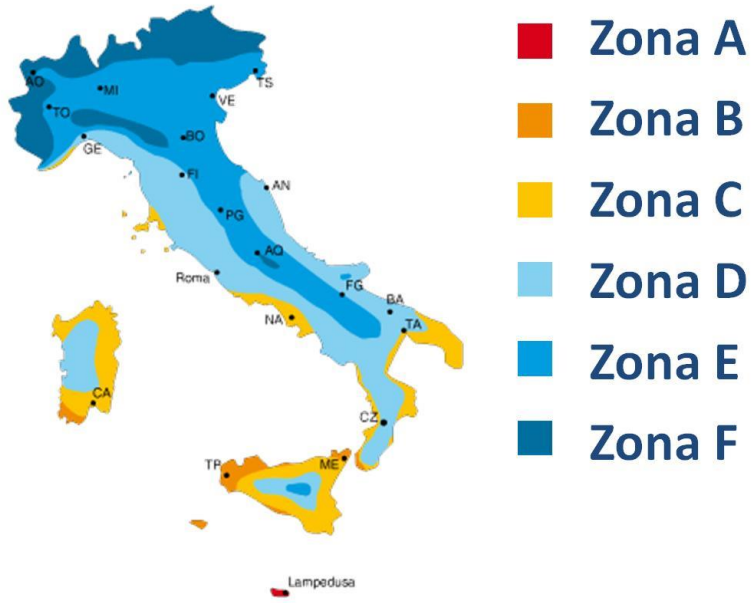


Figure 2: Italian climatic zones (fonte: https://luce-gas.it/) according to D.P.R. n.412, 26th August 1993.

In order to overcome the barrier related to building type and context, it would be easy to add this question in the modules for subsidy request. An interesting step in this direction is represented by what asked in the “Bon de Chauffage” request in Valle d’Aosta, where climatic zone, elevation and sun exposure of the area are considered.

5.4.3.3 Data collection

The possible solutions for data collection are:

- Greater synergy with already consolidated data collectors, in order to insert specific questions on energy poverty; creation of links among different databases in order to relate information;
- Survey dissemination through social services, energy help desks, charities, that can reach target users;
- Data collection to users that are presenting subsidy requests;
- Creation of a national Energy Poverty Observatory, in order to handle the matter in a coordinated way.

5.4.3.4 Energy efficiency investments

The following suggestions have been given to solve the issue of energy efficiency investments for vulnerable consumers:

- Application of “soft” measures: low-cost ones (e.g. lightbulb replacement) or behavioural actions;
- Creation of specific funds to support energy efficiency investments for low-income consumers, without requiring them to have an initial amount to invest;
- Insertion of energy expenses as part of rental costs: the landlord pays also energy bills, so he is motivated towards improving energy efficiency in order to maximise his revenue;
- Creation of specific funds to increase energy efficiency in blocks of flats.

5.4.3.5 Non-connected consumers

The proposals might be:

- Increase electricity subsidy for users non connected to the natural gas network;
- Incentivise the installation of electric heating systems (e.g. heat pumps) instead of fossilfuels (propane or diesel) boilers and heaters.

5.4.3.6 Psychological barriers

The main ways to overcome psychological barriers are:

- Information campaigns about the available subsidies;
- Simplifying of the subsidy access procedures;
- Greater clarity on the scopes of the surveys for vulnerable consumers;

- Specific information for vulnerable consumers at helpdesks and third parties (e.g. public institutions) offices.

HEAs support for these activities is of utmost importance.

5.5 Proposals for an effective action to tackle energy poverty

This paragraph collects both results of a literature review and proposals coming from the workshops.

5.5.1 Literature review

In literature, 4 macro-categories of actions have been identified:

- Financial subsidies:
  - Social tariffs (reduced cost of energy for vulnerable consumers);
  - Income subsidies, in order to satisfy primary needs;
  - Tax exemption or free energy provision up to a certain threshold (basic needs).
- No disconnection for vulnerable consumers, even when they have arrears;
- Education and information in order to increase awareness;
- Building renovation with efficient solutions.

5.5.2 Proposals from workshops

5.5.2.1 HEAs role

HEAs should be energy consultants with specific competences that are not overlapping with those of other professional figures (e.g. ESCOs). They should:

- Provide information about the access to energy poverty subsidies;
- Provide information about the subsidies for energy efficiency refurbishment;
- Provide information about low-cost and behavioural energy efficiency measures;
- Help consumers in understanding and analysing energy bills and energy contracts.

They should be professionals or volunteers, already operating in the social or energy sector, that enhance their role with specific competences on energy poverty.

5.5.2.2 Non-connected consumers

See par. 5.4.3.5.

5.5.2.3 Target di utenti

Since there is no definition, there is no “target-user”: for sure vulnerable users, with different types of needs, can be old people, incomeless immigrants, families with children, unemployed people, families with disabled persons.

In order to reach these types of families, the best ways can be public offices, tax offices, consumers associations, charities, parishes.

At geographical level, there aren’t specific boundaries, but some factors can be taken into account: high cost of living, high cost of energy, low average income, high unemployment leve, etc…

It would be interesting to focus the actions in different areas of the country, in order to cover most of the geographical, climatic, social and economic contexts.

5.5.2.4 Involvement of local communities

The most effective way to implement actions is to involve local stakeholders, that have direct contact with vulnerable consumers. A suggestion is to train HEAs coming from:

- Public offices (social services, energy helpdesks);
- Tax offices;
- Consumers associations;
- Charities;
- Parishes and religious centres;
- Social housing cooperatives;
- Professional associations (e.g. the National Council of Engineers).

A strong cooperation has been activated with Banco dell’Energia, that is an organization financing projects that tackle energy poverty. The funding is provided by donation through energy bills (from customers), is then doubled by a foundation and given to charities that work with vulnerable consumers, through public call for tenders. They work actively also with consumers associations in the Northern area of the country.

Other local stakeholders are public offices, in particular municipalities, whose representatives are also members of the VCSC.

Finally, there is the option to involve high school students, through the “Job-School Alternance project” (internships) to perform soft actions.

5.5.3 Pilot actions proposals

Proposed pilot actions are summarised in the table below and explained in deliverable D5.4.

Key:

 Time/costs aligned with ASSIST project development

 Alignment of time/costs with ASSIST project development to be verified

 Very high time/costs, can be done only in synergy with other projects

Tabella 1 Action proposals for Italy

Categoria	Azione	Tempi	Costi	Note	Possibili soluzioni e sinergie
Category 1. Energy Cafè	**Action**	**Time**	**Costs**	**Notes - constraints**	**Possible solutions and synergies**
	1.A – At commercial sites (e.g. bars, shops, malls)			The occupancy cost of bars, shops and malls can be different according to the type.	A zero-cost solution would be available in case HEAs are already cooperating with the activity or the energy cafè takes place during another charity event at the same site.
	1.B – At associations and parish sites			Usually a small contribution is required to rent the rooms	A zero-cost solution would be available in case HEAs are already members of the association/parish or the energy cafè takes place during another charity event at the same site
	1.C – In schools or public buildings			For free in case HEAs are either students that are doing an internship for ASSIST project or employees of a public entity (e.g. municipality social services)	

2. Dedicated counseling	1.D At social housing sites			Feasible only in case there are HEAs that are employees of the social housing cooperatives or people living in social housing	
	2.A – Soft counseling (analysis of energy bills, questionnaires about family habits, no direct measurement)			It is possible after a first contact has been established, either through an energy cafè or a different event to which some HEAs participated. There might be a trust issue.	Use of databases already available for consumers associations, municipalities or other entities, where people in need are listed. HEAs shall be coming from these entities.
	2.B – Direct measurement of electrical consumption, soft counselling on thermal consumption			It is possible after a first contact has been established, either through an energy cafè or a different event to which some HEAs participated. There might be a trust issue Prerequisite: electricity smart meters availability	See above. For smart meters availability, synergies with other projects can be exploited.
3. Energy Efficiency improvements on buildings	2.C - Direct measurement of electrical consumption and thermal consumption, with dedicated counseling			It is possible after a first contact has been established, either through an energy cafè or a different event to which some HEAs	See above. For smart meters availability, synergies with other projects can be exploited. At the present moment, for the

				participated. There might be a trust issue Prerequisite: electricity smart meters availability; thermal comfort meters availability	thermal comfort meters the availability is much lower than for electricity meters.
	3.A – HEAs as intermediaries between ESCO and citizens			Possible only in synergy with already existing projects. Constraint: some of the costs are however charged to the users.	Need to exploit synergies with other projects
	3.B – Coordination of Collective buying power			Possible only if HEAs are available to act as coordinators Constraint: some of the costs are however charged to the users. .	Need to exploit synergies with other projects. Need to find some free financing for vulnerable consumers

Considering the available contacts with stakeholders, possible HEAs might be:

- Consumers associations at local and national level;
- High school students;
- Civil servants in municipalities and public bodies;
- Charities volunteers;
- Social housing cooperatives employees;
- Social housing inhabitants;
- Employees of municipalities and other public bodies.

The most likely actions are those categorised under 1 and 2A, while 2B and 2C depend on the availability of metering kits. Category 3 is difficult to implement and will be evaluated in case of synergies with other projects.

5.5.4 Actions discussion during the second think tank event.

These actions have been discussed during the second Think Tank Event, in order to understand what was the view of stakeholders about them. The results are reported in graphical form, where in red are the cons, in green are the pros and in blue the suggestions.

Useful as first contact with families

HEAs and tutors to co-organize events

Convince people that it is not «commercial»

Unclear final goal

No stigmatization

Schools involvement

«Energy Cafè»

English name

Openness to non-vulnerable people

Clear communication campaign

HEAs credibility

Cooperation with other local initiatives

Spread of eco-culture

Consumers profiling

Clear communication campaign

Good as a consequence of Energy Cafè

High expectations about HEAs from people

Dedicated consultancy

To integrate it in energy plans of local administration

Web apps to be integrated in it

Trust and data management issue (anonimity)

Use of pre-existing help desks

Landlords shall intervene

Building retrofitting is the most effective measure

Synergies with other projects

Use transfer of receivables

Building retrofitting

Too high costs

Difficulty to access financing

Use of public intermediaries between consumers and ESCOs/companies

Scale economy by focusing on blocks instead of single flats

Some other suggestions have been proposed by stakeholders::

- High school HEAs should be acting in schools different from their own;;
- Invite HEAs to future think tanks to share their views;
- Involve HEAs in more activities, by studying a business plan to pay them for their work;
- Training also for consumers;
- Enable the exchange of experiences of HEAs also with other projects at EU level;
- Involve HEAs from the projects financed by Banco dell'Energia;
- Use "prizes" to involve consumers;
- Have HEAs from different types of organizations and older people, in order to increase trust;
- Cooperate with energy check-up platforms;
- Work also with houses having cooling needs;
- Actively involve consumers in communication campaigns.

5.6 Proposal of timing and methodology to implement actions

Detailed planning of the actions will be performed with the single HEAs implementing them. However, a general estimation of steps and timing has been proposed.

5.6.1 Energy cafés

Table 2 Time estimate for Energy Café organization

Activity	Days	h/day	Tot h
Material preparation	2	8	16
Event planning	2	4	8
Min. number of events	1	4	4
Max number of events	6	4	25

5.6.1.1 Cost estimate

Depending on the type of organization and the place of the event, the costs might vary between 0 (in case, for example, the event is organized at the headquarter of a charity with HEAs that are volunteers) to 1000 € in case it is organized in a commercial space during weekends. Moreover, printing of material shall be accounted for in the costs.

5.6.1.2 Monitoring and results

This type of activity can't be considered a proper action, the aim is to generally inform people on how to optimize their energy consumption, aiming at reaching an overall estimated saving

of at least 2% (in line with literature and software simulations that estimate behavioural effects responsible from 1% to 10% of energy consumption=

5.6.2 Dedicated consultancy

Tabella 3 Time estimate for dedicated consultancy

Activity	Days	h/day	Tot h
Material preparation	2	8	16
Face to face consultancy	10	4	40
Electric metering installation	10	1	10
Thermal metering installation	10	0.5	5
Data gathering and elaboration	10	4	40

For every activity, 10 users per HEA have been counted.

5.6.2.1 Cost estimate

If only dedicated advice is given, the costs are 0, except printing of material (optional).

If metering is involved, the following costs shall be accounted for:

- Electricity smart metering kit: 200-500 €/kit;
- Thermal smart metering kit (radio-thermometers): unknown but for sure above 100€/kit

The cost of smart meters can't be covered by the project, so metering will be done only in synergy with other projects.

5.6.2.2 Monitoring and expected results

Consumption monitoring is foreseen through bills reading, house meters reading and smart meters (when available), so it will be quite precise. The aim is to reach at least 7% consumption reduction (according to the indicators developed in WP4) considering also comfort increase and energy costs reductions.

5.6.3 Building retrofitting

Time and cost estimate shall be done on a case-by-case basis, in case any synergy with similar projects is possible.

An order of magnitude of costs is of several thousands of euros, with time estimate of more than 1 year, so only synergies with already started projects will be considered.

5.7 Current number and type of HEAs

In Italy there are several types of HEAs, that are summarized in Table 16. At the moment of the writing of this document, 167 HEAs have completed the first edition of the training

courses (51 ASSIST HEAs, 6 high school students training at RSE, 110 high school students training at Leroy Merlin); 39 ASSIST HEAs are completing the training (foreseen completion by the end of December);1121 other high school students and 27 more are following the course. Moreover, there are ongoing contacts with several associations and institutions in order to train other HEAs. More details are available in deliverable D3.4.

Table 16 HEAs types and training

Course/ edition' name	Place	Duration	Time frame	Participants			
				# participants enrolled	Typology	Number of participants completing course/edition	Typology
ASSIST HEA	*On Line*	*40 hours*	*June – December 2018*	*117*	*Unemployed; Third sectors operators; Civil servants; Social Assistants; Consumer Associations; Univ. Students; Researchers; Energy & Home Companies*	*51*	*Unemployed; Third sectors operators; Civil servants; Social Assistants; Consumer Associations; Univ. Students; Researchers; Energy & Home Companies*
ASSIST HEA (Junior) Program for School/Job Alternance	*In presence Meetings* *On Line*	12 hours	10 – 30 June 2018	6	High school students (4 in ASL; 2 interns)	6	High school students (4 in ASL; 2 interns)
ASSIST HEA (Junior) Program for School/Job Alternance	*On Line* (in presence meeting @ Leroy)	25 hours	October 2018- April 2019	1.231	High school students	110	High school students

@Leroy Merlin							

5.7.1 High school students

In Italy, high schools students have to work for a certain amount of hours (depending on the type of school) during their last 3 years of education. This program is called “Alternanza Scuola Lavoro” (ASL) – translated in School/Job Alternance. ASSIST project partners started with proposing a dedicated course for high school students, that foresaw around 20 hours of online training and some in-presence activities, at RSE premises. 4 high school students and 2 students that had just finished high school followed this course and spent the rest of their training preparing promotional materials and factsheets to be used in engagement events. It is foreseen to held a meeting with high school families in an “energy café” mode.

In parallel, a private company, Leroy Merlin, already involved in other School/Job Alternance and energy poverty projects, proposed ASSIST partners to include the training in their ASL activities. Students subscribing to this proposal, coming from all over the country, will follow the course and then implement a general consultancy activity at Leroy Merlin home supplies shops.

5.7.2 Consumers associations

Consumers associations members are interested in following ASSIST training and implementing actions related to dedicated consultancies at consumers help desks, both physical and through free-toll numbers. They are interested in supporting vulnerable consumers in choosing the right energy contract based on their habits, helping them in understanding energy bills and giving them information on how to request financial measures.

5.7.3 Energy and home companies

Energy and home companies are interested in ASSIST training in order to improve the quality of the consultancy they are giving at helpdesks. In particular, as ASSIST actions, they will provide consultancy on how to choose the best energy contract based on consumers habits and preferences.

5.7.4 Social services (professional and social services students)

Social services workers are already in contact with vulnerable consumers during their day-to-day work and are a reference point for them in many matters. Considering the chance of accessing people homes and having their trust, they have a very high potential of supporting vulnerable consumers in their energy choices, changing their habits and implementing low-cost or no-cost energy efficiency measures.

5.7.5 Civil servants

Civil servants are performing their activities at public and private bodies and companies. In the cases related to ASSIST project, they are mostly working either for municipalities (e.g. at social services departments) or for consumers and charity associations. They have the aim to include energy advice in their day to day work, mostly at helpdesks.

5.7.6 Social housing personnel

Social housing inhabitants are mostly vulnerable, with low-income and live in very old houses, whose efficiency is practically zero. In some cities (e.g. Milano, Civitavecchia), personnel working in social housing management are interested in ASSIST course in order to provide social housing inhabitants with advice and tips on how to optimize their energy consumption. In some cases, if possible, this education activity will be inserted in larger projects related to energy efficiency (e.g. building retrofitting).

5.7.7 Municipalities

Many municipalities (especially those keen on energy and environmental issues and members of the Covenant of Majors), within the Sustainable Energy (and Climate) Action Plan, are interested in launching an energy helpdesk to support citizens with the energy consumptions. The operators of these helpdesks may be trained through the ASSIST-TED course and there may be synergies between the work of the helpdesk and the ASSIST action

5.8 Foreseen activities

There are several activities, performed by the different types of HEAs. They include engagement strategies, pilot actions and synergies with other projects.

The foreseen activities are reported in Figure 3.

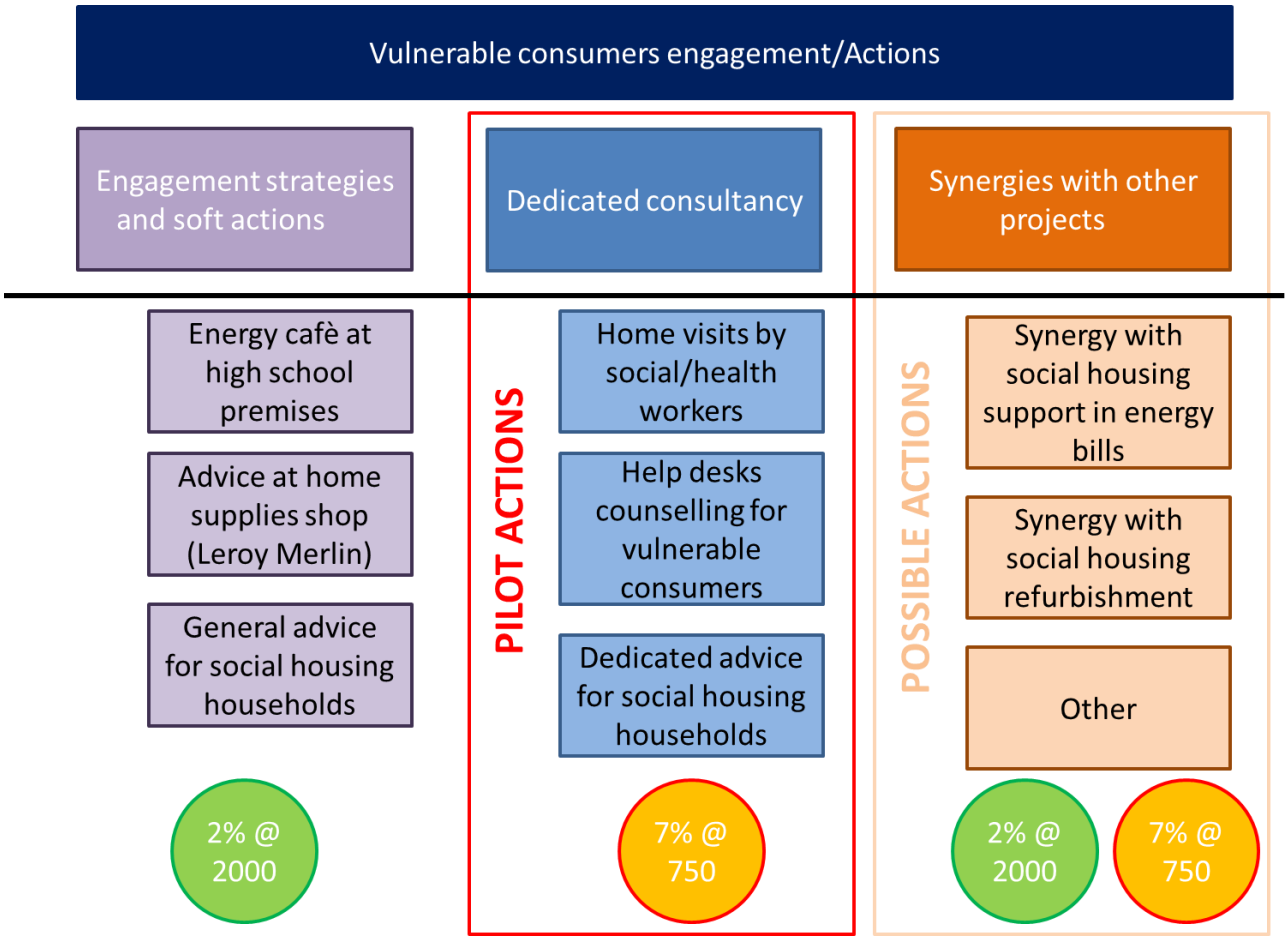


Figure 3 Foreseen activities

Table 17 summarizes which activities will be used for the counting of the savings, considering that the group of 750 will be included in the group of 2000 consumers:

Table 17 Activities divided by goals

Goal	Activity
2% savings	Energy Cafè at high school premises
	Advice at home supplies shop (Leroy Merlin)
	General advice for social housing households
	Home visits by social/health workers
	Help desks counselling for vulnerable consumers
	Dedicated advice for social housing households
	Synergy with social housing support in energy bills
	Synergy with social housing refurbishment
7% savings	Home visits by social/health workers

	Help desks counselling for vulnerable consumers
	Dedicated advice for social housing households
	(Synergy with social housing support in energy bills)[1]
	(Synergy with social housing refurbishment)[1]

These activities will be further detailed in the next paragraphs.

5.8.1 Engagement strategies and soft actions

There will be different types of engagement strategies, with the goal to identify vulnerable consumers that could benefit from ASSIST actions.

Energy café at high school premises

High school students involved in the School/Job Alternance will organize energy cafés at their school premises in order to engage vulnerable families into further actions. The organization at school premises overcomes trust barriers. Factsheets and other promotional material will be distributed to families, and those interested in a further contact will be oriented to the HEAs network, where more experienced HEAs can support them in further actions.

Table 18 Energy cafés at high school premises

Action/event title	Energy cafè at high school premises
Action description	
Action target	All families with children in the highschool (ca. 2,000)
Geographic dimension	Local (Verbania)
Geographic area	Verbania
Number of involved users (estimated)	Potentially 2,000 households, estimated at least 50
Success rate	20% of households leaving their e-mail address/phone number for a second contact
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, questionnaires, etc…
HEAs involvement	
Type of HEA	Trained high-school students (short HEA course)
Foreseen involvement	Organization of 1-2 event(s)
Action monitoring	

[1] The collection of baseline and the follow-up shall be verified, in order to understand whether to include these in the “pilot actions” (goal: 7%) or to consider them as “soft actions” (goal: 2%)

HEAs activity	Number of involved families – number of households leaving their contact for a follow-up
Control group	Not foreseen
Monitoring tools	If possible, follow-up with families that leave their contact
	Questionnaire on their consumption habits and change in them
Large control group	Not foreseen for this action
Estimated energy savings	2% (for those who leave their contact)
Monitored group	No monitoring foreseen. 2,000 users @2% (for those who leave their contact) 30,000 reached users

Advice at home supplies shop (Leroy Merlin)

Other high school students involved in School/Job alternance will be enrolled as HEAs at home supplies shops, with the aim to provide customers with advice on energy efficient equipment and on how to save energy by changing their behaviours. Also in this case, students will distribute factsheets and promotional material, containing all the contacts for the families to get in touch with HEAs network.

Table 19 Adivice at home supplies shop

Action/event title	Advice at home supplies shop (Leroy Merlin)
Action description	
Action target	All customers of the shops
Geographic dimension	National
Geographic area	To be defined
Number of involved users (estimated)	Potentially 5-6,000 households
Success rate	50% of the households taking the advice kit
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc…
HEAs involvement	
Type of HEA	Trained high-school students (short HEA course)
Foreseen involvement	Work in shops some days per week
Action monitoring	
HEAs activity	Number of involved consumers
Control group	Not foreseen
Monitoring tools	Not foreseen
Large control group	Not foreseen for this action
Estimated energy savings	2%
Monitored group	2,000 users @2% 30,000 reached users

General advice for social housing households

Also in social housing premises, some general meetings with all the interested families will be held, in order to engage them into further actions. These meetings will be coordinated by HEAs coming from the social housing administration or by inhavitants themselves that have completed the HEA training. They will act as a first contact point, where general advice on how to save energy will be provided. After that, those families willing to participate to pilot action will be followed by the HEA and inserted in the program.

Table 20 General advice for social housing households

Action/event title	General advice for social housing households
Action description	
Action target	All interested social housing inhabitants
Geographic dimension	National
Geographic area	Milano – Civitavecchia – Parma (?) – Genova
Number of involved users (estimated)	Potentially 5-6,000 households
Success rate	50% of the households participating to the second meeting and taking the advice kit
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc…
HEAs involvement	
Type of HEA	Social housing representatives and responsibles
Foreseen involvement	Organize a general meeting and 3-4 dedicated meetings
Action monitoring	
HEAs activity	Number of involved consumers
Control group	Not foreseen
Monitoring tools	Not foreseen
Large control group	Not foreseen for this action
Estimated energy savings	2% (for those who participate to the second meeting)
Monitored group	2,000 users @2% (for those who leave their contact) 30,000 reached users

5.8.2 Pilot action 1: home visits by social/health workers

Home visits will be organized by social or health workers that are already doing this activity as their day-to-day work. The normal home visits will be enriched by a general evaluation on the energy efficiency of the building and the comfort level, the use of a questionnaire to collect data on energy consumption and habits of the household and the provision of dedicated advice. If/when possible, metering equipment will be installed, in order to monitor energy consumption and savings. At least one follow-up will be done, in 6-12 months, in order to evaluate if any progress has been made and record the results. The follow-up could either be a visit or a phone call/e-mail to the family.

Table 21 Home visits by social/health workers

Action/event title	Home visits by social/health workers
Action description	
Action target	All households followed by social/health workers
Geographic dimension	National
Geographic area	Sesto San Giovanni (?) – Sardegna (?) – L'Aquila
Number of involved users (estimated)	Potentially 500-600 households
Success rate	20% of the households involved in the initiative
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc…
HEAs involvement	
Type of HEA	Social workers or health workers (e.g. nurses)
Foreseen involvement	Visit the household and phone call/e-mail follow-up
Action monitoring	
HEAs activity	Number of involved consumers
Control group	10% of involved households providing their data on energy consumption and energy expenditure before and after
Monitoring tools	Questionnaires to the families and check of energy bills
Large control group	Not foreseen for this action
Estimated energy savings	7% (for those who participate to the initiative)
Monitored group	750 users @7% (for the 20% inhabitants participating to the initiative) 2,000 users @2% 30,000 reached users

5.8.3 Pilot action 2: helpdesk counselling for vulnerable consumers

Helpdesk counselling for vulnerable consumers can be organized by different type of HEAs, with different goals and activities: consumers associations, energy companies, civil servants, social workers, public bodies, etc…

Table 22 Help desk counselling

Action/event title	Help desks counselling for vulnerable consumers
Action description	
Action target	All consumers going to helpdesks about energy
Geographic dimension	National
Geographic area	Several regions and provinces all over Italy
Number of involved users (estimated)	Potentially 1000 households
Success rate	20% of the households involved in the initiative
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc…
HEAs involvement	
Type of HEA	Consumers associations, energy companies, social workers, civil servants

Foreseen involvement	Questionnaire and energy bills reading for baseline collection, follow-up calls/e-mails. Dedicated advice based on household habits and preferences.
Action monitoring	
HEAs activity	Number of involved consumers
Control group	10% of involved households providing their data on energy consumption and energy expenditure before and after
Monitoring tools	Questionnaires to the families and check of energy bills
Large control group	Not foreseen for this action
Estimated energy savings	7% (for those who participate to the initiative)
Monitored group	750 users @7% (for the 20% inhabitants participating to the initiative) 2,000 users @2% 30,000 reached users

The main goal of helpdesk counselling, that can be both in-person or through a free-toll number, is to provide advice on different topics:

- How to read energy bills;
- How to choose energy contracts based on consumption habits and preferences;
- How to request financial measures and subsidies;
- How to implement low- and zero-cost energy efficiency measures.

The advice is calibrated on the type of household, the building in which they live, their habits and their preferences. When municipalities and/or trade unions are involved, also direct support in requesting financial measures and subsidies (that can be done by either of the two) can be provided.

Baseline data about the household will be collected through a questionnaire, and at least a follow-up after 6-12 months will be done either in person or by call/e-mail.

More details on the support activities in this pilot action (except the advice on zero- and low-cost energy efficiency measures) are reported in the following tables.

Table 23 How to read energy bills

Activity	Support in understanding energy consumption and energy bills
Action description	
Action target	All vulnerable followed by social services
Geographic dimension	National
Geographic area	To be defined
Number of involved users (estimated)	100 households
Success rate	100% of the involved households
Action tools	Lesson about energy (all modules), factsheets with guidance on low cost measures, etc..
HEAs involvement	

Type of HEA	Social services operators
Foreseen involvement	Integrated in their day-to-day work
Action monitoring	
HEAs activity	Number of adviced families
Control group	10 households assisted in reading and understanding their bills and putting in place advices
Monitoring tools	Reduction in energy expenditure/consumption
	Questionnaire on satisfaction
Large control group	Not foreseen for this action
Estimated energy savings	Not foreseen for this action
Monitored group	750 users @7% 2,000 users @2% 30,000 involved users

Table 24 How to choose energy contracts

Activity	Support in Electricity contract choice
Action description	
Action target	All people asking support to consumers associations and energy providers
Geographic dimension	National
Geographic area	To be defined
Number of involved users (estimated)	200 households
Success rate	100% of the involved households
Action tools	Lesson about Electricity and natural gas market, about how to read energy bills, etc…, factsheet with the guide on efficient small home appliances
HEAs involvement	
Type of HEA	Consumers association help desk personnel and energy companies help desks
Foreseen involvement	Integrated in their day-to-day work
Action monitoring	
HEAs activity	Number of adviced families
Control group	20 households assisted in choosing a different contract/operator that is more suitable for their needs
Monitoring tools	Reduction in energy expenditure
	Questionnaire on satisfaction
Large control group	Not foreseen for this action
Estimated energy savings	Not foreseen for this action
Monitored group	750 users @7% 2,000 users @2% 30,000 involved users

Table 25 How to request financial measures and subsidies

Activity	Support in “Bonus” requests
Action description	

Action target	All eligible people for electricity or natural gas discount, called "Bonus" (income under 8,107.5 €/y or families with 4+ children and income under 20,000 €/y)
Geographic dimension	National
Geographic area	To be defined
Number of involved users (estimated)	50 households
Success rate	100% of the involved households
Action tools	Lesson about Electricity and natural gas discounts, guidelines for bonus request (documents, which offices issue them, etc), factsheet with the guide on efficient small home appliances
HEAs involvement	
Type of HEA	Consumers association help desk personnel - Federconsumatori
Foreseen involvement	Integrated in their day-to-day work
Action monitoring	
HEAs activity	Number of bonus requests
Control group	5 households assisted both in requesting the discount and evaluating how to use the money
Monitoring tools	Outcome of the bonus request
	Questionnaire on how the money was used
Large control group	Not foreseen for this action
Estimated energy savings	Not foreseen for this action
Monitored group	750 users @7% 2,000 users @2% 30,000 involved users

5.8.4 Pilot action 3: dedicated advice for social housing households

Social housing inhabitants are mostly living with low-incomes and are very likely to be in energy poverty. The action of dedicated advice could represent a follow-up of the general advice for social housing, with HEAs visiting families that have expressed their interest in the program. During the visit, a general assessment of on the energy efficiency of the building and the comfort level will be performed. With the use of a questionnaire data on energy consumption and habits of the household will be collected and dedicated advice will be provided. If/when possible, metering equipment will be installed, in order to monitor energy consumption and savings. At least one follow-up will be done, in 6-12 months, in order to evaluate if any progress has been made and record the results. The follow-up could either be a visit or a phone call/e-mail to the family.

Table 26 Dedicated advice for social housing households

Action/event title	Dedicated advice for social housing households
Action description	
Action target	All interested social housing inhabitants
Geographic dimension	National
Geographic area	Milano (?) – Civitavecchia – Parma (?) – Genova

Number of involved users (estimated)	Potentially 5-6,000 households
Success rate	20% of the households involved in the initiative
Action tools	Factsheets with advice on electricity appliance, electricity bills, low-cost energy efficiency measures, etc…
HEAs involvement	
Type of HEA	Social housing representatives and responsibles
Foreseen involvement	Organize helpdesks/home visits and follow-up calls/mails
Action monitoring	
HEAs activity	Number of involved consumers
Control group	10% of involved households providing their data on energy consumption and energy expenditure before and after
Monitoring tools	Questionnaires to the families and check of energy bills
Large control group	Not foreseen for this action
Estimated energy savings	7% (for those who participate to the initiative)
Monitored group	750 users @7% (for the 20% inhabitants participating to the initiative) 2,000 users @2% 30,000 reached users

5.8.5 Synergy with social housing support in energy bills

Some social housing administrators (e.g. MM in Milan) are putting in place projects regarding environmental awareness and inclusion of inhabitants, while also giving them a support in paying their energy bills. The project aims at reducing costs for vulnerable households, while educating them on how to use energy in a rational way. The project foresees the training of social housing representatives as HEAs and the organization of “evening classes” for inhabitants, where they can learn how use and save energy, how to understand energy bills, how to change their contracts, etc… For those people participating to a significant number of classes (the threshold will be chosen when the project starts), the administrators are willing to pay a part of their energy bills. This group of people will be counted in the 2,000 consumers that aim at 2% consumption reduction.

A further step, if possible, will be a more dedicated advice, followed by the check that the family has put it in place. In this case, another subsidy in paying energy bills will be erogated. Since baseline and follow-up are collected, this action will count in the 7% consumption reduction.

5.8.6 Synergy with social housing refurbishment

Some social housing administrators (e.g. ATER Civitavecchia and IRE Liguria) are putting in place projects of building retrofitting. In some cases, metering will be used to monitor energy consumption. In synergy with these projects, some personnel or social housing representatives will be trained in order to give dedicated advice on energy consumption to the inhabitants and to verify that they put in place also behavioural actions (so, avoiding for example rebound effect) in order to further reduce their energy consumption. These actions will count in the 7% consumption reduction.

5.9 Monitoring tools

In order to guarantee the success of the actions, some monitoring tools are needed. General monitoring through moodle platform and the development of KPIs is already described in deliverable D4.3 and D4.4. Here, more details on the specific monitoring for each activity and action will be provided.

5.9.1 Engagement strategies

Engagement strategies, not considered as “pilot actions” themselves, won’t be directly monitored. However, considering the type of advice that will be given through factsheets. Considering that the advice is standardize, it has been simulated that, for an average household, following it completely will lead to savings up to 10%. However, personal preferences and habits have an influence on energy consumption and savings, so 2% is considered a reasonable result.

5.9.2 Home visits by social/health workers

Home visits will be monitored through:

- Collection of baseline through energy bills reading and questionnaires and personal evaluation of comfort and energy efficiency of the building by HEAs;
- Follow-up questionnaire/energy bills reading and, if possible, comfort evaluation after 6-12 months.

All collected data, in anonymized way, will be stored on moodle platform for further elaboration and KPIs calculation.

If/when possible, metering device will be installed, in order to have direct measuring of the overall and appliance-specific consumption.

5.9.3 Helpdesk counselling for vulnerable consumers

Helpdesk counselling will be monitored through:

- Collection of baseline through energy bills reading and questionnaires;
- Follow-up questionnaire/energy bills reading after 6-12 months.

All collected data, in anonymized way, will be stored on moodle platform for further elaboration and KPIs calculation.

For these cases, as specified in the description, also the numbers of contract shifts and subsidies requests will be considered in the final evaluation of the success of the action.

5.9.4 Dedicated advice for social housing households

Considering that this action will be a combination of the previous two, it will be monitored through:

- Collection of baseline through energy bills reading and questionnaires and personal evaluation of comfort and energy efficiency of the building by HEAs;
- Follow-up questionnaire/energy bills reading and, if possible, comfort evaluation after 6-12 months.

All collected data, in anonymized way, will be stored on moodle platform for further elaboration and KPIs calculation.

If/when possible, metering device will be installed, in order to have direct measuring of the overall and appliance-specific consumption.

For these cases, also the numbers of contract shifts and subsidies requests will be considered in the final evaluation of the success of the action.

5.9.5 Synergy with social housing support in energy bills

The first described activity will be considered as engagement action, so there will be no monitoring, but the assumption of 2% savings.

For the second one, the monitoring will be similar to helpdesk activity:

- Collection of baseline through energy bills reading and questionnaires;
- Follow-up questionnaire/energy bills reading after 6-12 months.

All collected data, in anonymized way, will be stored on moodle platform for further elaboration and KPIs calculation.

For these cases, as specified in the description, also the numbers of contract shifts and subsidies requests will be considered in the final evaluation of the success of the action.

If also home visits will be possible, this case will be treated as per par. 5.9.4.

5.9.6 Synergy with social housing refurbishment

This action will be monitored through:

- Collection of baseline through energy bills reading and questionnaires and personal evaluation of comfort and energy efficiency of the building by HEAs;
- Follow-up questionnaire/energy bills reading and, if possible, comfort evaluation after 6-12 months.

All collected data, in anonymized way, will be stored on moodle platform for further elaboration and KPIs calculation.

If/when possible, metering device will be installed, in order to have direct measuring of the overall and appliance-specific consumption.

For these cases, also the numbers of contract shifts and subsidies requests will be considered in the final evaluation of the success of the action.

5.10Conclusions

In Italy, all the three types of activities (engagement strategies, pilot actions and synergies) will be performed, with significant differences in organization, types of involved HEAs and monitoring tools. Moreover, each activity will be declined in different ways, considering the various HEAs backgrounds and capabilities. This is mainly due to the fact that, unlike in other partner countries, a structured system for vulnerable consumers support doesn't exist. So, all the foreseen actions will constitute "experiments" on how to build such system, and their outcomes will be used to build recommendations for policy makers on how to do it.

6. Poland

6.1 Energy poverty in Poland

The latest available research shows that energy poverty affects 9.6% of Polish households, i.e. over 4 million people.

The most at risk are people living alone in large rural houses, tenants of old, municipal tenement houses in towns, families with many children living in large rural houses and poor residents of detached houses in rural areas and small towns (IBS, 2018[2]).

Such conclusions can also be drawn from the ASSIST survey. Energy poverty is not the same as income poverty - in part, the income poor are actually people living in energy poverty. But there are many more causes of energy poverty than the income below the officially adopted poverty threshold. The causes should also be seen in the technical condition of the apartment or property, as well as in the low level of knowledge and low consumer activity. Therefore, in order to think about energy poverty in the context of the project and the activities adopted in it aimed at reducing and alleviating the problem, we should adopt a broad definition of the problem: energy poverty is a phenomenon resulting from difficulties in meeting basic energy needs in the place of residence at a reasonable price. In this sense, we will include in the circle of interest and include in the activities of the ASSIST project those who pay their bills regularly, but often do not have enough to meet other important life needs, live alone - pensioners and pensioners - in large old flats or houses with catastrophic technical parameters; they save energy and feel very uncomfortable at home or it may even badly affects their health. They do not know how to effectively save, who can help them and how to get dedicated help more effective and lasting than a small energy benefit.

6.2 National initiatives to combat energy poverty - synergy with the ASSIST project

Fortunately, an intensive discussion on energy in the context of energy poverty and the related concept of a vulnerable energy consumer has been taking place in Poland for several years now. It seems that research and related studies of this issue, prepared mainly by non-governmental entities, have brought us closer to a more complete identification of the problem, reversing the approach in a way - not focusing only on economic poverty of households, but also on the concept of a widely understood vulnerable consumer, who can easily be affected by energy poverty.

1. [2] Rutkowski J., Sałach K., Szpor A., Ziółkowska Z., Instytut Badań Strukturalnych, Policy Paper 1/2018 *Jak ograniczyć skalę ubóstwa energetycznego w Polsce?*

Indication of the causes of energy poverty as a result of income poverty of a given household results in a narrowed aid approach addressed directly to this type of households, i.e. the following forms of support:

- housing and energy allowances,
- a special additive.

The provision of financial support to persons in need has been included in the Energy Law Act by introducing the concept of sensitive electricity consumers and introducing a benefit for such consumers in the form of an energy supplement. The Energy Law uses the term "sensitive consumer of electricity". A lump-sum energy bonus is granted to sensitive electricity consumers. A sensitive electricity consumer is a person:

- who was granted a housing allowance,
- who is a party to a comprehensive agreement or an electricity sale agreement concluded with an energy company,
- who resides in the place of supply of electricity.

The application can be submitted to the locally competent Municipal Social Welfare Centre. The application should be accompanied by a copy of a comprehensive agreement (agreement for the transmission and sale of electricity) or an agreement for the sale of electricity (agreement for the sale of energy), as well as an electricity bill or invoice. Potential beneficiaries must meet "strict" criteria in order to apply for funding. Energy allowance is a benefit for the poorest, granted to people in difficult financial situation, who often have problems with timely payment of rent and electricity, i.e. whoever does not have a housing allowance will not receive an energy allowance.

This is in the light of numerous studies, also carried out within the framework of the ASSIST project, narrowing down the phenomenon and omitting the problems that lead to the emergence of energy poverty.

It is to be welcomed that analytical and legislative work is underway to prepare solutions aimed at improving the economic conditions for the use of electricity for heating purposes in households. They result from the government's programme to improve air quality 'Clean air' and should also indirectly contribute to reducing energy consumption, such as thermal modernisation of buildings, replacement of furnaces - modernisation of non-environmental heat sources fired with solid fuel or connection to the district heating network. Even the establishment of rules, forms or sources of financing for such projects does not mean that they will be effectively implemented, as much depends on the local government, as it is up to the local government to satisfy the collective needs of the inhabitants, e.g. in electricity and heat, which is the responsibility of the municipalities themselves. If certain activities aimed at improving the quality of life of consumers are to be addressed to the poor, local government units must diagnose both such persons and reach them and reach them not only about the income that qualifies them for social assistance - a defined poverty threshold, but also within a broader social definition of people threatened or affected by energy poverty.

Local initiatives are already partly in line with the measures under preparation for the Clean Air Programme. Since one of the possible ways to combat energy poverty is to increase the

energy efficiency of a building, which will lead to a reduction in the energy demand of the building and thus to a reduction in the expenditure on energy bills, it is important to mention the existing initiatives.

It should be stressed, however, that the problem is that the majority of consumers affected by energy poverty do not spend significant amounts of money on increasing the energy efficiency of a building and, consequently, reducing heat losses. A small number of consumers affected by the problem of energy poverty will therefore benefit from the possibility of subsidies or loans, but it is worth reaching at least some of them with such advice or information, such as representatives of the housing community.

An example of such national measures is the partial financing of investments in energy efficiency, which can be obtained as a thermal upgrade bonus granted by Bank Gospodarstwa Krajowego (BGK) under the Thermomodernization and Repair Fund. The creation of this possibility was related to the need to improve energy efficiency standards for industrial installations, the public sector and households.

A financial subsidy granted as a bonus represents 20% of the loan for thermo-modernization investments, but may not exceed:

- 16% of thermo-modernization costs,
- double the amount of money that can be saved through energy savings according to the energy audit.

The grant awarded is not awarded directly to the beneficiary, but is transferred to the bank that granted the loan to the recipient. An energy audit of the building must be carried out in order to apply for a grant. Within 30 working days from the submission of the application, BGK decided to grant the bonus.

The following are particularly entitled to a thermal upgrade bonus:

- legal entities (e.g. housing associations or companies),
- local government units,
- housing associations,
- private individuals.

Such a financial grant is available for different types of investments. On the other hand, the need to take out a loan to benefit from the bonus may be a strong constraint on those affected by energy poverty who may be reluctant to invest.

Initiatives developed at local level complement national initiatives. In addition, at a lower level, the mechanism can be adapted to local characteristics. Today, many municipalities face air pollution problems. Counteracting this negative phenomenon is a complex task. The Low Emission Reduction Program (LERP) is a structured form that can contribute to the improvement of air quality. The LERP is a personalized plan for each commune, because the scale and characteristics of the pollution problem vary from region to region..

Krakow, which is one of the most polluted cities in Poland within the framework of LERP, offers a grant that can be spent on:

- boiler modernization,
- connection to the district heating network,
- installation of renewable energy sources.

The form of support is continuous. However, if the annual expenditure limit is reached, the call for proposals shall be closed. If the programme receives additional funding, the call for proposals shall be reopened. The programme has changed over the last 2 years, including in terms of forms of accounts and amount of grants, so there is no point in describing it in detail. It is worth noting that a support system has been created for the charges of the Municipal Social Welfare Centres - the employees of the Environmental Management Department and the Municipal Social Welfare Centre visit the persons covered by the social assistance, who have active coal-fired furnaces - they help to complete, fill in and submit the grant application.

Another way to combat air pollution and energy poverty, is to subsidise those who choose to move from fossil fuel heat to less polluting energy sources such as gas, electricity, oil or urban heating. Such programmes are developed locally, e.g. in Krakow. Beneficiaries receive partial refund of heating costs.

The amount of the subsidy is calculated according to the heated area of the flat, the type of heat source and the income of the beneficiary. It is paid once a year directly to the heat supplier or using individual aid modalities agreed with the beneficiary. Potential beneficiaries are obliged to participate in the Low Emission Reduction Programme.

The application process requires filling in an application form and delivering it to the local helpdesk together with the necessary documents, e.g. :

- surface area of the apartment,
- the heat supply contract (or other document proving that the applicant pays the heating bills),
- evidence of change of heat source (for activities outside LERP),
- documents determining income

The decision was taken within one month. Only heat sources that changed after 14.09.2011 are justified to be used for subsidies. The call for proposals is continuous and the programme is expected to run until 2022.

Another example of a financial mechanism to reduce local low-carbon emissions is the Boiler Modernisation Programme, which was set up by the City of Warsaw. The residents of Warsaw could receive funding to replace coal-fired boilers with gas or oil-fired boilers or district heating.

In order to apply for co-financing, the following documents had to be submitted to the Department of Environmental Protection (DEP) in Warsaw:

- completed application form,
- documentation concerning the scope of the investment together with the ownership right and the building permit.

Then DEP signed the grant agreement with the beneficiary. Once the investment was completed, evidence and documents such as the contract with the investment contractor and the investment invoices had to be submitted.

The Regional Fund for Environmental Protection and Water Management (WFOŚiGW) in Wrocław offers a programme aimed at reducing air pollution by replacing old heat sources with more efficient solid fuels.

The beneficiary must submit an application for support together with the necessary documents to the Voivodship Fund for Environmental Protection and Water Management in Wrocław. After signing the agreement, the recipient may start the implementation of the investment, which after completion must be proven by providing documentation (i.e. invoices, photos) related to the investment.

The application process is continuous and will last until October 2018 or until the funds are exhausted. The beneficiary may receive up to 50% of the investment costs from loans that may be redeemed. The programme may be used by any local government units or residents of the Lower Silesian Voivodship.

Since this form of support is effective, primarily in combating smog, but also in reducing the cost of energy use and improving the quality of life, it will certainly be a way of reducing energy poverty in its broadest sense at least in part. As the example of Krakow shows, it is necessary to undertake joint actions of the employees of the city office, social welfare centres and eco-consultants in order to activate poor consumers, identify the needs of the inhabitants of decapitalized houses, reach out to people who need to be helped with advice, explain specific actions, even write conclusions - this is the role to be played, among others, by the HEA.

There is no comprehensive strategy to combat energy poverty in Poland and there will probably not be until a legal definition of this type of poverty is established. However, especially at the local level, more and more initiatives are related to air quality. These initiatives not only have an impact on the environment, but also help to alleviate the problem of energy poverty.

6.3 Barriers to energy poverty alleviation

The concept of energy poverty, as we have already said, definitely goes beyond the traditional concept of poverty. There are many elements in the emergence of this phenomenon. Even income poverty can have different faces. It can affect someone temporarily because of job losses or illness. It can be sustainable and, worse still, inherited as a result of passive social attitudes. Energy poverty may include people or families defined as not belonging to the poorest, because they have fixed incomes, but relatively low because of the high costs of living, and most often the fixed costs - housing, heating, etc. - and the costs of living. Sometimes high costs, e.g. of heating, result from the "condition" of old buildings - old, too large, not modernised, and sometimes from equipping the household with equipment or lighting in the premises devouring electricity or habits related to the use of equipment.

So let us sort out the situations and factors we want to take into account when describing the barriers to alleviating energy poverty:

Inadequate housing conditions generating problems with achieving thermal comfort, old tenement houses or houses not revitalized according to current building standards, with low energy efficiency, often rural, large, built without consideration of thermal insulation standards, leaking windows, doors, staircases, damp, often with inefficient heating system, even connected to the heating network can have old "equipment", etc.

Demographic situation - lonely people, often pensioners - single-person households with fixed but small or medium incomes at high fixed costs, large number of children or people not fit for life. As a result of the ageing of the population, the group of people, especially pensioners, will be growing.

Consumers who are poor in income - also a diverse group, just as there may be different causes of poverty. Income poverty can be treated according to the income criterion resulting from provisions allowing for social assistance or housing and energy allowances. But poverty can also be felt subjectively - 'I pay my bills, but I have no other money to pay, I have to limit myself very much'.

Household equipment - energy-intensive appliances.

Level of general knowledge, tendency to acquire new knowledge, awareness of consumer behaviours influencing the reduction of bills, often simply low level of education.

As can be seen, developing a coherent definition of the phenomenon of economic poverty is a difficult task, as economic, technical and awareness-raising factors must be taken into account. There is a lack of tools for a systemic approach to this issue. Policy at the national level may provide instruments - legal, financial, e.g. within the framework of programmes (currently focused primarily on pro-ecological changes related to the reduction of low emissions, and thus the fight against air pollution), but their implementation will always be regional, or even very local. It is the responsibility of territorial self-government units to properly implement specific measures that will include consumers affected by energy poverty. It seems that at present, through communal social assistance centres, gminas are able to identify the income poor who are covered by social assistance, including housing and energy allowances, but also purpose-specific benefits and energy lump sums. They are missing people who may also have problems for other reasons, which, unfortunately, are poorly identified. In order to better target public policy instruments, the group of beneficiaries should be expanded, not only on the basis of the income poverty rate, but also on the basis of the low-income to high-cost ratio. However, there is no data on the situation of households when they do not report their own needs for assistance in relation to the commune. Therefore, it is necessary to create a tool for identification of households at risk of energy poverty and eligible for various forms of support, depending on the diagnosed causes, which is currently lacking. To this end, it is necessary for consumers to go out and obtain data on the household situation, covering not only the structure of expenditure, analysis of bills, e.g. for electricity, but also information on the technical condition of the building/apartment and its equipment. In the case of old multi-family, residential and social houses, which are in the municipal resources, the latter issue seems to be much simpler and even necessary.

Especially since possible connections to the district heating network, which often solves problems related to energy poverty, or thermal modernisation programmes implemented in municipalities and aimed at poor residents, at present rather in the pilot phase, are adopted by municipalities, in accordance with the assumptions of the plan for the supply of heat, electricity and gas fuels. Active acquisition of "administrative" data seems to be a necessary condition for addressing any assistance, advisory and corrective measures in relation to identified consumers.

6.4 Proposals for effective action against energy poverty

Until now, the issue of energy poverty has been seen in the context of poverty and its diagnosis has rested and aid has rested with the social welfare centres, necessarily narrowing the problem and certainly not preventing it. Too narrow an approach still means that actions are limited to immediate aid, which does not change its effectiveness in a permanent way. The debate on energy poverty in recent years, conducted primarily by third sector organisations, and on more systemic measures to improve air quality in the country, especially data on dozens of Polish towns and cities, has also resulted in the fact that the issues of reducing or alleviating energy poverty in a broader context, not only as a result of economic poverty, have begun to be seen. The success of many measures and the degree of their effectiveness will depend on the fulfilment of several conditions. Plans for thermal modernization of buildings, especially in cities, covering buildings inhabited by people with low incomes (at the moment it is difficult to estimate the scale of the project, the actions are planned as pilot projects, e.g. in one of the most polluted cities in Poland) may bring positive effects, but paradoxically they could give even better results if they were supported by advice on energy-efficient consumer behaviour, budget management skills, reading bills, making additional improvements. Municipalities and their services must not be limited to the system of subsidies as a "remedy for all evil".

Therefore, in view of the previously identified barriers to the alleviation of energy poverty, the ASSIST project should strengthen existing instruments for identifying potential beneficiaries and the forms of assistance to be provided to them and create new forms of assistance using existing rather than used entities.

Since the closest to consumers, operating locally, mainly municipalities with their specialised structures and services, deal with specific social support, provided to inhabitants in difficult life situation (not only economic), this network should be included in activities aimed at identifying and helping consumers affected or threatened by energy poverty. The existing problem of lack of data on technical, economic and even awareness issues, previously indicated as a basic barrier to reaching people in need of various types of assistance, can be overcome by means of a properly conducted preliminary diagnosis within the framework of community interviews conducted by social services. Since this will require the questionnaire to be extended with additional questions and information, the Consumer Federation, KAPE and VCSC representatives will provide the appropriate tools and training to improve the skills of social workers in the area of energy and consumer issues in the broad sense. Additionally, the local governments may use the developed data to prepare

the assumptions of the plan for the supply of heat, electricity and gas fuels, which is its duty, as we wrote earlier, but thanks to the current diagnosis concerning households, it will be possible to better dedicate specific actions. Many municipalities do not have the data necessary for rational preparation of energy supply plans for their inhabitants, which results in the lack of real and rational decisions. We will carry out these activities in Warsaw and Słupsk by pilot project.

Consumer advisors from branches of the Consumer Federation, most often lawyers, are well recognized among the residents of their region as providing free legal assistance and advice to all consumers. The reported consumers are in large part vulnerable consumers, and the problems with which they come forward also concern energy issues, very often problems result from the inability to read their bills, ignorance of contracts, concluding contracts in the direct sales system related to unfair market practices violating collective interests of consumers. Advisers are able, after training, to help out those consumers who may be potentially exposed to energy poverty for various reasons. They are most often able to spend more time talking to consumers about their living, housing and living conditions - a wide range of issues that can have an impact on their economic situation and comfort in terms of energy consumption. 34 branches of our consumer organisation will be provided with materials concerning a wide range of issues related to energy poverty, issues discussed in the SFs (prepared in WP6), project activities - the scope of environmental interviews related to the issue of energy poverty, although they will not conduct it themselves, but it will be a kind of a guideline for an interview. One third of the staff of the field offices - the CEF advisory centres - will be further trained within the HEA network.

Selected consumer advisors - local/district consumer advocates - as employees of territorial self-government units will also be included in the HEA network of advisors after training and, similarly to the FK advisors, will be "armed" with knowledge both during the training and through the provided materials and access to current on-line information. Additionally, as local government employees, they can cooperate and transfer data and information about residents to the relevant local government units, when they identify specific problems or expectations of consumers.

Slightly different competences are already held by advisors to the regional structures of the National Fund for Environmental Protection and Water Management (NFOŚiGW) - provincial funds for environmental protection and water management. They provided advisory support to the public sector, the housing sector and companies in the field of energy efficiency. First of all, it concerned large investments, e.g. thermomodernization of public buildings, but also investments related to RES. Therefore, they have knowledge about assistance programs at the national and local level, fundraising, and issues related to energy audit. They did not deal with the problems of vulnerable consumers or consumers affected or at risk of energy poverty, they did not deal at all with consumer issues, consumer rights or actions in the interest of consumers. Therefore, they will take part in HEA training courses described in the sections on advisors, so that their professional technical and financial knowledge of energy-saving investment financing programmes can be used in the consultancy, as well as on consumer issues, sensitive consumer, data collection for effective

identification of persons requiring advice, taking into account all issues that may have an impact on the emergence of energy poverty problems.

The inclusion of dedicated customer service employees of two large energy companies, their training and cooperation with them of other HEA network participants and the flow of know-how between representatives of different institutions with different instruments and forms of action will be of great value. Active action on the part of energy companies will increase the possibility of identification of households - beneficiaries of the activities established in the ASSIST project.

Proposals for action in Poland - below in the table

 Reasonable time/cost in relation to the expected results achieved by the ASSIST project

 The ratio of time/cost to expected results achieved in the ASSIST project has to be additionally evaluated

 High time/cost ratio in relation to the expected results achieved by the ASSIST project

No.	Category	Action/place	Time	Costs	Remarks - restrictions	Possible solutions and synergies
1.	Advice to consumer advisors from branches of the Consumer Federation and surveys	Headquarters of the consumer organisation - Consumer advice offices			Days and hours of access to legal advisers, minimum 20 hours per week	Within the framework of advisory activities and legal assistance provided to the employees of the CEF in cooperation with other HEA and institutions interested in this issue.
2.	In-depth environmental interviews and energy guidance (broadly understood)	Social services - employees of municipal and communal social welfare centres working on the premises of territorial self-government units			Pracownicy socjalni są bardzo zapracowani i tematyka, której dotyczy ich praca jest delikatna, dane, które dodatkowo mają zbierać są dla wielu osób wrażliwe (struktura wydatków gospodarstwa domowego)	Social workers can always "redirect" the consumer to the appropriate HEA with other additional competences.
3.	Advice provided by selected consumer advisors - municipal/district consumer ombudsmen and questionnaires	The territorial self-government units set up offices of consumer ombudsmen, where they receive consumers.			Consumer ombudsmen are highly qualified advisers who are willing to engage in consumer advocacy activities.	Spokespersons, as employees of territorial self-government units, have the opportunity to analyse the available funds, grants, help lines, about which they can inform consumers, and the collected data from consumers can be used as comments for the creation of local plans for the supply of

						energy, gas and heating, including planned modernizations.
4.	Advice provided by trained advisors to local environmental protection and water management fund structures	In the workplace or in other HEA places of residence for consumers - face to face counselling			The qualifications of these advisors are slightly different from those of others - they can help you to find out about existing funds and apply for them, fill in documents, and audit issues.	Possible cooperation with the municipal energy manager, whose role is to develop and update the draft assumptions for the plan of supplying the municipality with heat, electricity and gas fuels in order to reduce energy consumption and costs.
5.	Advice provided by dedicated employees of energy companies	In the customer service offices			These are people who have a good understanding of their consumers, who have problems paying their bills - they will contact them to diagnose the causes of the problems and how to solve them.	Possibility for other HEAs, primarily consumer advisors to pass on to them consumer problems, e.g. in consumer claims or situations that may affect non-payment or late payment of bills if they are their customers.
6.	Energy Cafe' - meetings with consumers during outdoor events	In the Energy Cafe's branded tent during events, picnics, etc. organized by the city, commune, etc.			It is difficult to predict whether there will be non-commercial outdoor events for the residents in the ASSIST project and whether there will be	The possibility to join the organization of an event prepared by the town/commune, if in this town there will be HEA - an employee of the local authority, i.e. the

					places for the tent at no cost	municipal/district consumer spokesman.
7.	Energy cafe' - 2 meetings - family picnics	Within the framework of the CSR, open-air family meetings will be organised by energy companies involved in the creation of the HEA network.			It is difficult to predict whether companies will have the budget and time to organise events in the ASSIST project that is appropriate for the project.	Possibility for companies to present their actions for increasing energy efficiency and pro-social activities.

6.5 Information on the other categories of actions considered

The table implements the proposed actions, which in our reality can be implemented.

- In the case of home visits, this is only possible for social workers who have the right to conduct an environmental interview at the consumer's home. In other cases, this can only be done at the express request of the consumer, which, in the case of consumer advice, has never been the case before and it is doubtful that it will happen.
- Consumer advice will be provided face-to-face. Even if the consumer calls or writes an e-mail, he will in some cases be asked to make personal contact, e.g. to come with invoices or a contract.
- Proposals for actual home measurements are included in the category of technical guidance, but not "physically" by the HEA, rather as local competence support.
- In case of co-financing of modernization, thermo-modernization of buildings and other local activities such as connection to the heating network or replacement of boilers, the Advisers will inform about potential opportunities and assist in collecting documentation, etc.
- It is assumed that the activities related to smart metering in most cases will not concern the beneficiaries of the assumed activities. Nevertheless, in this case the situation will be monitored on an ongoing basis.

6.5.1 Methods of proposed action

The methods that will be used to carry out the activities are described in detail in the section concerning the proposal of effective actions aimed at alleviating, preventing or combating energy poverty. In addition, the table describes additional measures (apart from counselling). Our experience shows that in the conditions of outdoor events we will not provide insightful and broad advice, but rather simple, soft advice, we will rather invite you to the places described in the table with documents, bills, etc. and the picnics will serve to advertise the action and its subject matter. The atmosphere of this type of events, in which we have already participated with our tent many times, is different. The cost of such an action is a banner with logos on the tent - it can be Energy Cafe' + ASSIST of course - and a material for consumers.

6.5.2 Time frame

Activities will start after HEA has been trained.

- Deep community interviews and energy counselling (broadly understood) carried out by social services - employees of municipal and communal social assistance - working in territorial self-government units.

Table 27 Time frame for guidance

No.	Action	Days	Hours / day	Total time
1.	Collection of materials, cooperation with social workers	5	8	40
2.	Extending the questionnaire of the community interview with additional questions and information - written	4	8	32
3.	Testing - 1 or 2 families	2	4	8
4.	Evaluation of the test, possible amendments to the questionnaire	2	8	16
4.	Preparation of materials for the data aggregation form	2	8	16
5.	Collection and transfer of data to relevant addressees - territorial self-government units, other advisors or advisory activities of social workers	Continuous work within the timeframe of the ASSIST project		
6.	Monitoring of activities - creating a questionnaire	Monthly collection of data from HEA and evaluation of actions and possible modification		

- Advice to consumer advisors from branches of the Consumer Federation
- Advice provided by selected consumer advisors - municipal/district consumer ombudsmen
- Advice provided by trained advisors to local environmental protection and water management fund structures
- Advice provided by dedicated employees of energy companies

The activities preceding these activities will be similar to those of social workers, but these 4 categories will not refer to "fieldwork", but to face-to-face counselling and data aggregation and long-term contacts with the same consumer. Therefore, materials must be prepared for working with the consumer, a type of handbook with a consumer survey filled in by the advisor, and an efficient network of cooperation between advisers with the scope of their additional competencies with the possibility of redirecting the consumer or obtaining advice

from one HEA at another HEA. All activities must be regularly monitored and possibly strengthened or modified.

- Energy Cafe' – meetings with consumers during open-air events
- Energy Cafe' – 2 meetings - family picnics

Table 28 Picnic preparation time frame

No.	Działanie	Days	Hours per day	Total time
1.	Preparation of materials, banners	5	8	40
2.	Organisation - logistics	5	4	20
3.	Conducting picnics	16	6	96
4.	Carrying out picnics together with energy companies	2	10	20

6.5.3 Expected results of the actions

From soft consultancy activities we expect results based on behavioural improvement to optimize energy consumption. In addition, the different competences of the advisers will be used to activate the consumers involved in sustainable activities, e.g. to improve the thermal insulation of buildings or to improve heating through the information received about the funding of such activities. Some of the consumers who have been consulted and who are in long-term contact with the advisers will submit the electricity and/or gas invoices for analysis and verification to estimate the savings.

6.5.4 Conclusions

In the absence of a definition of the concept of energy poverty, there is no obligation and no methodology to monitor this problem. Unfortunately, energy poverty is quite commonly associated with economic poverty. Therefore, the aid that is being offered is limited, above all, to immediate relief of symptoms through various types of financial support. As we described earlier in the report, this is a multidimensional phenomenon. We are not interested in the system of direct payments, which is often necessary, but which does not change anything, apart from immediate aid, in the life situation of consumers. This is symptomatic treatment, and not a systemic approach, although it also often requires counselling. The proposed measures - advice and minor improvements, and for some consumers, professional investment advice has a chance to bring more lasting and effective results in the form of:

- Changes in consumer habits with regard to energy use
- Improvement of living comfort, not only concerning e.g. heating of the apartment
- Providing territorial self-government units with up-to-date data on inhabitants and their real real needs for the analysis of activities such as the assessment of own resources and the preparation of a local energy plan

- Changes in the approach to the problem, e.g. many families have few other things they can afford because they are in a situation of low incomes and high costs. At the same time, they are escaping any statistics. Multithreaded and varied counselling gives a chance to reach them and effectively address the help.

6.6 Current number and type of HEAs

Home Energy Advisors are recruited among professional groups which have a direct contact with the individual consumers. Their professional work is dedicated to the provision of assistance and support to various recipients, including groups in the risk of energy poverty.

The training programme in Poland was held in 4 editions using similar structure for each edition and adapting the contents to better fit each group. 187 people expressed their interest in the course 146 of whom finished the course successfully. The participants involved represented groups of social workers and municipality representatives, eco-managers, energy advisors or consumer advisors.

Table 29 HEAs types and training

Course/ edition' name	Timeframe	Participants			
		Number of participants enrolled	Typology	Number of participants completing the course/edition	Typology
ASSIST DDE –social workers	10.08 – 31.10 2018	34	Social and municipality workers	26	Social and municipality workers
ASSIST DDE – Eco-Managers	17.10 – 25.11 2018	57	Mostly Eco-managers from LIFE programme with some additional social workers	38	Mostly Eco-managers from LIFE programme with few social workers
ASSIST DDE – Advisors from the National and reginal funds	25.10 - 9.12 2018	84	Professional Energy Advisors	81	Professional Energy Advisors
ASSIST DDE – Consultants from FK	15.10 – 31.11 2018	12	Consumer Associations	1	Consumer Associations

6.6.1 Consumers associations

Federacja Konsumentów (FK) is the biggest consumer organisation in Poland and the only one which operate all around the country by a local branches network. FK consumers' advisors provide more then 60 000 advices per year. FK serve for everybody who needs help or law support, free of charge. Among those who ask for help, many are at risk of poverty included energy poverty risk. A considerable group of consumers who need advice is a vulnerable one, unfortunately they get into market trouble and are not able to find themselves a right and adequate solution. Furthermore inadequate analytical skills and the lack of proper market assessment cause that this group of consumers is especially exposed to unethical or even unfair market practices. Limited and insufficient home budget is a reason of looking for cheaper energy supplier. Lack of knowledge about the energy market and ability to evaluate sales offers is a reason of sign an inadequate to once needs contract with the seller even more expensive than the previous one.

13 of consumer advisors took part in the training for HEA, on-line training for them is still running.

The approach to include consumers' advisors into the HEA system:

- Mark individuals looking for the consumer advices as a HEA target,
- Proposition of support and help in the implementation of energy-saving behaviour,
- FS and simple checklist for energy savings or full calculator (excel file)
- Guide consumers, if necessary, to other specialized institutions, e.g. social care institutions.

6.6.2 Social services

In Poland social assistance can be provided (inter alia) for the following reasons: orphanhood; poverty; homelessness; unemployment; disability; long-term or severe disease, violence in the family; the need to protect the child and family; addiction. The application for social assistance has to be filed before the Social Welfare Centre (*Ośrodek Pomocy Społecznej*, OPS) which is located in the district where beneficiaries of international protection reside.

In Social Welfare Centres consumers can apply for an energy supplement. In that reason OPS workers have direct contact with the consumers in the risk of the energy poverty. They know persons under their care, they have skills and competences for interview but the OPS workers are not an experts on way for energy savings and consumer protection law. Due to the above reasons we invited them to the trainings and HEA network.

The approach to include OPS workers into the HEA system:

- Mark individuals looking for the OPS assistance as a HEA target,
- Proposition of support and help in the implementation of energy-saving behaviour,
- FS and simple checklist for energy savings or full calculator (excel file),
- Guide consumers, if necessary, to other specialized institutions, e.g. consumer organization

6.6.3 Energy advisors network

The operation of the HEA network will be based on the possibility of contact between training participants and other Stakeholders with different professional profiles. Thanks to this, we create opportunities for contact, exchange of good experiences and questions and questions between specialists in various fields: social and energy. During the HEA trainings and other meetings with Stakeholders we inform about the HEA network.

The approach to include energy advisors into the HEA system:

- Mark individuals looking for the energy advices as a HEA target,
- Proposition of support and help in the implementation of energy-saving behaviour,
- FS and simple checklist for energy savings or full calculator (excel file),
- Guide consumers, if necessary, to other specialized institutions, e.g. consumer organization and OPS

6.7 Foreseen activities

We are concentrate in creation an network which will cover market actors (advisers from different institution) and focus in a way for synergy activity and work. We still attempt to co-opt more institution for HEA network (e.g. charity organizations and energy suppliers).

We undertake an activities to encourage potential HEA to be active as an energy advisors and implement an adequate pick methods needed for targeted energy advices for vulnerable consumers.

The foreseen activities are reported in the tables below. During the different actions, such activities will be performed.

Table 30 HEA's home visits

Action/event title	**HEA's home visits**
Action description	
Action target	Welfare System's Users
Geographic dimension	Local
Geographic area	Warsaw
Number of involved users (estimated)	1-2 households per advisor doing (around 35 consumers)
Success rate	% of the involved households
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. if person is eligible for financial support (social bonus p.e).
HEAs involvement	
Type of HEA	Home care professionals from public social services and private charities or social organizations

Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	House visits
Control group	Not foreseen
Monitoring tools	Ex-ante and ex post questionnaire on their consumption habits and change in them. If possible meter reading before-after
Large control group	Not foreseen for this action
Estimated energy savings	7%
Monitored group	35 households

Table 31 HEA's help desk

Action/event title	**HEA's help desk**
Action description	
Action target	Vulnerable consumers
Geographic dimension	Regional/National
Geographic area	Units in different regions in whole country
Number of involved users (estimated)	30 households (around 60 energy users)
Success rate	50 % of helpdesk given
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. if person is eligible for financial support (social bonus p.e).
HEAs involvement	
Type of HEA	Office workers from Regiona Units of FK
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	Help desk-face to face advice
Control group	Not foreseen
Monitoring tools	Ex-ante and ex post questionnaire on their consumption habits and change in them. Also analysis of their energy consumption (meter reading)
Large control group	Not foreseen for this action
Estimated energy savings	7%
Monitored group	15 households

Table 32 Soft action: HEA's relatives

Action/event title	**HEA's relatives**

Action description	
Action target	All HEAs to give advice to their relatives, neighbours, friends,…
Geographic dimension	National
Geographic area	All HEAs areas in every Voivodeship
Number of involved users (estimated)	Potentially … households
Success rate	Each HEA to provide with a list and signature of all contacted 10- each expected
Action tools	Advice on electricity appliance, electricity bills, low-cost energy efficiency measures, questionnaires, etc…
HEAs involvement	
Type of HEA	Trained HEA
Foreseen involvement	Informal talks with their closest
Action monitoring	
HEAs activity	Number of households leaving their contact for a follow-up
Control group	Not foreseen
Monitoring tools	If possible, follow-up with families that leave their contact
	Questionnaire on their consumption habits and change in them
Large control group	Not foreseen for this action
Estimated energy savings	2% (for those who leave their contact)
Monitored group	2000 users @ 2% (for those who leave their contact)

6.7.1 Engagement strategies and soft actions

Energy café at the Energy Bus

„Energy Bus" – mobile education and information center against climate change, described in 6.2.5 was a part of ASSIST action. As part of the „Energy Bus" the experts will offer workshops in energy conservation, water management and waste disposal in an office or workspace for civil servants. From July in the Energy Bus, citizens could find some information about that how to fight energy poverty by actively engaging consumers in the energy market and ASSIST Project. There are ASSIST poster, leaflets and Checklists, which citizens could take with them and return to us by e-mail.

Using checklist and showing practical effects (thanks to Energy Bus equipment) KAPE's experts give people tips about energy efficiency and saving money.

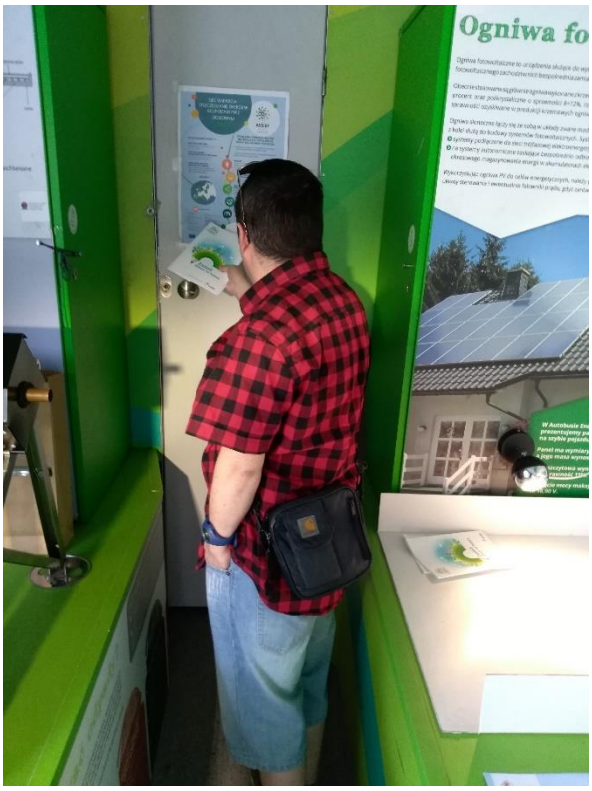


Figure 4 Energy café at energy bus

Dedicated e-mail address for the group of HEA from different institution

OPS workers and energy advisors are not an expert on consummer law – as an soft action we dedicated one e-mail adress for them and implemented a way of support for experts from OPS in Warsaw.

As a result of the evaluation questionnaire after the training and the emerging questions during the training, we came to the conclusion that a significant facilitation of HEA's work would be the possibility of direct contact with our lawyers.

This solution is also beneficial for us: it is likely that in some situations it will be easier for us to effectively assist the consumer with mediation and give us the opportunity to join the case at an earlier stage, and in many cases, especially when a vulnerable consumer is a major issues.

FK is a national-wide association, and operates through the network of branches virtually all over Poland. In Warsaw, there is an office and advisory point on 11 Ordynacka St. 11. As part of our activities, we deal with contracts concluded with consumers and entrepreneurs. They are mainly:

- complaints about goods and services purchased from entrepreneurs,
- agreements concluded at shows, with salesmen (regarding goods, medical services, energy sales, telecommunications services),
- mail order and internet sale,
- agreements with banks and insurers.

The action scheme is the same for all issues addressed by HEA's:

Before personal visit, we recommend e-mail or telephone contact, which the OPS workers get from us.

To facilitate our work, OPS workres should write the title of the project in the title of the e-mail: ASSIST, also agreeing to meet with a lawyer, with the reference to the fact of participation in the HEA training.

Such solution will be useful in their every day work and we hope thet will encourage them to be active as an HEA in Poland. We hope that we are able to establishe close cooperation between Warsaw OPS and Warsaw FK branches which will be last after the end of the project.

6.7.2 Pilot action 1 : Energy saving tool

We decided to create HEA network covering various institution in Poland with the specific way of work and advicing to individuals. However we evaluate that capacity and made a decision that we should elaborate common tool for use of energy advisors.

We have assumed that for many end users, the information on the annual energy consumption is not obvious, because not everyone is invoiced for the consumption (as it is with electricity and, more recently, with natural gas), but very often for the amount of fuel purchased. Different types of fuels are characterized by different heating values, which can be briefly explained in such a way that we can obtain different amounts of energy from 1kg of hard coal and 1kg of firewood, so converting such values requires some knowledge and practice. In order to facilitate the work of the interviewer, the tool contains the list of the majority of the most common energy carriers in Poland (natural gas, LPG, hard coal, biomass, network heat, etc.) and enables entering data in various units, and then the tool automatically converts given quantities into kilowatt-hours. It is necessary to correctly compare the consumption in a given household with "typical" consumption. The standard values were determined on the basis of the report of the Central Statistical Office (in the scope of electricity) and the study of the National Energy Conservation Agency (in the field of energy for heating purposes and preparation of domestic hot water). The reference levels have been given in the form of an average value as well as in the form of the first and the third quartile, and they depend on the area of the premises / building, the year it was built, on whether the building was thermo-modernized and on the number of users. If the consumption is between the first and the third quartile, the tool displays a message that the consumption is typical. Reaching higher and lower values described earlier, triggers the display of the message about the risk of energy poverty. Exceeding typical values indicates that the user probably spends unnecessarily much on energy purposes, while lower consumption values may indicate that the user does not live in "comfort" conditions - buildings may be, for example, under-heated.

The next stage of the survey is to answer the questions selected individually for users of apartments and single-family buildings, and on the basis of these questions, the tool examines the possibility of carrying out optimization activities as well as it estimates the

potential savings in an individualized way. Activities include, separately, heating purposes and preparation of domestic hot water as well as replacement of lighting and home appliances. Each of the selected activities, triggers the completion of a personalized information brochure about the amount of savings resulting from the modernization as well as about the things that should be taken into account by the user to maximize the effect.

One of the assumptions of the program is to evaluate the savings achieved. Another survey after the period of achieving savings is required. Correct analysis requires taking into account seasonal trends. In the case of electricity and hot water consumption, it can be accepted with satisfactory accuracy that they are not subject to such trends, but in the case of energy for heating purposes, the basic factor affecting the amount of consumption is the outside temperature. The most common auditing practice used in comparing different years is the so-called method of heating degree days with regard to standard years. The advantage of the method is its simplicity and satisfactory accuracy in the case of buildings with a uniform profile of use - such as residential buildings. In connection with the above, this method was used in the calculation tool of the ASSIST program. For all cities included in the list available in the tool, the weather data in the field of an average monthly air temperature for the years 2016 and 2017 was collected and entering the temperatures from the evaluation year was allowed, and the number of heating days was adopted on the basis of the Energy Audit Regulation. Such consumption reference allows for an absolute assessment of the savings achieved and it compares them with what has been estimated in the survey.

A computational tool has been created, which we provide to HEA, who participate in our training. We plan to encaurage the advicors to use this tool in their work twice: in the first meeting with the consumer and as post ante research.

6.7.3 Pilot action 2: Competitions for HEA

We plan to organize a kind of the competition connected with the e-learning direct for the vulnerable consumers. We plan to prompt them for the energy savings.

We would like to include to this action elements form different WPs:

- Prompt consumers for saving,
- Encourage consumers for using HEA help,
- Disseminate information and knowledge on savings possibility,
- Disseminate project information,
- Spread HEA network.

The details of this action are not yet known. The operation is in the initial planning stage.

6.7.4 Other actions/synergies with other projects: free advocacy

Free of charge advocacy for the consumers provided by Federacja Konsumentów all around the Poland by the network of the local branches. As we mentioned consumers with market

problems look for the consumer organization help. Some of them are in the risk of energy poverty. Holding in HEA network advisors from the local branches we are able to help individuals on effective and holistic way.

6.7.5 Other actions/synergies with other projects: Energy Bus

„Energy Bus" (Autobus energetyczny)– mobile education and information centre against climate change.

Figure 5 Energy bus

The main objective of the campaign is increasing social awareness of climate change. This involves the causes of climate change and actions which can be carried out to counter climate change, and also encouraging everyone to take action against climate change in everyday life and their environment: at home, work, school, or the local community. The aim of the project is creating a mobile education and information centre inside a specially equipped and designed bus. Despite the increase in social awareness of climate change, the fact that we all contribute to it, and that everyone can take up action against it, is not common knowledge. The main job of the mobile centre and the educational programme will be reaching out to the inhabitants of municipalities and increasing ecological awareness in wide-ranging social groups (representatives of local government, entrepreneurs, residents). Part of the project's realization is carrying out educational campaigns in 200 municipalities. The experts travelling with the bus will constitute an advisory group, offering free, independent and up-to-date knowledge connected to climate change and energy efficiency. The group will not be connected with the interests of particular companies or equipment producers, which will ensure the information provided is independent and reliable.

The project has finished in 2017 but it is still going around the Poland. From July in the Energy Bus, citizens could find some information about that how to fight energy poverty by actively engaging consumers in the energy market and ASSIST Project.

Both Project ASSIST and Energy Bus generate a positive change of behaviour in relation to energy consumption.

6.7.6 Other actions/synergies with other projects: Life IP Małopolska

LIFE Integrated Project “Implementation of Air Quality Plan for Małopolska Region – Małopolska in a healthy atmosphere”

Southern Poland is one of the most polluted regions in the EU. The Małopolska Region struggles with very poor air quality, particularly during the winter season. Concentrations of particulate matter (PM10 and PM2.5) and benzo(a)pyrene are exceedingly high throughout the whole region. The major source of air pollution in Małopolska is low-stack emission (combustion of solid fuels in obsolete household boilers).

The Małopolska Air Quality Plan (MAQP) determines tasks for local governments to eliminate obsolete solid fuel boilers and modernize household heating systems for those based on environmentally friendly energy sources (like natural gas, light fuel oil, renewable energy, electric heating, district heating) or modern solid fuel boilers meeting high quality standards in terms of pollutant emissions.

The scope of the project includes:

- Establishing a network of 60 Eco-managers in order to support the implementation of air quality actions at the municipal level,
- Strengthening advisory and administrative services for Krakow residents with respect to elimination of stoves and solid fuel boilers,
- Operating a regional-level Excellence Centre, to provide training and knowledge base for local authorities and Eco-managers,
- Conducting information and education campaigns at the regional and local levels,
- Developing an instrument for high resolution modeling of pollution dispersion for Krakow and analysis of variants of possible actions aimed at emission reduction,
- Preparing an international air-pollutants modeling system for Małopolska, Silesia, the Czech Republic and Slovakia.

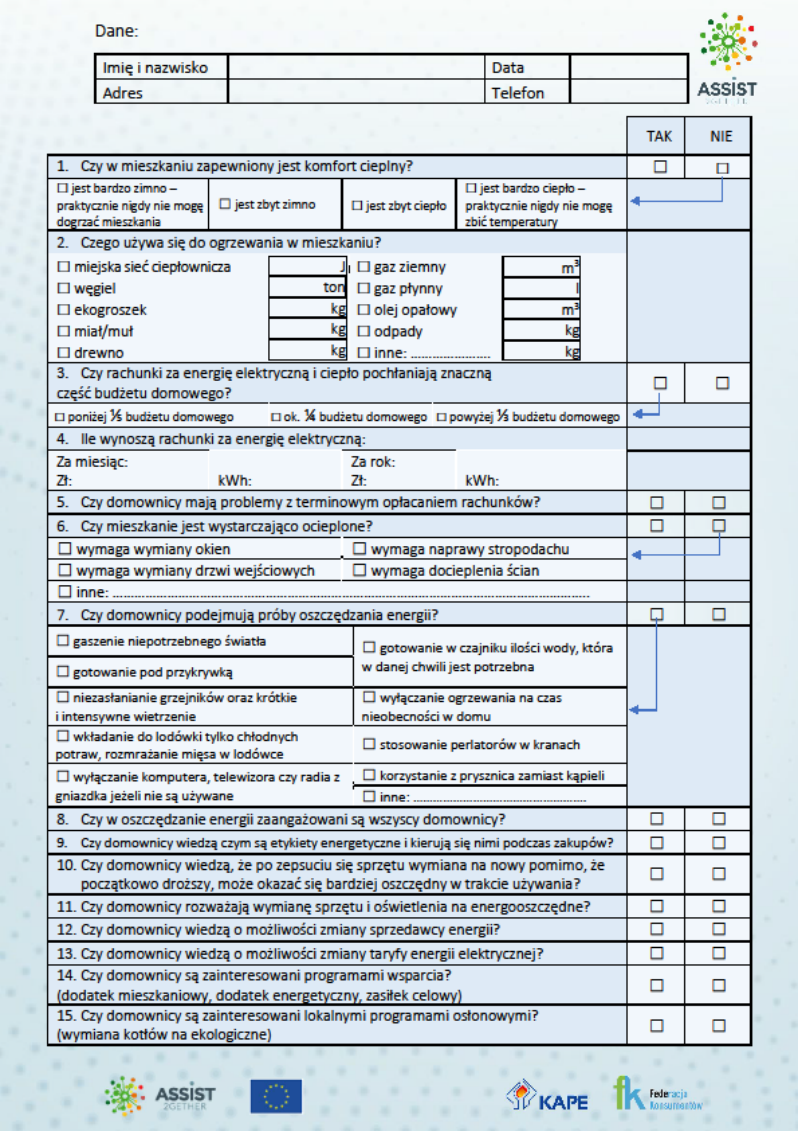
Eco-managers from Life Małopolska Project were trained in ASSIST Training about that how to fight energy poverty by actively engaging consumers in the energy market and ASSIST Project. Eco-managers cooperate with residents of their municipalities and cities every day, advising them on energy-saving measures.

6.8 Monitoring tools

6.8.1 Engagement strategies

In Poland we have implemented two way of energy savings monitoring:

One page (short way) questionnaire for the consumers. We are going to use it as a evaluating tool as well as a sources of knew knowledge for consumers. We have put question on such way that advisors can use them as a trigger for explanation energy behaviours and potential savings.



Dane:

Imię i nazwisko		Data	
Adres		Telefon	

ASSIST

	TAK	NIE
1. Czy w mieszkaniu zapewniony jest komfort cieplny?	☐	☐
☐ jest bardzo zimno – praktycznie nigdy nie mogę dogrzać mieszkania ☐ jest zbyt zimno ☐ jest zbyt ciepło ☐ jest bardzo ciepło – praktycznie nigdy nie mogę zbić temperatury		
2. Czego używa się do ogrzewania w mieszkaniu?		
☐ miejska sieć ciepłownicza J ☐ gaz ziemny m^3		
☐ węgiel ton ☐ gaz płynny l		
☐ ekogroszek kg ☐ olej opałowy m^3		
☐ miał/muł kg ☐ odpady kg		
☐ drewno kg ☐ inne: ..... kg		
3. Czy rachunki za energię elektryczną i ciepło pochłaniają znaczną część budżetu domowego?	☐	☐
☐ poniżej ⅓ budżetu domowego ☐ ok. ¼ budżetu domowego ☐ powyżej ½ budżetu domowego		
4. Ile wynoszą rachunki za energię elektryczną:		
Za miesiąc: Zł: kWh: Za rok: Zł: kWh:		
5. Czy domownicy mają problemy z terminowym opłacaniem rachunków?	☐	☐
6. Czy mieszkanie jest wystarczająco ocieplone?	☐	☐
☐ wymaga wymiany okien ☐ wymaga naprawy stropodachu		
☐ wymaga wymiany drzwi wejściowych ☐ wymaga docieplenia ścian		
☐ inne:		
7. Czy domownicy podejmują próby oszczędzania energii?	☐	☐
☐ gaszenie niepotrzebnego światła ☐ gotowanie w czajniku ilości wody, która w danej chwili jest potrzebna		
☐ gotowanie pod przykrywką		
☐ niezasłanianie grzejników oraz krótkie i intensywne wietrzenie ☐ wyłączanie ogrzewania na czas nieobecności w domu		
☐ wkładanie do lodówki tylko chłodnych potraw, rozmrażanie mięsa w lodówce ☐ stosowanie perlatorów w kranach		
☐ wyłączanie komputera, telewizora czy radia z gniazdka jeżeli nie są używane ☐ korzystanie z prysznica zamiast kąpieli ☐ inne:		
8. Czy w oszczędzanie energii zaangażowani są wszyscy domownicy?	☐	☐
9. Czy domownicy wiedzą czym są etykiety energetyczne i kierują się nimi podczas zakupów?	☐	☐
10. Czy domownicy wiedzą, że po zepsuciu się sprzętu wymiana na nowy pomimo, że początkowo droższy, może okazać się bardziej oszczędny w trakcie używania?	☐	☐
11. Czy domownicy rozważają wymianę sprzętu i oświetlenia na energooszczędne?	☐	☐
12. Czy domownicy wiedzą o możliwości zmiany sprzedawcy energii?	☐	☐
13. Czy domownicy wiedzą o możliwości zmiany taryfy energii elektrycznej?	☐	☐
14. Czy domownicy są zainteresowani programami wsparcia? (dodatek mieszkaniowy, dodatek energetyczny, zasiłek celowy)	☐	☐
15. Czy domownicy są zainteresowani lokalnymi programami osłonowymi? (wymiana kotłów na ekologiczne)	☐	☐

ASSIST 2GETHER KAPE Federacja Konsumentów

Figure 6 Questionnaire to be filled

The short questionnaire wth tips and questions offers a two-way approach to vunerable conumers and energy poverty: first one is by asking questions and receiving results of e.g. amount of energy consumed, second one is giving tips about easy methods of low-costs' energy saving.

Short surveys have been distributed to HEA, placed on the Moodle platform and distributed at various events in order to reach also directly to energy-poor consumers. In the area of

HEA monitoring, we plan to send out questionnaires every two months, which they managed to collect during contact with consumers. Excel tool – description in the previous paragraphs..

Both tools are available for HEA on the Moodle platform.

6.9 Conclusions

We have based HEA network on the differential institution. All of them have a direct contact with the individual consumers. We expect that active advisors will be affected toward include energy consultancy into their everyday work.

We decided to arm prospective HEA with dedicated tool for energy savings assessment. It is elaborated as an excel spreadsheet, therefore the way of operation is familiar for users and we can reduce a training in technical aspects of implementation.

The tool is available for free for all HEA and after training they could fill free in using it.

7. Spain

7.1 Definition of energy poverty and energy vulnerability in Spain.

Although there is no single definition of internationally accepted energy poverty, this can be considered as the "difficulty or inability to guarantee an adequate temperature and access to other essential energy services at a reasonable price" ([7]). A person facing an energy-poor situation depends on the combination of three factors: low income, low quality of buildings and high energy prices ([8] & [9]). The ASSIST project contributes to solve the challenges of energy poverty by helping people facing a situation of energy vulnerability.

In Spain,article 3 of Royal Decree 897/2017 gives a definition of vulnerable consumer linked to the Public Indicator of Multiple Effects Income (IPREM). This same law links the vulnerable consumer with the energy aids that he can receive. In particular, there are three types of vulnerable consumers: (1) vulnerable, (2) vulnerable and (3) vulnerable at risk of exclusion. In addition to these three, pensioners and large families can also receive help in the rates.

At this moment, Spain is developing the National Strategy on Energy Poverty although there is still no official methodology or specific information sources for measuring the energy poverty rates in the country..

Two sources of key data have been proved to be very usefull for analising the energy poverty situation in Spain; i) micro-data from the survey on family budgets (Encuesta de Presupuestos Familiares; EPF) for the period 2006-2014 and ii) micro-data from the survey of Conditions of life (Encuesta de Condiciones de Vida, ECV) for the period 2006-2014.

According to the report made by ACA ([16]) the indicators calculated show that a significant part of Spanish households undergo conditions associated to energy poverty, that is, a signification proportion of households in Spain are considered to be in situation of energy poverty. More in concrete, results show that as of 2014:

11% of households (5.1 million citizens) stated to be unable to keep their home adequately warm during the cold season.

8% of households (4.2 million citizens) stated to be in arrears on utility bills including domestic energy.

15% of households (6.2 million citizens) devoted more than 10% of their annual income to domestic energy.

10% of Spanish households (4.9 million citizens) was in difficulties as per the official energy indicator of the UK. This means that, when discounted housing and energy costs, their income was below the monetary poverty line (60% of the equivalent median income); and that their equivalents energy expenditure was above the Spanish median.

21% of households (12.1 million citizens) was in difficulties according to the MIS indicator approach. According to this approach, their income after housing and domestic energy costs was below the highest Integration Minimum Income level of the country (corresponding to the Autonomous Community of Basque Country) less the average housing and energy costs of a Spanish household.

Furthermore, spatially disaggregated results reveal that differences in climatic conditions across the country do not explain disparities in energy poverty levels in Spain, which are more associated to the level of studies of the household occupants, type of family (Sigle-parental, large family, single person households have higher risk of being energy poor), or the labor situation of the household.

At the **regional level**, autonomous communities such as Catalonia or the Valencia Community have laws that take into account vulnerable and energy-poor consumers. For instance, in Catalonia, the 24/2015 law protects individuals and families at risk of residential exclusion against being cut-off by the electricity, gas and drinking water suppliers due to failure to pay. Law 24/2015 is one of the best regarding vulnerable consumers protection, not only in Spain, but throughout Europe, as it proposes measures to stop unduly cuts. It incorporates the precautionary principle, which proposes a paradigm shift with respect to Spanish state law, and even to the European legislation. It presupposes that if someone does not pay their electricity bill it is because they are unable to do so. It was approved thanks to popular initiaatives and pressure. As such, before a company can make any cut, it must be the company itlsef the one contacting Social Services to see wether a non-payment comes from a person who is in a situation of vulnerability.

Similary, in 2017, Valencia passed the 3/2017 Law, of February 3, of the Generalitat, to alleviate and reduce energy poverty (electricity, water and gas) in the Valencian Community. One should note that the central government appealed claiming that the law stablished mechanisms beyond in its powers.

Rearding vulnerable consumers, at the local level, the Spanish municipalities do not have more restrictive regulations; they are subject to the current state and regional regulations.

7.2 . Action initiatives against energy poverty and possible synergies with the ASSIST project.

This section shows nine initiatives that tackle energy poverty and possible synergies that each one has with ASSIST project. Each initiative follows the same logic: a first presentation with the status and summary followed by a table that evaluates each project according to the same 7 parameters:

- **Research**: Has the project carried out research in the area of vulnerable consumers and energy poverty?
- **Training**: Has the project provided training, training, information and / or advice on energy?

- **Network created**: Has the project established a network?
- **Services provided to citizens**: Has the project provided services for consumers (vulnerable)?
- **Changes in energy consumption**: Has the project stimulated behavior change in terms of energy savings?
- **Strategies to involve energy users**: Has the project included attractive strategies to involve consumers?
- **Protection policies**: Has the project outlined policy proposals to better protect vulnerable consumers and to tackle energy poverty?

Stablishing 7 parameters allows the reader to compare the initiatives among themselves within the same framework. Each initiative includes a brief description of the relationship with the ASSIST project. Finally, the section provides an assessment of the ASSIST project in comparison to the rest of the initiatives described and evaluated.

7.2.1 Pilot Project: Energy Advice Points in the city of Barcelona (PAES[3] Pilot)

Project Phase: Finalized in 2016. Duration: 1 year

Summary: The project trained and employed 100 people for 6 months as energy agents. They visited 3,000 vulnerable households in three districts of Barcelona. During their visits, they focused on optimizing user bills and providing low-cost energy efficiency measures.

Project caractheristics

Table 33 PAES Pilot caractheristics

Research	No
Training	The project developed material to train energy agents on energy efficiency measures, energy bills and energy use in the home. The training included home visits so agents could practice what they learned by conducting large-scale energy advisory services for low-income households that have difficulty paying the bills.
Network created	The Pilot manage to stablish a network between Barcelona City Council and environmental and social entities working in the field of energy poverty such as Ecoserveis and ABD. In addition, the project also promoted the creation of networks between citizens and energy agents as well as between energy agents themselves.
Services provided to citizens	The project provided services to around 3,000 vulnerable households. The energy agents visited the homes to provide information on (1) how to reduce the energy bill, (2) improvement of energy efficiency, (3) information on the subsidies available for housing rehabilitation.
Changes in energy consumption	The behavioral change in applying energy saving measures such as turning off the stand-by or changing the bulbs to LED. Energy changes were made: (1) by training energy agents and (2) providing advice to energy users. In addition, (3) indirectly the energy users motivated their family and friends with their behavioral change.

[3] PAES – from ir's catalan name Punts d'Assessorament Energètic.

Strategies to involve energy users	One of the main objectives of the project is to change individual behavior so that vulnerable people can reduce their energy bills. Behavioral change depends on the interaction between energy agents and the attitude and participation of households.
Protection policies	Thanks to this pilot, the municipality of Barcelona decided to prioritize action against energy poverty and promoted offices throughout the city.

Relationship with ASSIST: This pilot started with a synergy with anotrher H2020 funded project, SMART-UP that provided manuals, know how to enhance both projects. Both ASSIST and PAES Pilot address the problem of energy poverty from a double perspective: the active involvement of energy users regarding the energy market, and a positive change in behavior over energy consumption. In addition, they have two activities in common: (1) trainning energy agents and (2) creation of a network of energy agents.

The added value of ASSIST is that trains professionals with an emotional bond with the vulnerable consumer while PAES act through external professionals trained.

7.2.2 Energy Assesment Points (PAES Barcelona)

Project Phase: On going. Started in January 2017

Summary: This project was born after the PAES Pilot (explained above). Ten energy information points cover the universal energy service through the entire city of Barcelona. Citizens can go and ask for information about gas and energy bills and ask any questions related to the use of energy. It is a service for all citizens, but it helps to identify situations of energy poverty that do not reach social services or social organizations. In addition, the project has train 60 unemployed people in 2 years who act as energy agents. One of the notable actions is that the staff team of the offices of each district of Barcelona comes from the previously mentioned PAES Pilot.

Project caractheristics

Table 34 PAES Barcelona Caractheristics

Research	The project includes an evaluation process with data analysis that serves to develop the project with more information and indicators.
Training	Energy agents are trained in the energy advice points giving information to citizens. Advice is also given to the agents who visit the homes.
Network created	A network was created between social and energy interested stakeholders and the Barcelona City Council. In addition, the project promotes the creation of networks between citizens and energy advisers.
Services provided to citizens	The project has reached more than 8,000 vulnerable households in the first 12 months. The energy agents visited the homes to see the degree of energy poverty they were in and provided them with information on energy efficiency, as well as information on the subsidies available for housing rehabilitation.
Changes in energy consumption	Behavioral change is stimulated in three ways: (1) through training: to energy agents who can then apply the changes in their homes; (2) to citizens: the project shows people the measures of savings they can make by installing devices or changing habits. Through this, people are informed about the cost of specific devices. (3) Indirectly these people can motivate others with their behavior change.

Strategies to involve energy users	One of the two main objectives of the project is to change individual behavior so that vulnerable people can reduce their energy bills. Behavioral change depends on the interaction between energy agents and the attitude and participation of energy users.
Protection policies	Thanks to the project, the municipality of Barcelona has valuable data on energy issues and promotes more rational and effective policies to protect those suffering from energy poverty.

Relationship with ASSIST: Being a project derived from the PAES Pilot, PAES Barcelona shares the objective of actively involving the public, but it does so with visits to the home and offering a site where interested users can go. When a citizen goes to an Energy Advice Point (PAE), the citizen/energy user already has a predisposition and motivation to reduce the bill. Thus, PAES and ASSIST have two objectives and two activities in common. Objectives: (1) the active involvement of energy users in the energy market, and (2) a positive attitude towards bheavioural change over energy usage. Activities: (1) training of energy agents and (2) creation of a network of energy agents. The added value of ASSIST is that trains professionals with an emotional bond with the vulnerable consumer while PAES act through external professionals trained.

7.2.3 Active Energy (Energía Activa)

Project Phase: Finalized. November 2016 to November 2017.

Summary: Project that provided a year of support and advice to 5 of the energy agents previously trained in the PAES Pilot initiative to create an Energy Services Cooperative. The project provided good practices in terms of social cohesion as well as a means to develop a business organization that came from the base of the pyramid (as a bottom-up initiative) in the field of energy. Here cooperativism is understood as a good practice to address a social problem (unemployment) and a socio-environmental (energy poverty).

Project caractheristics

Table 35 Energía Activa Caractheristics

Research	No
Training	The project trained the 5 cooperative members. They were trained in: energy bills, reduction of the energy demand, and use of energy devicest. The training also included visits to facilities, diagnostic practice exercises and visits to possible organizations with which to establish ties in the future.
Network created	With organizations of social entrepreneurs like Labcoop and social entities like ABD.
Services provided to citizens	No
Changes in energy consumption	Behavioral changes regarding the use of energy were introduced as part of the training. The workshops included measures of energy efficiency and change of consumption habits such as: ventilation, on / off switches, standby, timers, refrigerator (location), defrosting techniques, cold programs or eco-washer.

Strategies to involve energy users	No
Protection policies	No

Relationship with ASSIST: The relationship with the ASSIST project is the training of citizens to be able to be energy agents. However, while Energia Activa promotes entrepeneurship and the figure of energy agent, ASSIST promotes give energy added value to existing profiles.

7.2.4 Municipal Employment Plan[4] for the promotion of energy rehabilitation

Project Phase: Finalized. Duration July 2017 to December 2017.

Resumen: The Barcelona City Council launched two subsidy lines for the rehabilitation of buildings (aimed at improving energy savings). These subsidies had to be promoted and someone needed to ensure that the final beneficiaries had access to them. To facilitate this, the City Council launched a plan to train 29 technicians who: (1) visited vulnerable households to conduct an energy study and (2) when appropriate, helped users request the subsidy. The ultimate goal was to increase energy rehabilitation. During the visits, the technicians used a simple and reliable methodology to determine the cost of the investment and its economic performance.

Project Caractheristics

Table 36 Municipal Employment Plan for the promotion of energy rehabilitation Characteristics

Research	No
Training	There were two types of training: (1) offered to the 29 technicians and (2) visits to neighboring communities where the technicians determined the state of the homes. In this sense, 3 visits were made where, in the first, general information was provided to all neighbors, in the second, the technician met with the neighboring representative to determine what rehabilitation measures could be done and, in the third, the technician held a workshop to present the economic feasibility study to be able to rehabilitate the building.
Network created	The creation of networks was established at two levels: (1) At an organizational level, the organizations that developed the project (Ecoserveis and the Barcelona Energy Agency) strengthened the relationship between them and with the public housing consortium that financed the project. (2) At the micro level, the creation of networks took place between the energy technicians and the neighbors.
Services provided to citizens	The energy agents helped vulnerable consumers to submit the refurbishment grant if they were eligible.
Changes in energy consumption	No

[4] Plan Municipal de Empleo (CHB) in Spanish

Strategies to involve energy users	Approximately 390 buildings and their inhabitants actively participated in the project. Energy technicians advised on energy tariffs. At the moment (November 2017), 389 buildings were being considered for a third evaluation in which the neighbors would choose to participate by requesting energy subsidies.

Relationship with ASSIST: The model of this initiative (training for the promotion of energy efficiency) is similar to ASSIST, but focused on supporting a financial instrument.

7.2.5 Castelldefels Employment Plan

Project Phase: Finalized. Duration October 2017 – March 2018

Summary: Employment plan for 4 people to train them to provide energy advice to vulnerable households derived from social services. Audits and energy interventions were developed in 125 households.

Table 37 Castelldefels Employability Plan Characteristics

Research	No
Training	There were 2 different trainings: (1) At the beginning of the project Ecoserveis organized 4 workshops aimed at people interested in energy poverty in Castelldefels, the community where the project was carried out. In these workshops, the possibility of being trained as energy agents was explained. (2) The 3 weeks specialized training was given to 4 future selected energy agents so that in the future they could go to the houses and talk about the energy efficiency measures.
Network created	No
Services provided to citizens	Energy advice in general.Assessment to consumers so that they are able to claim for tariffs that are more adecuate to their actual energy and water consumption and installation of low-cost energy-related material in the homes
Changes in energy consumption	The training includes a section related to changing consumer habits.
Strategies to involve energy users	Part of the project is based on encouraging individual behavioral change. This depends on the interaction between the trained energy agents and the energy users/concumers.
Protection policies	No

Relationship with ASSIST: The idea behind the Castelldefels Employability Plan shares objectives with ASSIST in the sense of training energy agents for domestic sector. However the approach is different as this project promotes a new figure of energy agent while ASSIST promotes give energy added value to existing profiles.

7.2.6 Fuel Poverty Group-Energia Justa

Project Phase: In progress since 2013

Summary: The Fuel Poverty Group is a network of people and organizations that act against and to tackle energy poverty. It is a project promoted by Ecoserveis and ABD, a social organization with experience working with socially committed volunteers. Volunteers, once trained, become a mobilization tool and citizens committed against energy poverty. Fuel Poverty Group has developed a strategy based on the prevention and direct action against

energy poverty, through the training of volunteers to be energy advisors in neighborhoods and conducting in-home visits.

Características del proyecto

Table 38 Fuel Poverty Group Caractheristics

Research	Publishes studies on energy poverty
Training	Since the beginning of 2013, 8 training courses have been carried out for volunteer groups of about 20 people. Volunteers attend a 10-hour training course on specific aspects of energy literacy (energy use, energy and water bills, tariffs and how the energy market work), how to carry out evaluation procedures and social approaches to inform people on strategies to reduce energy consumption. The trained volunteers participate in three main activities with the support of the two NGOs (Ecoserveis and ABD): workshops, information points for optimizing invoices or personalized assesments… In certain cases, the people trained also perform a simple energy diagnosis in homes.
Network created	The project has established a strong link between Ecoserveis (which provides environmental technical knowledge) and ABD, which bring the social part. The mutual learning process enriches the initiative and future projects of both organizations.
Services provided to citizens	Energy advisory services empower citizens and allow them to be more self-sufficiency. They also help enhance a sense of dignity among the most vulnerable sectors of the population. The specific services are: (1) provide knowledge to vulnerable people so they can be empowered, (2) provide energy efficient techniques and devices, such as efficient lighting.
Changes in energy consumption	The project has stimulated behavioral change among two target groups: (1) the same volunteers who, when having to communicate the information, also become more aware of the need to be energy efficient and (2) the direct beneficiaries who are identified as vulnerable.
Strategies to involve energy users	Through an e-mail group, monthly meetings and weekend actions / interventions are used to maintain the interest and commitment of the volunteers.
Protection policies	It was the first project promoted by organizations from different areas (ABD in the social field and Ecoserveis in the energy field) and has been the seed that inspired other projects in achieving a better protection of vulnerable consumers in Barcelona.

Relationship with ASSIST: ASSIST and Fuel Poverty Group share a common ground: training people to become energy agents. The difference is that Fuel Poverty Group energy agents are volunteers while on ASSIST project they incorporate the action in their daily work routines. Both projects share a specific joint objective: increase knowledge about vulnerable consumers and energy poverty.

7.2.7 Energy Bank[5]

Project Phase: In progress

Summary: The Energy Bank is an association that promotes savings and energy efficiency for the benefit of those who are in a situation of energy vulnerability. Any organization or individual can contribute to the Energy Bank through donation (the money saved by being more energy efficient becomes more efficient). In other words, the contributions are from

[5] Banco de Energía in Spanis

people, companies and entities that decide to dedicate part of their energy savings to collaborate in the fight against energy poverty. Project Caractheristics

Table 39 Energy Bank Caractheristics

Research	No
Training	The project trains both (1) organizations that want to save energy that will then donate the money to the energy bank and (2) project beneficiaries (vulnerable people who can't pay the energy bills).
Network created	In some way, the Energy Bank acts as a HUB for all those organizations who wish to contribute to the creation of a "community pot". As such, it creates a sense of common purpose that unites all organizations towards the goal of helping the most vulnerable. This increases a sense of community.
Services provided to citizens	Thanks to the money saved in the Energy Bank, it is possible to help vulnerable consumers and to work to empower them by providing information and tools on energy efficiency measures.
Changes in energy consumption	The main objective of the project is to stimulate savings by stimulating behabioural change. The objective of the organization is to encourage public and private organizations (as well as people) to save energy and use the savings to help vulnerable citizens.
Strategies to involve energy users	Customers of public and private buildings are actively involved in making buildings efficient from the energy point of view.
Protection policies	No

Relationship with ASSIST: The Energy Bank is a project which's logic is different from ASSIST in terms of the source of financing and motivation of the agents involved. The Energy Bank involves two types of users: those who are energy efficient in order to help other users and those who are actively energy efficient in order to help themselves getting out of an energy poverty situation.

7.2.8 Pass the Energy[6]

Project Phase: In progress. Started in 2017

Summary: Pass the Energy (Pasa la Energía in Spanish) is a public program of the *Gerència de Serveis de Medi Ambient* of the *Diputació de Barcelona* aimed at offering material and technical support to all municipalities in the province of Barcelona that commit to saving energy and allocating savings to help homes within the municipality that suffer from energy poverty.

Project Caractheristics

Table 40 Pass the Energy Caractheristics

Research	The first pilot tests of the program provided some interesting conclusions: (1) Households with a situation of energy poverty use less energy than the average household. Almost half in some cases. (2) Consumption is lower, but there are appliances, such as refrigerators, that consume much more energy than usual. (3) In many cases, the hot water is heated by an electric boiler. (4) 90% of the homes visited have not requested the

[6] Pasa la Energía could be also translated as Pass me the energy meaning give the energy to me or another person.

	social bonus. (5) 75% of households could apply the day/night tariff and a reduction in contracted power, with savings of 150 to 250 € per household.
Training	Three of the 6 project objectives include advising both workers and citizens on energy efficiency and energy poverty. Specifically: (1) Involve workers in the development of good energy efficiency practices; (2) hold municipal (public) workers accountable for the success of the project (and, therefore, train them to ensure that energy efficiency measures are taken) (3) raise awareness of energy poverty through citizens.
Network created	The project creates a network between public entities (municipalities or town halls) and their citizens. The network is between: (1) the City Council, (2) the public workers who work in the Town Hall and the public buildings where the project is developed, and (3) the citizens who save money thanks to being energy efficient. This practice helps to strengthen local networks and create a sense of community.
Services provided to citizens	It provides services to two different types of consumers: (1) To municipalities that can provide better practices to their workers and monitor the monthly consumption of energy efficiency. (2) To vulnerable households that receive the benefits of energy savings in town halls through: (a) energy audits to verify if different tariffs can be applied (most of the users save up to 250 euros a year thanks to the change of tariffs and change of consumption habits); (b) Investment in isolation; (c) installation of low energy consumption kits such as LED lighting).
Changes in energy consumption	The project stimulated behavioral change in three ways: (1) to the city council workers who were trained and incentivized to save energy; (2) to energy agents and (3) to vulnerable consumers, thanks to energy audits and the information provided to them. The project offered workshops and informative talks related to energy saving and efficient energy consumption. It also developed education courses for energy agents and social workers.
Strategies to involve energy users	The involvement is central and key to the project. The more committed the users who work in the town hall are, the more energy savings are obtained. The incentive to save energy is the key to have them involved: the money saved will go to vulnerable households.
Protection policies	No

Relationship with ASSIST: The main common axis of Pass the Energy and ASSIST are the actors that the initiatives involve or intend to influence: (1) public sector, (2) citizens (energy agents) and (3) vulnerable citizens (final beneficiaries). Both initiatives have two points in common; the involvement of the energy agents and vulnerable consumers. The big difference is the involvement of the public sector.

7.2.9 CAF-ACCIÓ

Project Phase: Finalized. Duration from October 2015 to November 2017

Summary: The ACAF and Ecoserveis associations led a project aimed at combating energy poverty in vulnerable households without relying on public and social aid. The project created networks of newcomers (CAF derived from it's original name in Spanish) from impoverished countries living in conditions of energy poverty in 6 Catalan municipalities and gave them (1) information on good practices and (2) resources such as LED lighting to 35 houses. The results were as such: 148 people benefited from the learning interventions and 570 benefited directly from the interventions carried out in their homes. The participants reduced their energy bills up to 50%; improved the comfort and applied low-cost measures to tackle the energy poverty situation they were in.

Project Caractheristics

Table 41 CAF-ACCIÓ Caractheristics

Research	The creation of CAF has been especially relevant for newcomers from impoverished countries due to their lack of social network, the situation of economic precariousness in which they lived and the impossibility of accessing a credit bank. CAF is a community empowerment methodology that increased the resilience of communities, providing its members with tools such as practical financial education, stimulation of energy savings, a social network of trust and mutual assistance, leadership and responsibility. The project is not a resercah one, but with it's implementation it has been possible to identify new vulnerable profiles which could be regarded as reserch outcome. The newcomers are from impoverished countries such as African countries (Morocco, Algeria, South Africa, Senegal and Mali) and South and Central America (Colombia, Honduras or Argentina).
Training	12 workshops in social spaces for vulnerable people
Network created	Network established with: (1) the Secretary of equality, migrations and citizenship of the Generalitat de Catalunya and (2) long-term unemployment community groups and (3) community groups of migrant women.
Services provided to citizens	The energy agents went to the selected houses and provided the following services: (1) energy diagnosis, (2) low and medium cost interventions in the homes and (3) follow-up to see how they developed.
Changes in energy consumption	The change was stimulated in three ways: (1) through the diagnosis to households together with an explanation of good practices (2) thanks to the presence of a technician, possible improvements were detected and tools were provided to reduce consumption such as LED bulbs and (3) information provided in the workshops (ie, information on ventilation, stand-by, timers, better ways to defrost the fridge and freezer, eco-washing techniques).
Strategies to involve energy users	CAF-ACCIÓ is in itself an attractive strategy for vulnerable consumers who have emigrated from economically impoverished countries. In addition, most of the groups were contacted by public or social agents who had already worked with them. This prior connection was key to getting involved in the project.
Protection policies	No

Relationship with ASSIST: ASSIST and CAF-ACCIÓ share the same objective: Create specialized and specific services for vulnerable communities and improve the energy situation of vulnerable consumers. The difference is the type of consumers to whom it is addressed.

7.2.10 Conclusion

This section has provided information on various initiatives that were developed or are still being developed in the field of energy poverty in Spain and that be linked somehow to ASSIST project. As the reader could have seen, most of the initiatives have two phases: (1) a first one that consists on trainning people on efficiency and energy poverty, and (2) a second one where these already trained people act as transmitters of knowledge.

The main difference between the analyzed initiatives is related to the profile of the trained person (professional, voluntary or trained as a new figure) and how the final beneficiary is reached.

The following table compares the projects according to their degree of incidence in the 7 fields indicated in each initiative. The green color or number 5 indicates that the initiative or project has a high incidence in the field. The number 1 indicates a small incidence and the 0 or red indicates that there is no incidence.

Table 42 Projects/Initiatives comparizon

	ASSIST	PAES Pilote	PAES Barcelona	Active Energy	Municipal Employment Plan	Castelldefels Employability Plan	Fuel Poverty Group	Energy Bank	Pass the energy	CAF-ACCIÓ
Research	4	0	5	0	0	0	3	0	2	3
Training	4	5	5	5	5	5	5	3	4	5
Network created	5	4	5	2	3	0	5	4	4	5
Serviced provided to citizens	5	5	5	0	3	5	5	4	5	3
Changes in energy consumption	4	4	4	1	0	3	4	4	4	5
Strategies to involve energy users	4	5	5	0	3	3	4	3	4	4
Protection policies	4	5	5	0	4	3	4	0	0	0

So far we have seen that energy poverty is a concept without a specific definition but this does not mean that there are no laws that refer or are dedicated to alleviating this type of poverty. Then we have seen different initiatives that help alleviate energy poverty. From these two sections we can conclude that, although policies and initiatives work for the same objective, sometimes they do so in parallel. In some cases policies influence initiatives and in other cases initiatives serve to influence policies. These influences are palpable in the political and social sphere and from these arise tensions on what to do and how to tackle energy poverty. This is one of the reasons why dialogue is needed. Thus, the following section talks about the work sessions of the ASSIST project in Spain where dialogue was created to be able to draw a better path towards the solution of energy poverty.

7.3 National committee of experts and working sessions

7.3.1 Composition of the National Committee in Spain

The objective of the National Committee is to give support and advise on the best possible way the ASSIST project can be implemented. Therefore, the selection of members sought to cover all the spectra and actors that currently address energy poverty in Spain. For this reason, the group includes representatives of social organizations, associations and research centers, consumer organizations, representatives of the consulting community working in the field and public administration.

Figure 7 First meeting of the expert committee - Barcelona.

The composition of the National Committee is as follows:

Third sector Social and environmental organizations

- *Asociación de Ciencias Ambientales* (Association of Environmental Sciences) is an association in charge of the main energy poverty studies in Spain.
- *Taula d'Entitats del Tercer Sector* is an umbrella organization of more than 3000 social NGOS.
- *ABD* - Welfare and Development Association. Association with expertise in action against energy poverty.

Academic sector

- INGENIO - Universitat Politècnica de València. University

Private energy market sector

- *AEIOLUZ*, energy consultants
- *Gas Natural,* energy supplier

Public administration

- Energy Area of *Consorci de la Ribera*. Local energy agency.
- *Diputació de Barcelona.* Regional authority with specific program on energy poverty.

Consumers

- *Hispacoop*. National consumer association. Consumer's representative at energy regulator.
- Energy Volunteer

The group plans to meet yearly during the project lifetime although communications and informal meetings will occur frequently.

7.4 First Think Tank meeting

On Thursday, February 20, 2018, Ecoserveis organized an event in Barcelona to present the ASSIST project and generate strategic alliances with organizations working in the field of energy poverty. The meeting had two objectives; On the one hand, to present energy poverty initiatives and on the other to generate debate on how to solve the challenges of energy poverty intervention. The working session helped to create a critical dialogue about the work that all organizations were doing and see common forms to achieve the same goal: address energy poverty.

Working session title: Energy interventions in vulnerable households

Speakers: 9

Assistants: 60

Programme:

Table 43 Program with information on the speakers and organization's characteristics

Time	Talk	Speaker	Sector
10:30h	Welcome and presentation: The management of energy poverty in Europe and the ASSIST project	Ecoserveis Marta Garcia	Tercer Sector
11:00h	ROUND TABLE Identification of initiatives		
	Energy Assesment Points in the city of Barcelona	Ajuntament de Barcelona Patrici Hernández	Public Sector
	Energy interventions program of the Diputación de Barcelona	Diputació de Barcelona Francesc Hernàndez	Public Sector
	The management of energy poverty through Occupational Plans	Intiam Ruai Manel Rivero	Third Sector
	Assessments	Aliança Contra la Pobresa Energètica María Campuzano	Civil Society
	Intervention models through volunteering	Fuel Poverty Group Fernando Alegría	Third Sector

	Assistance to vulnerable citizens	ADEE Alginet Ama Solar	Private Sector
	Energy poverty attention program	Gas Natural Fenosa Carmen Mateos	Private Sector
	SMART-UP - Interventions with smart meters	Ecoserveis Aniol Esquerra	Third Sector
11:45h	Coffee break		
12:15h	An in-depth view into eachinitiative		

According to all the speakers, the main challenges are the lack of knowledge about energy rights and the lack of information on the technical aspects related to the use of energy. Thus, thanks to the transmission of knowledge about their energy rights, citizens can make much more conscious use of energy and claim their fundamental rights as citizens. To work on the transmission of knowledge (rights and technicalities), the different participating organizations: public, private, third sector and civil society, agreed on the need to cooperate among them.

During the day it was evident that, although there are many organizations with the same objective (to address energy poverty), their idea of how to solve it can be very diverse. In general terms, public sector organizations opt for top-down assistance models that place emphasis on providing the maximum possible transmission of knowledge so that vulnerable citizens can know their rights and trace the necessary path towards empowerment. It is precisely enhancing citizen's empowerment that organizations of the Third Sector choose. Finally, private electric companies opt for a very different kind of assistance based on welfare. The two companies present at the conference work to facilitate mechanisms to help vulnerable people, either through telephone assistance (Gas Natural Fenosa), by providing food aid (the ADEE Alignet) or by facilitating the payment in installments (both).

It is impossible to argue that there is only one panacea mechanism; there is not a single bullet that is able to solve everything. It is for this reason that it is important to emphasize that the event provided the necessary frictions when it comes to raising issues such as what to do with the energetically vulnerable citizens who live in occupied houses. The specific examples are those that allow organizations to discuss how to address energy poverty and it is with these examples that it becomes evident that all of them are part of the mechanism and it is necessary to take them into account in order to find a solution.

7.4.1 Conference conclucions

All organizations represent part of the inherited complexity in today's society and, as such, all their perspectives and solutions are key to solving the two main challenges: the lack of knowledge of citizens about their energy rights and the lack of information on energy technologies. Given the different opinions of each type of organization, it can be concluded that:

- Advice and empowerment mechanisms can be delivered to citizens in three ways: (1) established in a **specific place** (an example is the PAES Barcelona)

where the citizen can go when it is convenient; (2) **itinerant** in the form of meetings; such as the Fuel Poverty Group or the Alliance Against Energy Poverty (from a bottom-up perspective) (3) in the place where the vulnerable user is (their **homes**), in the case of people who due to their age or personal situation will never be able to go to a specific place or event. One example is the SMART-UP project where energy agents went to vulnerable households to do an energy audit and recommended changes according to each household's needs. Se necesita más información para que los usuarios comprendan mejor cuándo, cómo y cuánta energía están utilizando. Esto se puede hacer con más información sobre las facturas (como lo hace la Cooperativa Eléctrica de Alignet) o instalando contadores inteligentes (como se hizo en el proyecto SMART-UP). More information is needed so that users understand better when, how and how much energy they are using. This can be done with more information regarding energy bills (as does the Cooperativa Eléctrica de Alignet) or installing smart meters (as it was done in the SMART-UP project).

- Finally, it is important to mention that since energy poverty is a cross-cutting issue, working on this issue, we are also working on the structural problems that are inherent in our current system. Therefore, energy poverty is a problem that gives us the opportunity to change and create a better dialogue among civil society organizations to also resolve other issues related to this field, such as poverty or public-private relations.

7.5 Second Think Tank meeting

The second Think Tank meeting of the ASSIST project took place in Valencia on April 25, 2018. With the intention of maximizing the synergies of the project with other existing initiatives and activities that currently work to alleviate energy poverty in the Valencian Community and in Spain, This event was organized within the *1st Mostra*[7] *"Lluita contra la pobrea energetica*[8]*"* of Valencia.

The *1st Mostra "Lluita contra la pobrea energetica"* of Valencia, was an event, co-organized by the Cooperativa Eléctrica de Alginet (local coordinators of the ASSIST project through *ALGINET DISTRIBUCIÓN ENERGÍA ELÉCTRICA*), the Connect Energy Network of *Las Naves de Valencia* and the working group of energy poverty. The main objectives of *the Mostra* were to raise awareness of local initiatives to combat energy poverty, to put stakeholders in contact on the energy poverty subject to promote synergies and share experiences to innovate against energy poverty. These objectives are totally shared by the ASSIST project.

Within the day of *the Mostra*, which lasted a whole day, a round table / think tank was organized, specifically dedicated to the ASSIST project. In addition to this round table, during the day there was a session that included presentations of several national studies on energy poverty and a series of workshops during which different actors tried to agree on

[7] Mostra can be translated as The Exhibition or Sample
[8] Fight against energy poverty

concrete actions to fight against energy poverty. These workshops were organized by lines of action as follow:

- Public administration
- Technicians and social services professionals
- Energy efficiency technicians
- Organized civil society

Title of the session organized and coordinated by the ASSIST project within *La Mostra*: Round Table on local initiatives to fight against energy poverty.

Speakers: 5

Assistants: 65

Programme:

Table 44 Program with information on the speakers and organizations characteristics

Time	Talk	Speaker	Sector
12:15h	Welcome and presentation: The management of energy poverty in Europe and the ASSIST project	ADE Alma Solar	Private sector – Coordinación Local ASSIST
12:30h	ROUND TABLE Identification of initiatives.		
	Self-financed communities against energy poverty - CAF-Acció Project.	Ecoserveis Marta García París	Third sector
	Energy Poverty Care Program - The first year of the Vulnerability Plan.	Gas Natural Fenosa Carmen Mateos	Private Sector
	Initiatives in the city of Valencia on energy poverty	AEIOLuz Teresa Lliso	Private Sector
	Social and energy aids of the Cooperativa Eléctrica de Crevillent.	Cooperativa Eléctrica de Crevillent Miguel Moreno	Private Sector
	Crash plan against energy poverty and Bono Social Gaditano (Social tariff), Cadiz energy transition table.	Mesa de Transición energética de Cádiz Alba del Campo	Public Sector
13:45h	Q&A and discussion with the assistants		
14:30h	Conclusions and end of the round table		

The conclusions reached during the whole day and especially during the presentations made within the round table of the ASSIST project, are very similar to those collected during the first Think Tank meeting of the project:

- The main challenges identified are the energy users' lack of information, especially the vulnerable ones or those that are at risk of vulnerability.
- There are numerous initiatives in the national and regional panorama working from different areas for a common goal: to alleviate energy poverty in their area

of influence. It is important, therefore, to explore the potential synergies between the different initiatives to enhance the results and promote the transfer of knowledge, creating lists or repositories of good practices to be able to learn and build on successful initiatives, instead of "reinventing the wheel" in each new project.

- It is important to create spaces for communication, discussion and knowledge transfer (such as those proposed in ASSIST) to share, both the different approaches used and the results obtained.

It is interesting to also highlight the results and conclusions obtained from the workshops organized during *La Mostra*, which reinforces, as we will see below, the conclusions listed above.

In these workshops, different actors from the same sector held discussions on energy poverty with the intention to identidy the main barriers and difficulties they encounter when fighting energy poverty situationa and proposing concrete actions or initiatives to overcome these barriers:

Workshop 1: Public administration

Barriers encountered

- Lack of legislation on energy poverty
- Lack of awareness and disinformation of the energy issue.
- Internal difficulties in the administrations: excessive bureaucracy, lack of transversality between councils and consequently ineffective management of work.

Suggested actions

- Propose City Councils to do periodic cross-sectional meetings that involve all the councils involved in energy management.
- Propose workshops for users who benefit from PE grants.

Workshop 2: Social Workers

- Barriers encountered

Disinformation and lack of training of energy users and professionals.

Lack of digital training of the most vulnerable users that makes it impossible for them to access a large part of the information, together with the difficulty of access / opacity of electricity companies that often do not have assistance offices.

Lack of material and economic resources and lack of coordination between public agencies and social entities.

Solutions based on the assistance (rather than empowerment) that generate chronic poverty situations.

Suggested actions

Create a common database and simple indicators to easily identify users in situations of energy poverty.

Involve the professional associations of Social Work, Social Education and Social Integration to work together with the administrations in the same territory.

Create a resource guide and a map of entities and actions against energy poverty so that information can be shared more efficiently and transversally.

Workshop 3: Energy professionals / Energy efficiency technicians

- Barriers encountered

Difficulty accessing information, especially for vulnerable users: tariffs are complex, energy bills are difficult to understand and the processes are complex and slow.

Misleading and unclear advertising and very aggressive door-to-door campaigns that also generate mistrust among users.

Proposed actions:

Creation of a segmented training program for each society group, which adapts to the level of language and knowledge of the different society sectors, unifiying in education modules/workshops both a social and technical apporach to energy poverty solutions.

Workshop 4: Organized civil society

- Barriers encountered

These are groups made by very active militants, which means that the time they can devote to undertaking new initiatives is very limited.

Suggested actions

- Replicate successful actions in cities or regions where energy poverty initiatives have not yet been implemented, driven by self-organized social groups. For instance, replicate in Valencia the collective assessments that the Alliance Against Energy Poverty carries out in Barcelona.

7.6 Limits for effective action against energy poverty

Four main clear concerns have been identified among the actors (consulted in the framework of the project): (1) Housing condition; (2) Socioeconomic situation; (3) Failed system; (4) Lack of information. These concepts are developed and explained below:

(1) Housing conditions

Our housing stock is very inefficient: there is a lack of thermal insulation, double glazing, etc. Which leads to greater energy consumption. Therefore, there is a need to apply energy efficiency technologies and / or to invest in the rehabilitation of buildings.

(2) Socioeconomic situation

As much as the housing situation is important, another key factor is related to the socioeconomic status of the people living inside the houses. Therefore, if the person living in a very inefficient house can't afford the amount of money required to keep the house warm, this person has a great chance to end up being energy poor. In fact, as one of the stakeholders suggests, energy poverty is related to "the capacity of the person / family to pay the energy bills". This lack of economic capacity to take care of the bills generates a debt that worsens the socioeconomic situation of the family. The past economic crisis and the problems with high unemployment rates in Spain have also been highlighted by some stakeholders as important causes of the increase in energy poverty. In addition, the consumer organizations interviewed also highlight that specific sectors of the population, such as the elderly and people with some type of disability, have a much greater risk of being vulnerable energy consumers.

(3) Failed system

At this point, we should note that there are two possible ways in which stakeholders can refer to the system: (1) local organizations that work identifying and helping vulnerable people and (2) the macro system level (energy price, policy, law...).

Taking into account the first way of understanding the system, stakeholders argue that there is a big problem regarding how to assess vulnerable people because, for example, in Catalonia, there is only one department, specifically social services at the municipal level, who can grant the vulnerability certificate. This system approach also fits the idea of the need for institutions to work together to address the problem.

When analyzing the second way of understanding the system, stakeholders indicate that there is a need to develop more energy efficiency policies and the current high energy costs. Some stakeholders also highlighted the lack of regulations that really protect vulnerable consumers against misleading advertising and the direct selling techniques of trading companies.

Regarding high energy prices in Spain, it is highlighted that end users rarely perceive price competition in the Spanish sector, which makes it difficult to find a cheap tariff that meets their economic needs.

(4) Lack of information

There is the idea that there is not enough information about energy prices in general. In fact, asymmetric information stands out in the sense that companies and consumers do not have the same level of information. In addition, the difficulty of many vulnerable users to understand energy bills, including the different terms of the bills, the fixed taxes applied and

the differences between contracts and additional services (which often end users do not even know they have hired), is also mentioned by the interested parties as one of the main drawbacks for this type of consumers.

According to this thinking, there is a belief that there is a need: (1) to disseminate more knowledge among citizens about what energy poverty is, including the causes and impacts on health; (2) to provide knowledge about bureaucracy and management (by for instance contacting families) and (3) consumers who are awareness about their rights.

Therefore, it can be argued that there are two possible ways of seeing the problem: the micro-level (addressing problems from below, such as rehabilitation and focusing on helping the most vulnerable from the bottom-up) and the macro-level (addressing the system problem, either politically or economically). And by doing both, it is key to provide efficient and specific information.

7.7 Proposals for an effective action to tackle energy poverty

The proposals are summarized below in four main areas: (1) Regulatory system; (2) The need to develop private strategies; (3) Help (financial and social); (4) Communication towards vulnerable consumers. The following paragraphs explain what stakeholders believe should be addressed in these four main topics.

(1) Regulatory System

It is identified as necessary (1) the modification of existing regulations to exclude from the energy bill the concepts that are not specifically related to energy consumption and (2) promote the social tariff to be able to help more people. It is also proposed to modify the regulations to protect end users against door-to-door sale techniques that can often lead to an unwanted change in the energy contract with worse economic conditions for end users.

(2) Strategies of private and public companies

Companies must incorporate within their plans the Corporate Social Responsibility (CSR) programs that are specially designed to help vulnerable consumers. These programs must be public and create awareness. Social Services should know who is doing these CSR programs in order to coordinate with private institutions to help those who are most in need.

In addition, there should be a clear channel of work between the public administration and the suppliers. In this sense, it is also important to strengthen collaboration among all companies and organizations working in the field of energy poverty.

Finally, it would be interesting to allow health centers to issue certificates of energy dependence and also to work with public health institutions to take into account health problems when designing interventions to combat energy poverty.

(3) Help (financial and social)

Help support is seen at two levels; financially or as a social and emotional support. Financially, it is mentioned that it is necessary to provide assistance for: (1) housing rehabilitation, implementing energy efficiency measures, as well as promoting the use of renewable energy for self-consumption; (2) reduction of energy prices, (3) financial assistance that provides money and subsidies to those who need rehabilitation in their homes and who also want so.

Regarding social support: (1) identification of organizations and channels that can complement social services to identify vulnerable energy consumers so that social services do not collapse; (2) provide information to the user on how to understand her/his energy bill, so that she/he can identify the unwanted services or the wrong energy contract and can make a better use of her/his energy consumption.

(4) Communication to vulnerable consumers

It is important to have energy agents to support people. In this line, it is also key to develop communication and education tools and mechanisms, such as the PAES Barcelona (previously explained). There is a need to especially focus on vulnerable consumers and work towards a way to easily identify people who depend on energy.

The need to have face-to-face assistance services in the offices of energy supply companies has also been identified in the diagnosis phase of the ASSIST project, so that end users can resolve their doubts and questions about their contracts and invoices in a way more efficient than by phone or over the Internet.

7.8 Methodology, schedule and expected results for the action in Spain.

Regarding the national action, there are two slightly differentiated actors: (1) On the one hand the action through empowered professionals from the Domiciliary Care Service (servicios de Atención Domiciliaria in Spanish) and, on the other hand, (2) the action through energy suppliers' customer service professionals.

7.8.1 Action with professionals from the Home Care Service

Home care services are an organized set of resources and actions aimed at people who, because of their age, dependency or disability, have limited autonomy to perform the basic activities of daily life or require permanent and distance attention. In this case, they are professionals of the local public administration who carry out domestic tasks such as:

- Hygiene and care (bath, body hygiene, change of clothes, etc.)
- Physi-motor help (lifting, bedding, walking)
- Feeding control. Control of medication and health.
- In-home meals, in-house cleaning (regular maintenance, punctual and in specially delicate circunstances) and laundry.

- Assistance outside the house (medical visits, going to be bank, etc.)
- Guidance in the administration of the household economy.

The fact that the vulnerable users are in touch with them in their daily activities or that they are present in their daily lives and that as such they are people with whom they already have a link, allows us to argue that it will facilitate the trust they place in the professionals when they carry out the energy advice and that, therefore, it will be more effective than in other occasions in which professional and user have no link.

In order to be able to carry out the action of the ASSIST project, the professionals of the SAD (Domiciliary Service), would have previously been trained in the identification and management of energy poverty through a mixed modality course (face-to-face) of 40 hours to become home energy advisors.

With the knowledge acquired in the training and the skills and competences of the professionals, the project action will be carried out. The project consists of energy intervention in vulnerable homes where the professionals already perform their tasks as home care professionals.

Among the professionals in this field, two different profiles will participate in the pilot: the coordinator and the family worker of the SAD.

7.8.1.1 Interventions Methodology

Home care professionals have periodic contact with the beneficiaries so the household energy intervention follows a flexible pattern that couls be as follows:

In the first visit an explanation of the project will be made and the user will be proposed to participate in it. For this purpose, support material will be available. There will be an explanatory triptych to facilitate the understanding and an authorization of the energy and personal data usage for the proper development of the project. In the event that the user does not sign this document, she or he will be discarded from the project.

On the second visit a form will be completed with personal information (employment, economic situation, etc.), household conditions (type and condition of walls, windows, etc.), facilities (heating, kitchen, etc.)., and sensations of comfort and energy knowledge. Once the form is completed, the energy habits of the people who live in the house will be identified and the training and optimization of these will begin. In many cases it will be the trained professional who will fill in the form since she/he perfectly knows the situation of the beneficiary.

In a third visit, it will be possible to provide advice on energy supplies and the different existing tariffs. If necessary, users will be accompanied to the energy advice points (PAES) or the trained professionals will go on their behalf in cases of reduced mobility.

Between the third and the last visit there will be many visits in the same home since the family worker performs the tasks of her work in there. These visits will be used by the carer/worker to remember good habits in the home and to support contract management of energy supplies.

In the last visit a final questionnaire will be filled in by the user to compare if the empowerment in habits has improved the comfort of the dwelling and if the tariff procedures have been correctly developed and are finalized.

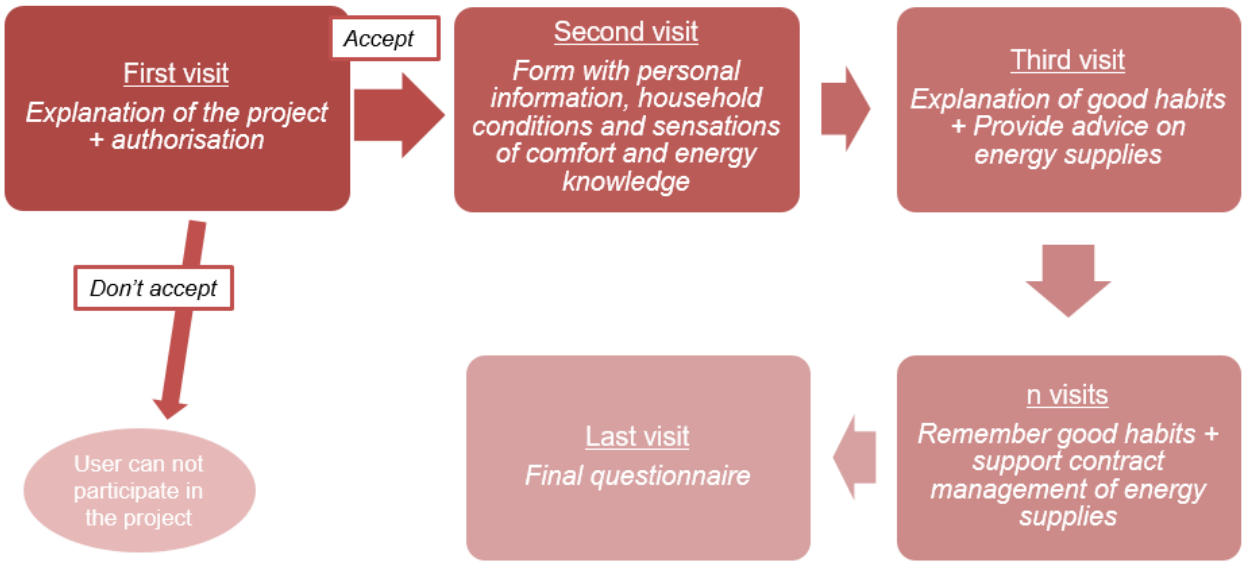


Figure 8 Methodological outline of the interventions.

7.8.1.2 Expected results

All the data collected in the interventions by the professionals will be analyzed to obtain both quantitative and qualitative results.

The quantitative data is intended to analyze what has been the reduction of energy consumption in the homes and the economic savings that it has entailed for the advised users.

The qualitative data information, on the other hand, will allow to identify the users comfort improvement, the acquired habits, as well as their level of satisfaction with the advice of the energy agents and thus be able to assess in a more subjective way the usefulness of the actions carried out.

Likewise, the project will also analyse the impact differences between: (1) the users assisted by home care professionals and (2) those attended in the first place by the area coordinators and subsequently derived to home care professionals trained by the coordinators themselves.

One of the objectives is to validate the thesis that the existence of a link between professional and user and the realization of weekly or even daily visits facilitate the acquisition of new energy habits in the home that allow the improvement of comfort and energy savings.

7.8.2 Action with Front Office professionals from the energy suppliers

The professional's profile regarded in this section have, as one of their main functions to provide customer service in the front office of energy companies. These professionals already have technical knowledge related to energy contracts and, among their functions they require advising end-users on the type of contract and supply that best suit their needs, analyzing their energy bills and advising them, especially, in the type of tariff and power that they are most interested in contracting.

The functions of these professionals (AED - Spanish name -) will focus, above all, on correctly identifying users who may be at risk of vulnerability or energy poverty. Once identified, they can offer a more personalized advice focused on improving their situation regarding the energy vulnerability they suffer. The activities of these professionals, once trained, can be defined as:

- Correctly identify the users in situations of energy vulnerability among the company clients
- Adapt your message to the users in vulnerable situations, leaving aside, when necessary, the most technical concepts and offering users clear, simple information and with an appropriate language
- Analyze the energy profile of the household and its consumption habits
- Identify efficient / optimal energy uses and advise vulnerable users about more efficient consumption behaviors
- Advise on energy general information and solve specific issues
- Advise on the appropriate use of energy systems
- Offer information and simple tips on habits for energy saving
- Advise vulnerable users about protocols or social assistance that is valuavle and adapts to their needs.
- Offer payment facilities tailored to the users needs.
- Include vulnerable users in the specific vulnerability assistance and protection programs

Generally, users who will be identified as vulnerable users and potential participants of the ASSIST project, already know the AED professionals of this group, since they will be users who are probably already benefiting from some of the vulnerability assistance protocols of the energy companies, this facilitates trust between the vulnerable user and the AED. On the other hand, the energy companies that will participate in the formation of these profiles will be, in their majority, energy cooperatives. This type of company, because it is a cooperative, already has a closer relationship with its partners / users than the one energy users usually have with their energy suppliers (companies), which will also facilitate trust in the AED profiles.

7.8.2.1 Interventions methodology

In the case of AEDs Front Office professionals from energy suppliers, assistance to vulnerable users will be made in the same company office. The assistance will be carried out in the following phases:

Phase 1: Identification of the user as vulnerable.

Once the AED training has been carried out, the front office workers will be able to identify the users in energy poverty, or at risk, among those who normally attend their job. Once identified as potentially vulnerable users, the AED will explain the project and the user will be asked to participate. In this case, the AED will also have informational supports from the project, such as triptychs and / or summaries. The user wishing to participate in the project must sign the authorization document for the use of data and consent to participate.

Phase 2: Filling in data

The asessed user will fill in a form with personal information (work situation, economic, etc.), household conditions (type and condition of the walls, windows, etc.), facilities (type and state of the heating system, kitchen, etc.), electrical appliances and lighting. In addition, the AED professional may have access to the current and historical user's consumption data (prior consent) for a detailed analysis of their consumption habits.

Phase 3: Assesment

Once the professional has analyzed the information provided by the user and their consumption data, the asessment phase can begin. This phase will begin with a review of the contract and a proposal for adjusting, if necessary, the tariff and power contracted by the user, so that they can adjust it to the actual consumption needs. Once the contractual modification has been made, if necessary, the AED professional will proceed to provide more specific advice to the user, focused on improving their consumption habits to reduce their energy bill to the maximum or to make their consumption more efficient in order to increase his/her comfort and quality of life.

Phase 4: Follow up

During the follow-up phase, the AED professional will be able to check the effects of the advice on user consumption and comfort. This follow-up will be carried out both through interviews / conversations with the user and through the analysis of the user's actual consumption data.

7.8.2.2 Expercted results

The AED professional will collect both the user's consumption data (current and historical), as well as the data associated with the change in energy consumption habits and user comfort.

These data will be analyzed later during the project to calculate both the reduction in electricity consumption of the asessed users, as well as their improvement in terms of comfort and quality of life experienced after the assessment.

7.9 Current number and type of HEAs

In Spain many capacity building initiatives have been promoted in the last years so the idea with ASSIST is to promote unexplored areas. This is why two different profiles were identified. On one side, Home care professionals in order to evaluate the impact of interventions made by people with an emotional bond with the vulnerable consumer and workers from local energy supply cooperatives. For the first profile, three different pilot projects were designed to cover different intervention models: public/private and urban/rural.

At the moment of closing this report, two of these training pilot have been successfully completed and 81 HEAs have already started with the action. The other two pilots are planned in 2019. More than the 75 HEA will be trained, but it is the way to ensure reaching the number of vulnerable consumers. Each HEA has stated that they can not give advise to what they initially agreed so this is why we decided to increase the number of trained HEA in order to reach as many as vulnerable families as possible.

Table 45 Assist Actions

Course/ edition' name	Place	Duration	Timeframe	Participants		
				Enroled	Tipology	Completed
ASSIST SAD Barcelona	In presence in Barcelona On Line	40 hours (12 h in presence and 28h onine)	7th May – 15th June 2018	92	Home care professionals	71
ASSIST SAD Maresme	In presence in Mataró On Line	40 hours (12 h in presence and 28h onine)	1st October – 19th November 2018	10	Home care professionals	10
ASSIST SAD Barcelona (pilot 1B)	In presence in Barcelona On Line	40 hours (8 h in presence and 32h onine)	May – June 2019	50 expected	Home care professionals	
ASSIST-Front Office energy suppliers			January-February 2019	20 expected		

7.9.1 Home care professionals

Home Care Professionals offers reliable non-medical home care services for dependant people such as bathing, laundry, companionship and more. They work for the municipal social services and are an interesting profile to act as home energy agent. They visit their

users frequently which make a potential energy advice even better. Concerning the profile, home care professionals are mainly middle aged women and about ASSIST participants, 20% declared a situation of energy vulnerability themselves (inability to keep house in comfort conditions).

To evaluate the adequacy of the profile and, as it is the first time we have trained these professionals, two different training courses were designed: one for urban home care professionals (with Barcelona municipality) and the other with home care professionals from smaller municipalities (with Diputació de Barcelona and Consell Comarcal del Maresme).

7.9.2 Helpdesk Professionals from energy suppliers

Energy suppliers are in close contact with their customers and a training is also foreseen in January 2019 to train these professionals and evaluate the impact while giving advice to people in a situation of vulnerability.

7.10 Foreseen activities

7.10.1 Engagement strategies and soft actions

Energy advice to close circles

Although informal and out of their professional scope, HEAs are giving advice advice not only to their users but to their their closest cercles such as family or friends.

Table 46 Actions for HEA – Advice to close circles

Action/event title	HEA's relatives
Action description	
Action target	All HEAs to give advice to their relatives, neighbours, friends,…
Geographic dimension	Local
Geographic area	All HEAs areas (Barcelona, Maresme and Valencia)
Number of involved users (estimated)	Potentially 2,000 households
Success rate	Each HEA to provide with a list and signature of all contacted 10- each expected
Action tools	Advice on electricity appliance, electricity bills, low-cost energy efficiency measures, questionnaires, etc…
HEAs involvement	
Type of HEA	Trained HEA
Foreseen involvement	Informal talks with their closest
Action monitoring	
HEAs activity	Number of households leaving their contact for a follow-up

Control group	Not foreseen
Monitoring tools	If possible, follow-up with families that leave their contact
	Questionnaire on their consumption habits and change in them
Large control group	Not foreseen for this action
Estimated energy savings	2% (for those who leave their contact)
Monitored group	2,000 users 2% (for those who leave their contact)

Energy cafè

It is well known that community groups in the UK have addressed energy poverty via Energy Cafés, grassroots initiatives which aim to draw people in to receive advice on energy bills over tea and cake. Energy Cafés offer a small step towards alleviating energy poverty and it has never been tested in Spain. This is why we propose some of ASSIST most motivated HEA organize energy cafes during the action in order to evaluate the impact.

Table 47 Actions for HEA – Energy café

Action/event title	Energy cafes at variety of locations (planned)
Action description	
Action target	Other users from Home care services or energy suppliers customers
Geographic dimension	Regional
Geographic area	Barcelona city, Maresme and Valencia
Number of involved users (estimated)	Potentially 10, estimated at least 100 households
Success rate	All participants supplied with basic energy saving information leaflets, estimated that around 20% of households will leave contact information for follow up
Action tools	HEAs will organize energy cafes to distribute energy saving information, information leaflets and get further contact details
HEAs involvement	
Type of HEA	Trained HEA
Foreseen involvement	At least 2-5 HEA from each HEA course edition (10 in total approx.) are expected to organize energy cafes
Action monitoring	
HEAs activity	
Control group	Estimated that 20% will leave their contact information for a follow up survey, these will act as control group.
Monitoring tools	Number of leaflets distributed, number of e-mails collected, responses from the survey to the people leaving their e-mail addresses.
Large control group	

Estimated energy savings	Estimates will be defined for individual actions, savings estimation will depend on control group results on applied actions
Monitored group	100 households

7.10.2 Action with professionals from the Home Care Service

7.10.2.1 Interventions Methodology

Home care professionals have periodic contact with the beneficiaries so the household energy intervention follows a flexible pattern that could be as follows:

In the first visit an explanation of the project will be made and the user will be proposed to participate in it. For this purpose, support material will be available. There will be an explanatory triptych to facilitate the understanding and an authorization of the energy and personal data usage for the proper development of the project. In the event that the user does not sign this document, she or he will be discarded from the project.

On the second visit a form will be completed with personal information (employment, economic situation, etc.), household conditions (type and condition of walls, windows, etc.), facilities (heating, kitchen, etc.)., and sensations of comfort and energy knowledge. Once the form is completed, the energy habits of the people who live in the house will be identified and the training and optimization of these will begin. In many cases it will be the trained professional who will fill in the form since she/he perfectly knows the situation of the beneficiary.

In a third visit, it will be possible to provide advice on energy supplies and the different existing tariffs. If necessary, users will be accompanied to the energy advice points (PAES) or the trained professionals will go on their behalf in cases of reduced mobility.

Between the third and the last visit there will be many visits in the same home since the family worker performs the tasks of her work in there. These visits will be used by the carer/worker to remember good habits in the home and to support contract management of energy supplies.

In the last visit a final questionnaire will be filled in by the user to compare if the empowerment in habits has improved the comfort of the dwelling and if the tariff procedures have been correctly developed and are finalized.

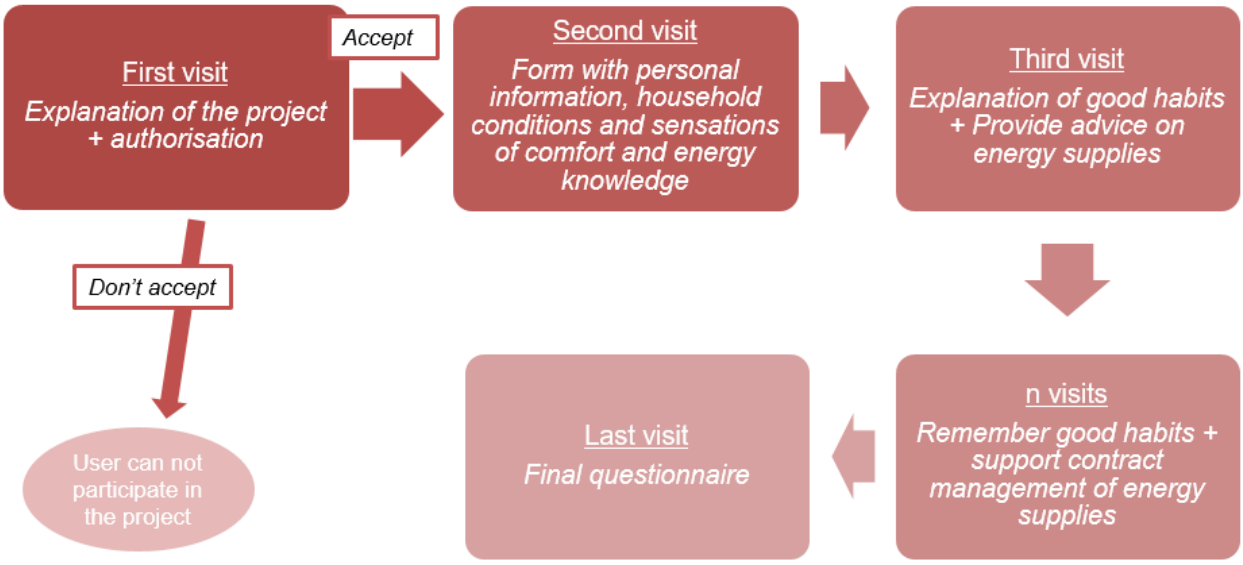


Figure 9 Methodological outline of the interventions.

7.10.2.2 Expected results

All the data collected in the interventions by the professionals will be analyzed to obtain both quantitative and qualitative results.

The quantitative data is intended to analyze what has been the reduction of energy consumption in the homes and the economic savings that it has entailed for the advised users.

The qualitative data information, on the other hand, will allow to identify the users comfort improvement, the acquired habits, as well as their level of satisfaction with the advice of the energy agents and thus be able to assess in a more subjective way the usefulness of the actions carried out.

Likewise, the project will also analyse the impact differences between: (1) the users assisted by home care professionals and (2) those attended in the first place by the area coordinators and subsequently derived to home care professionals trained by the coordinators themselves.

One of the objectives is to validate the thesis that the existence of a link between professional and user and the realization of weekly or even daily visits facilitate the acquisition of new energy habits in the home that allow the improvement of comfort and energy savings.

7.10.2.3 Pilot 1A: Home visit (home care professionals from public social services in big urban areas)

This pilot in Barcelona city involves home care professionals from public social services. A collaboration has been established between Barcelona municipality and the companies that operate this service to include ASSIST as part of their daily tasks. Between May 2018 and June 2019, trained professionals will give regular energy advice to their users, initially 4

users per HEA. As each professional visits each user regularly, the objective is to incorporate the advice in their routines. As an intensive action, 7% energy savings are expected although taking into account that users are in a situation of vulnerability, if a situation of supressed demand is detected, improvement of comfort level will be prioritised instead of energy savings.

Table 48 Actions for HEA – Home visits urban areas

Action/event title	**HEA's home visits**
Action description	
Action target	Home Care professionals' users
Geographic dimension	Local
Geographic area	Barcelona city
Number of involved users (estimated)	3-4 households per advisor doing home visits estimated 300 households (around 800 consumers)
Success rate	% of the involved households
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. if person is eligible for financial support (social bonus p.e).
HEAs involvement	
Type of HEA	Home care professionals from public social services
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	House visits
Control group	Not foreseen
Monitoring tools	Ex-ante and ex post questionnaire on their consumption habits and change in them. If possible meter reading before-after
Large control group	Not foreseen for this action
Estimated energy savings	7%
Monitored group	300 households

7.10.2.4 Pilot action 2: Home visit (home care professionals from public social services in rural areas)

The basis of this pilot is similar to pilot 1 (7.2.1). A collaboration has been established between Diputació de Barcelona and Consell Comarcal del Maresme so public home care workers in different municipalities in Maresme include ASSIST action as part of their daily tasks. Between October 2018 and November 2019, trained professionals will give regular energy advice to their users, initially 4 users per HEA. As each professional visits each user regularly, the objective is to incorporate the advice in their routines. As an intensive action, 7% energy savings are expected although taking into account that users are in a situation of vulnerability, if a situation of supressed demand is detected, improvement of comfort level

will be prioritised instead of energy savings. The difference with pilot 1 is that these HEA are public workers and work in rural municipalities so the objective is to evaluate if the action implements different in urban/rural areas.

Table 49 Actions for HEA – Home visits rural areas

Action/event title	**HEA's home visits**
Action description	
Action target	Home Care professionals' users
Geographic dimension	Local
Geographic area	Maresme region
Number of involved users (estimated)	3-4 households per advisor doing home visits estimated 300 households (around 800 consumers)
Success rate	% of the involved households
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. if person is eligible for financial support (social bonus p.e).
HEAs involvement	
Type of HEA	Home care professionals from public social services
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	House visits
Control group	Not foreseen
Monitoring tools	Ex-ante and ex post questionnaire on their consumption habits and change in them. If possible meter reading before-after
Large control group	Not foreseen for this action
Estimated energy savings	7%
Monitored group	300 households

7.10.2.5 Pilot action 1B: Home visit (home care professionals from public social services in big urban areas)

The basis of this pilot is to replicate the pilot 1A with some adjustments in order to reach as many as vulnerable families as possible. Between May 2019 and February 2020, trained professionals will give regular energy advice to their users, initially 4 users per HEA. As each professional visits each user regularly, the objective is to incorporate the advice in their routines. The methodology would be the same as for Pilot Action 1A

7.10.3 Action with Front Office professionals from the energy suppliers

The professional's profile regarded in this section have, as one of their main functions to provide customer service in the front office of energy companies. These professionals already have technical knowledge related to energy contracts and, among their functions they require advising end-users on the type of contract and supply that best suit their needs, analyzing their energy bills and advising them, especially, in the type of tariff and power that they are most interested in contracting.

The functions of these professionals (AED - Spanish name -) will focus, above all, on correctly identifying users who may be at risk of vulnerability or energy poverty. Once identified, they can offer a more personalized advice focused on improving their situation regarding the energy vulnerability they suffer. The activities of these professionals, once trained, can be defined as:

- Correctly identify the users in situations of energy vulnerability among the company clients
- Adapt your message to the users in vulnerable situations, leaving aside, when necessary, the most technical concepts and offering users clear, simple information and with an appropriate language
- Analyze the energy profile of the household and its consumption habits
- Identify efficient / optimal energy uses and advise vulnerable users about more efficient consumption behaviors
- Advise on energy general information and solve specific issues
- Advise on the appropriate use of energy systems
- Offer information and simple tips on habits for energy saving
- Advise vulnerable users about protocols or social assistance that is valuavle and adapts to their needs.
- Offer payment facilities tailored to the users needs.
- Include vulnerable users in the specific vulnerability assistance and protection programs

Generally, users who will be identified as vulnerable users and potential participants of the ASSIST project, already know the AED professionals of this group, since they will be users who are probably already benefiting from some of the vulnerability assistance protocols of the energy companies, this facilitates trust between the vulnerable user and the AED. On the other hand, the energy companies that will participate in the formation of these profiles will be, in their majority, energy cooperatives. This type of company, because it is a cooperative, already has a closer relationship with its partners / users than the one energy users usually have with their energy suppliers (companies), which will also facilitate trust in the AED profiles.

7.10.3.1 Interventions methodology

In the case of AEDs Front Office professionals from energy suppliers, assistance to vulnerable users will be made in the same company office. The assistance will be carried out in the following phases:

Phase 1: Identification of the user as vulnerable.

Once the AED training has been carried out, the front office workers will be able to identify the users in energy poverty, or at risk, among those who normally attend their job. Once identified as potentially vulnerable users, the AED will explain the project and the user will be asked to participate. In this case, the AED will also have informational supports from the project, such as triptychs and / or summaries. The user wishing to participate in the project must sign the authorization document for the use of data and consent to participate.

Phase 2: Filling in data

The asessed user will fill in a form with personal information (work situation, economic, etc.), household conditions (type and condition of the walls, windows, etc.), facilities (type and state of the heating system, kitchen, etc.), electrical appliances and lighting. In addition, the AED professional may have access to the current and historical user's consumption data (prior consent) for a detailed analysis of their consumption habits.

Phase 3: Assesment

Once the professional has analyzed the information provided by the user and their consumption data, the asessment phase can begin. This phase will begin with a review of the contract and a proposal for adjusting, if necessary, the tariff and power contracted by the user, so that they can adjust it to the actual consumption needs. Once the contractual modification has been made, if necessary, the AED professional will proceed to provide more specific advice to the user, focused on improving their consumption habits to reduce their energy bill to the maximum or to make their consumption more efficient in order to increase his/her comfort and quality of life.

Phase 4: Follow up

During the follow-up phase, the AED professional will be able to check the effects of the advice on user consumption and comfort. This follow-up will be carried out both through interviews / conversations with the user and through the analysis of the user's actual consumption data.

7.10.3.2 Expercted results

The AED professional will collect both the user's consumption data (current and historical), as well as the data associated with the change in energy consumption habits and user comfort.

These data will be analyzed later during the project to calculate both the reduction in electricity consumption of the asessed users, as well as their improvement in terms of comfort and quality of life experienced after the assessment.

7.10.3.3 Pilot action 3: Help desk at energy suppliers premises

Front office workers from energy suppliers, mainly ADEE but also other energy cooperatives, will be trained to give energy advice to their vulnerable consumers during 2019. ADEE, as energy supplier has access to energy data so an exhaustive analysis of the impact of these actions will be analysed. As an intensive action, 7% energy savings are expected. Although taking into account that users are in a situation of vulnerability, if a situation of supressed demand is detected, improvement of comfort level will be prioritised instead of energy savings.

Table 50 Actions for HEA – Help desk energy companies

Action/event title	**HEA's help desk**
Action description	
Action target	Vulnerable consumers from energy suppliers
Geographic dimension	National
Geographic area	National
Number of involved users (estimated)	150 households (around 400 energy users)
Success rate	% of helpdesk given
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, energy tariffs but also service and support available e.g. if person is eligible for financial support (social bonus p.e).
HEAs involvement	
Type of HEA	Front office workers from energy suppliers
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	Help desk-face to face advice
Control group	Not foreseen
Monitoring tools	Ex-ante and ex post questionnaire on their consumption habits and change in them. Also analysis of their energy consumption (meter reading)
Large control group	Not foreseen for this action
Estimated energy savings	7%
Monitored group	150 households

7.11Monitoring tools

7.11.1 Engagement strategies

Energy advice to close circles

HEAS will give informal/indirect advice to their closest circles and a 2% of energy savings are estimated according to the Environmental Energy Agency Report *Achieving energy efficiency through behaviour change: what does it take?*

A sample of 10% will be recontacted in order to evaluate, through a questionnaire, the impact of the action.

Energy cafè

Energy Cafés offer a small step towards alleviating energy poverty and it has never been tested in Spain. This is why we propose some of ASSEST most motivated HEA organize a minimum of 10 energy cafes during the action in order to evaluate the impact.events are listed and described, e.g. We expect the same impact as the previous action and we estimate a 2% energy savings, according to the Environmental Energy Agency Report *Achieving energy efficiency through behaviour change: what does it take?.*

A sample of 10% will be recontacted in order to evaluate, through a questionnaire, the impact of the action.

7.11.2 Pilot 1A: Home visit (home care professionals from public social services in big urban areas)

As an intensive action, 7% energy savings are expected. HEAs collect questionnaires on energy routines, socio economic profile and energy bills. After regular advice on improving energy contractual issues, energy efficiency measures and energy habits, post questionnaires on energy habits are foreseen to estimate the impact. A sample of ex post questionnaires and analysis of energy bills will determine the energy savings and the impact of energy interventions.

7.11.3 Pilot action 2: Home visit (home care professionals from public social services in rural areas)

As an intensive action, 7% energy savings are expected. HEAs collect questionnaires on energy routines, socio economic profile and energy bills. After regular advice on improving energy contractual issues, energy efficiency measures and energy habits, post questionnaires on energy habits are foreseen to estimate the impact. A sample of ex post questionnaires and analysis of energy bills will determine the energy savings and the impact of energy interventions.

7.11.4 Pilot action 1B: Home visit (home care professionals from public social services in big urban areas)

As an intensive action, 7% energy savings are expected. HEAs collect questionnaires on energy routines, socio economic profile and energy bills. After regular advice on improving

energy contractual issues, energy efficiency measures and energy habits, post questionnaires on energy habits are foreseen to estimate the impact. A sample of ex post questionnaires and analysis of energy bills will determine the energy savings and the impact of energy interventions.

7.11.5 Pilot action 3: Help desk at energy suppliers premises

ADEE, as energy supplier and the rest of trained companies, have access to energy data so an exhaustive analysis of the impact of these actions will be analysed. A part from pre and post questionnaires, companies will consider load curves and energy consumption based on real data for all users. As an intensive action, 7% energy savings are expected.

7.12Other activities

7.12.1 National committee of experts and working sessions

7.12.1.1 Composition of the National Committee in Spain

The objective of the National Committee is to give support and advise on the best possible way the ASSIST project can be implemented. Therefore, the selection of members sought to cover all the spectra and actors that currently address energy poverty in Spain. For this reason, the group includes representatives of social organizations, associations and research centers, consumer organizations, representatives of the consulting community working in the field and public administration.

Figure 10 First meeting of the expert committee - Barcelona.

The composition

Third

- *Asociación de Ciencias Ambientales* (Association of Environmental Sciences) is an association in charge of the main energy poverty studies in Spain.

- *Taula d'Entitats del Tercer Sector* is an umbrella organization of more than 3000 social NGOS.
- *ABD* - Welfare and Development Association. Association with expertise in action against energy poverty.

Academic sector

- INGENIO - Universitat Politècnica de València. University

Private energy market sector

- *AEIOLUZ*, energy consultants
- *Gas Natural,* energy supplier

Public administration

- Energy Area of *Consorci de la Ribera*. Local energy agency.
- *Diputació de Barcelona.* Regional authority with specific program on energy poverty.

Consumers

- *Hispacoop*. National consumer association. Consumer's representative at energy regulator.
- Energy Volunteer

The group plans to meet yearly during the project lifetime although communications and informal meetings will occur frequently.

7.12.2 First Think Tank meeting

On Thursday, February 20, 2018, Ecoserveis organized an event in Barcelona to present the ASSIST project and generate strategic alliances with organizations working in the field of energy poverty. The meeting had two objectives; On the one hand, to present energy poverty initiatives and on the other to generate debate on how to solve the challenges of energy poverty intervention. The working session helped to create a critical dialogue about the work that all organizations were doing and see common forms to achieve the same goal: address energy poverty.

Working session title: Energy interventions in vulnerable households

Speakers: 9

Assistants: 60

Programme:

Table 51 Program with information on the speakers and organization's characteristics

Time	Talk	Speaker	Sector
10:30h	Welcome and presentation: The management of energy poverty in Europe and the ASSIST project	Ecoserveis Marta Garcia	Tercer Sector
11:00h	ROUND TABLE Identification of initiatives		
	Energy Assesment Points in the city of Barcelona	Ajuntament de Barcelona Patrici Hernández	Public Sector
	Energy interventions program of the Diputación de Barcelona	Diputació de Barcelona Francesc Hernàndez	Public Sector
	The management of energy poverty through Occupational Plans	Intiam Ruai Manel Rivero	Third Sector
	Assessments	Aliança Contra la Pobresa Energètica María Campuzano	Civil Society
	Intervention models through volunteering	Fuel Poverty Group Fernando Alegría	Third Sector
	Assistance to vulnerable citizens	ADEE Alginet Ama Solar	Private Sector
	Energy poverty attention program	Gas Natural Fenosa Carmen Mateos	Private Sector
	SMART-UP - Interventions with smart meters	Ecoserveis Aniol Esquerra	Third Sector
11:45h	Coffee break		
12:15h	An in-depth view into eachinitiative		

According to all the speakers, the main challenges are the lack of knowledge about energy rights and the lack of information on the technical aspects related to the use of energy. Thus, thanks to the transmission of knowledge about their energy rights, citizens can make much more conscious use of energy and claim their fundamental rights as citizens. To work on the transmission of knowledge (rights and technicalities), the different participating organizations: public, private, third sector and civil society, agreed on the need to cooperate among them.

During the day it was evident that, although there are many organizations with the same objective (to address energy poverty), their idea of how to solve it can be very diverse. In general terms, public sector organizations opt for top-down assistance models that place emphasis on providing the maximum possible transmission of knowledge so that vulnerable citizens can know their rights and trace the necessary path towards empowerment. It is precisely enhancing citizen's empowerment that organizations of the Third Sector choose. Finally, private electric companies opt for a very different kind of assistance based on welfare. The two companies present at the conference work to facilitate mechanisms to help vulnerable people, either through telephone assistance (Gas Natural Fenosa), by providing food aid (the ADEE Alignet) or by facilitating the payment in installments (both).

It is impossible to argue that there is only one panacea mechanism; there is not a single bullet that is able to solve everything. It is for this reason that it is important to emphasize that the event provided the necessary frictions when it comes to raising issues such as what to do with the energetically vulnerable citizens who live in occupied houses. The specific

examples are those that allow organizations to discuss how to address energy poverty and it is with these examples that it becomes evident that all of them are part of the mechanism and it is necessary to take them into account in order to find a solution.

7.12.2.1 Conference conclucions

All organizations represent part of the inherited complexity in today's society and, as such, all their perspectives and solutions are key to solving the two main challenges: the lack of knowledge of citizens about their energy rights and the lack of information on energy technologies. Given the different opinions of each type of organization, it can be concluded that:

- Advice and empowerment mechanisms can be delivered to citizens in three ways: (1) established in a **specific place** (an example is the PAES Barcelona) where the citizen can go when it is convenient; (2) **itinerant** in the form of meetings; such as the Fuel Poverty Group or the Alliance Against Energy Poverty (from a bottom-up perspective) (3) in the place where the vulnerable user is (their **homes**), in the case of people who due to their age or personal situation will never be able to go to a specific place or event. One example is the SMART-UP project where energy agents went to vulnerable households to do an energy audit and recommended changes according to each household's needs. Se necesita más información para que los usuarios comprendan mejor cuándo, cómo y cuánta energía están utilizando. Esto se puede hacer con más información sobre las facturas (como lo hace la Cooperativa Eléctrica de Alignet) o instalando contadores inteligentes (como se hizo en el proyecto SMART-UP). More information is needed so that users understand better when, how and how much energy they are using. This can be done with more information regarding energy bills (as does the Cooperativa Eléctrica de *Alignet) or installing smart meters (as it was done in the SMART-UP project).*
- Finally, it is important to mention that since energy poverty is a cross-cutting issue, working on this issue, we are also working on the structural problems that are inherent in our current system. Therefore, energy poverty is a problem that gives us the opportunity to change and create a better dialogue among civil society organizations to also resolve other issues related to this field, such as poverty or public-private relations.

7.12.3 Second Think Tank meeting

The second Think Tank meeting of the ASSIST project took place in Valencia on April 25, 2018. With the intention of maximizing the synergies of the project with other existing initiatives and activities that currently work to alleviate energy poverty in the Valencian Community and in Spain, This event was organized within the *1st Mostra*[9] *"Lluita contra la pobrea energetica*[10]*"* of Valencia.

The *1st Mostra "Lluita contra la pobrea energetica"* of Valencia, was an event, co-organized by the Cooperativa Eléctrica de Alginet (local coordinators of the ASSIST project through

[9] Mostra can be translated as The Exhibition or Sample
[10] Fight against energy poverty

ALGINET DISTRIBUCIÓN ENERGÍA ELÉCTRICA), the Connect Energy Network of *Las Naves de Valencia* and the working group of energy poverty. The main objectives of *the Mostra* were to raise awareness of local initiatives to combat energy poverty, to put stakeholders in contact on the energy poverty subject to promote synergies and share experiences to innovate against energy poverty. These objectives are totally shared by the ASSIST project.

Within the day of *the Mostra*, which lasted a whole day, a round table / think tank was organized, specifically dedicated to the ASSIST project. In addition to this round table, during the day there was a session that included presentations of several national studies on energy poverty and a series of workshops during which different actors tried to agree on concrete actions to fight against energy poverty. These workshops were organized by lines of action as follow:

- Public administration
- Technicians and social services professionals
- Energy efficiency technicians
- Organized civil society

Title of the session organized and coordinated by the ASSIST project within *La Mostra*: Round Table on local initiatives to fight against energy poverty.

Speakers: 5

Assistants: 65

Programme:

Table 52 Program with information on the speakers and organizations characteristics

Time	Talk	Speaker	Sector
12:15h	Welcome and presentation: The management of energy poverty in Europe and the ASSIST project	ADE Alma Solar	Private sector – Coordinación Local ASSIST
12:30h	ROUND TABLE Identification of initiatives.		
	Self-financed communities against energy poverty - CAF-Acció Project.	Ecoserveis Marta García París	Third sector
	Energy Poverty Care Program - The first year of the Vulnerability Plan.	Gas Natural Fenosa Carmen Mateos	Private Sector
	Initiatives in the city of Valencia on energy poverty	AEIOLuz Teresa Lliso	Private Sector
	Social and energy aids of the Cooperativa Eléctrica de Crevillent.	Cooperativa Eléctrica de Crevillent Miguel Moreno	Private Sector
	Crash plan against energy poverty and Bono Social Gaditano (Social tariff), Cadiz energy transition table.	Mesa de Transición energética de Cádiz Alba del Campo	Public Sector
13:45h	Q&A and discussion with the assistants		

14:30h	Conclusions and end of the round table		

The conclusions reached during the whole day and especially during the presentations made within the round table of the ASSIST project, are very similar to those collected during the first Think Tank meeting of the project:

- The main challenges identified are the energy users' lack of information, especially the vulnerable ones or those that are at risk of vulnerability.
- There are numerous initiatives in the national and regional panorama working from different areas for a common goal: to alleviate energy poverty in their area of influence. It is important, therefore, to explore the potential synergies between the different initiatives to enhance the results and promote the transfer of knowledge, creating lists or repositories of good practices to be able to learn and build on successful initiatives, instead of "reinventing the wheel" in each new project.
- It is important to create spaces for communication, discussion and knowledge transfer (such as those proposed in ASSIST) to share, both the different approaches used and the results obtained.

It is interesting to also highlight the results and conclusions obtained from the workshops organized during *La Mostra*, which reinforces, as we will see below, the conclusions listed above.

In these workshops, different actors from the same sector held discussions on energy poverty with the intention to identidy the main barriers and difficulties they encounter when fighting energy poverty situationa and proposing concrete actions or initiatives to overcome these barriers:

Workshop 1: Public administration

Barriers encountered

- Lack of legislation on energy poverty
- Lack of awareness and disinformation of the energy issue.
- Internal difficulties in the administrations: excessive bureaucracy, lack of transversality between councils and consequently ineffective management of work.

Suggested actions

- Propose City Councils to do periodic cross-sectional meetings that involve all the councils involved in energy management.
- Propose workshops for users who benefit from PE grants.

Workshop 2: Social Workers

- Barriers encountered

Disinformation and lack of training of energy users and professionals.

Lack of digital training of the most vulnerable users that makes it impossible for them to access a large part of the information, together with the difficulty of access / opacity of electricity companies that often do not have assistance offices.

Lack of material and economic resources and lack of coordination between public agencies and social entities.

Solutions based on the assistance (rather than empowerment) that generate chronic poverty situations.

Suggested actions

Create a common database and simple indicators to easily identify users in situations of energy poverty.

Involve the professional associations of Social Work, Social Education and Social Integration to work together with the administrations in the same territory.

Create a resource guide and a map of entities and actions against energy poverty so that information can be shared more efficiently and transversally.

Workshop 3: Energy professionals / Energy efficiency technicians

- Barriers encountered

Difficulty accessing information, especially for vulnerable users: tariffs are complex, energy bills are difficult to understand and the processes are complex and slow.

Misleading and unclear advertising and very aggressive door-to-door campaigns that also generate mistrust among users.

Proposed actions:

Creation of a segmented training program for each society group, which adapts to the level of language and knowledge of the different society sectors, unifiying in education modules/workshops both a social and technical apporach to energy poverty solutions.

Workshop 4: Organized civil society

- Barriers encountered

These are groups made by very active militants, which means that the time they can devote to undertaking new initiatives is very limited.

Suggested actions

- Replicate successful actions in cities or regions where energy poverty initiatives have not yet been implemented, driven by self-organized social groups. For instance, replicate in Valencia the collective assessments that the Alliance Against Energy Poverty carries out in Barcelona.

7.13Conclusions

The ASSIST action in Spain wants to evaluate two different profiles of energy agents that incorporate the energy advice in their daily routines. On one side, home care professionals work regularly with people in a situation of vulnerability and have an emotional bond with these people due to their regular contact. This is an opportunity to evaluate if energy advice given from a trusted person has more impact on the energy consumption at home. On the other side, front office workers from cooperative energy suppliers are also in touch with vulnerable consumers and it will be interesting to evaluate the impact of the energy advice given.

8. United Kingdom

8.1 Energy poverty and energy vulnerability definition in the UK

Fuel poverty in England is measured using the Low Income High Costs (LIHC) indicator. Under the LIHC indicator, a household is considered to be fuel poor if:

- they have required fuel costs that are above average (the national median level)
- were they to spend that amount, they would be left with a residual income below the official poverty line

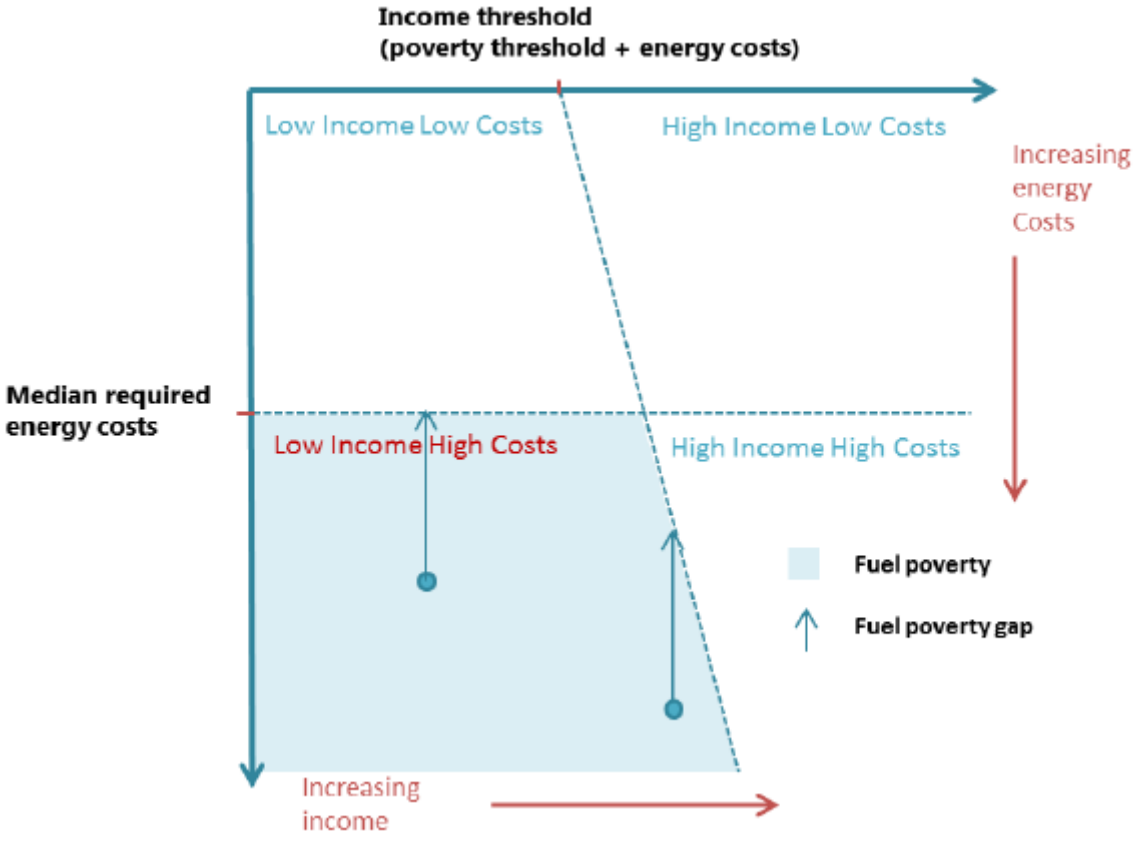


Figure 11 Fuel poverty under the Low Income High Costs indicator

Low Income High Costs is a dual indicator, which allows us to measure not only the extent of the problem (how many fuel poor households there are), but also the depth of the problem (how badly affected each fuel poor household is). The depth of fuel poverty is calculated by taking account of the fuel poverty gap. This is a measure of the additional fuel costs (in pounds) faced by fuel poor households to meet the non-fuel poor household threshold. This is illustrated in Figure 3, where the indicator consists of:

the number of households that have both low incomes and high fuel costs (shown by the shaded area in the bottom left hand quadrant in Figure 3); and

the depth of fuel poverty among these fuel poor households. This is measured through a fuel poverty gap (shown by the vertical arrows in Figure 3), which represents the difference between the required energy costs for each household and the nearest fuel poverty threshold.

To get a sense of the depth of fuel poverty at a national level, the fuel poverty gap for each individual household is aggregated across all fuel poor households to produce an overall aggregate fuel poverty gap.

The fuel poverty indicator is a relative measure, as it compares households to national income thresholds and national median energy costs. A change in income will only have an impact on fuel poor households if they see relatively larger income changes (increase or decrease) than the overall population; the same is true for household energy costs. As a result, the proportion of households in fuel poverty remains, on the whole, stable over time, whereas the fuel poverty gap (which is measured in pounds) is more closely linked to changes in energy prices and the economy and therefore, a more informative measure when looking at the direct impacts of fuel poverty over time.

In December 2014, the Government introduced a new statutory fuel poverty target for England[11]. The target is to ensure that as many fuel poor homes as reasonably practicable achieve a minimum energy efficiency rating of a Band C[12], by 2030. To support the implementation of this target, the Government published 'Cutting the cost of keeping warm: a fuel poverty strategy for England **Errore. L'origine riferimento non è stata trovata.**, in March 2015. The strategy also set out interim milestones to lift as many fuel poor homes in England as is reasonably practicable to Band E by 2020; and Band D by 2025, alongside a strategic approach to developing policy to make progress towards these targets.

8.2 National and local initiatives to tackle energy poverty. Possible synergies with ASSIST project ational Initiatives to tackle Fuel Poverty

There are several national and local initiatives and projects in the fight against energy poverty already in place in the UK. There is a strong split between those initiatives that offer financial support and those that offer advice and support. Many of the existing schemes concentrate almost exclusively on financial aid to those consumers who meet certain criteria related to low income and/or energy poverty. These schemes will be harnessed by the Assist HEA's to maximise the effectiveness of their interaction with households. Many of the projects and schemes that offer advice and support to vulnerable consumers also play a role in which they help the consumers gain access to the financial aid. The financial

[11] Fuel poverty is a devolved matter, with each nation in the UK having its own policy target, measurement and outputs. See Annex B for further information.
[12] Household energy efficiency ratings are banded from G (lowest) to A (highest).

incentives for istalling energy efficiency measures include, loft and cavity wall insulation and heating upgrades including new boilers and heating systems.

8.2.1 National Initiatives

The national initiatives fit into two main types; the first is financial aid where funding is provided to help consumers to (partially) pay their energy bills, and the second type consists of not-for-profit organisations who undertake a combination of advice provision, lobbying government and research. The initiatives where funding is available are sometimes difficult to access for the general public, let alone the most vulnerable in society. A combination of factors such as lack of awareness, over-complicated application processes and constantly changing parameters and eligibility for the funding makes take-up limited in some cases. This is where there is a role for the other support agencies to help vulnerable consumers access the grants. The national support agencies offer broad advice in terms of accessing funding and general energy efficiency measures, however it is often the more local organisations that have the capacity to actually guide vulnerable consumers through the process of saving money on bills and accessing grants to make energy efficiency improvements to their properties.

Table 53 UK national initiatives to tackle energy poverty

Scheme	Description
Cold Weather Payments	Cold weather payments of £25 a week are made to eligible households in an area where a period of 'exceptionally cold weather' has occurred.
Energy Company Obligation (ECO)	The Energy Company Obligation (ECO) is a government energy efficiency scheme, funded by larger energy suppliers, to help reduce carbon emissions and tackle fuel poverty.
Winter Fuel Payment	A Winter Fuel Payment is an annual payment of between £100 and £300 to help people with the costs of keeping warm in the winter.
Renewable Heat Incentive (RHI)	The Domestic Renewable Heat Incentive (Domestic RHI) is a government financial incentive to promote the use of renewable heat. Eligible heating types include biomass boilers, ground/air source heat pumps and solar thermal.
Feed in Tariff FiT	A government scheme to support renewable technologies including Solar PV, wind, hydro, Anaerobic digestion and Micro combined heat & power.
Charis Grants	The larger energy suppliers provide additional support for some of their most vulnerable customers to clear gas and electricity debts owed and to purchase energy efficient appliances
Energy Saving Trust	Organisation helping people save energy every day. Experts speak with millions of householders every year, deliver programmes for governments and provide consultancy to UK

	businesses and international companies. Underpinned by our pioneering world-renowned research.
National Energy Action	Work across England, Wales and Northern Ireland, and with sister charity Energy Action Scotland, to ensure that everyone can afford to live in a warm, dry home. In partnership with central and local government, fuel utilities, housing providers, consumer groups and voluntary organisations, they undertake a range of activities to address the causes and treat the symptoms of fuel poverty.
Smart Energy GB	Smart Energy GB is the voice of the smart meter rollout. "It's our task to help everyone in Great Britain understand smart meters, the national rollout and how to use their new meters to get gas and electricity under control".
Centre for Sustainable Energy	CSE's vision is a world where sustainability is second nature, carbon emissions have been cut to safe levels and fuel poverty has been replaced by energy justice. "Our mission is to share our knowledge and practical experience to empower people to change the way they think and act about energy. We do this by giving advice, managing innovative energy projects, training and supporting others to act, and undertaking research and policy analysis".

8.2.2 Local Initiatives

As discussed in the previous section, it is often the local organisations that have the specialist knowledge, and capacity, to help people with customised advice and guidance in accessing grants. Government and energy supplier funding schemes can often be too complicated or onerous for vulnerable consumers to reach independently, and local authorities do not have the capacity to offer assistance, especially during economic times of austerity where cutbacks on public spending have been severe. Against this backdrop, local organisations can offer vital services to people such as (but not exclusively):

- Energy-saving and efficiency advice
- Help to access grants for insulation or providing information about renewable technologies.
- Assistance in switching energy tariff or supplier
- Help to find local installers and tradespeople
- Free home energy visit
- Training for 'front-line' staff[13] in recognising the signs of energy poverty in consumers' homes

With their local knowledge and experience of delivering existing projects that have synergy with the aims of the ASSIST programme, these agencies may be best placed to manage

[13] 'Front-line' staff describes professionals and volunteers who work across a range of organisations in the public and charity sectors that access consumers' homes to offer assistance and services. These might be health-related or social care workers.

volunteers (in collaboration with other public and charity sector organisations) to achieve the goals and targets of ASSIST.

Table 54 UK Local initiatives to tackle energy poverty

Region	Scheme	Description
Midlands	Act On Energy	Working Across Warwickshire, Worcestershire, Coventry, Solihull & Surrounding Local Areas Only. We are not a national organisation but you are free to use the information on our website, wherever you are. At Act on Energy we encourage energy conservation by providing free and impartial advice to householders and small businesses in Warwickshire, Worcestershire, Coventry, Solihull and the surrounding local areas.
West Midlands	Marches Energy	We are an independent charity specialising in the delivery of practical, creative and effective solutions to fuel poverty, promoting energy reduction and accelerating the uptake of renewable energy solutions. Last year MEA worked with over 100 different partners to reach nearly 4000 households, mostly in fuel poverty, and installed over 1650 measures worth nearly £600,000, and saving residents over £0.5 million on their fuel bills. We also undertook 245 home visits for vulnerable households and delivered 85 training events and workshops to upskill over 400 professionals.
East Wales	Caerphilly Home Repair Grant	This grant assistance is available to owner-occupiers and tenants with a repairing obligation for essential maintenance and repairs deemed necessary by the council.
East Wales	Healthy Homes	The aim of this project is to maintain and improve people's health by helping to make their homes warmer, drier, and more affordable to run.
West Wales and The Valleys	Houseproud	Houseproud is a free project management service in Denbighshire, to help homeowners aged 55 or over get any sort of repairs, adaptations or improvements on their home.
West Wales and The Valleys	Heat and Save Scheme - Pontypridd	The Heat and Save scheme is currently offering free heating control upgrades and insulation to eligible clients in Pontypridd.
West Wales and The Valleys	House Proud Wrexham	Houseproud is designed to encourage owner / occupiers to take more responsibility for the improvements to their homes. It enables owners to

		have home improvements undertaken utilising either their own finance or through a loan. The scheme is administered by Wrexham Council in partnership with The Home Improvement Trust
West Wales and The Valleys	Care & Repair	Care & Repair exists across Wales to help older people to repair, adapt and maintain their homes thereby enabling them to live as independently as possible with increased safety, security, warmth and comfort

8.3 Current number and type of HEAs

Recruitment of Assist HEAs has been drawn from our partner organisations many of whom have volunteers carrying out face to face work with vulnerable households. The table below contains the trained HEA's, the chapters below describe the number of planned to follow the HEA training.

Table 55 Type an number of HEAs in the UK

Type of HEA	Reference	Trained number of HEAs	Geographical coverage	Status
CCP staff	Family support agency for vulnerable families in urgent need	8	Regional	Completed
Volunteers from voluntary sector organisations	Volunteers from CCP and other voluntary sector organisations; e.g.CAB, Carers Support, Independance Trust	6	Regional	Planned
Volunteers (with personal experience of energy poverty)	Volunteers from voluntary sector oganisations with historic and cr current experience of fuel poverty and /or hard to heat homes	6	Regional	Planned
Warm & Well staff	Warm & Well staff conducting home visits, energy advice surgeries and staff helpline	6	Regional	Completed

In total		min. 26		

8.3.1 CCP staff

Caring for Communities and People (CCP) is a voluntary sector charity which supports vulnerable families and young people in time of need through advice, practical support and mentoring. As well as the ASSIST training package the CCP staff complete an induction and training programme in the Principles of Effective Client Support and Safeguarding. We aim to train a minimum 8 HEAs from this segment.

8.3.2 Volunteers from voluntary sector organisations

Volunteers will be recruited from organisations currently working within an informal partnership with Warm & Well such as CCP, Citizens Advice (C.A.), the Carers Support Centre, and others. These organisations have targeted services for vulnerable individuals and families and support them through advice and advocacy, however, they do not have expertise in energy advice. Volunteers carry out home visits and 1 to1 advice sessions. We aim to train a minimum 6 HEAs from this segment.

8.3.3 Volunteers (with personal experience of energy poverty)

These volunteers will be drawn from the same organisations as above but will specifically have personal experience, either hsitorically or currently of; fuel poverty, diffculty in paying their energy bills, living in a hard to heat home or other energy related issues. We aim to train a minimum 6 HEAs from this segment.

8.3.4 Warm & Well Staff

The Warm & Well staff curently run an energy advice helpline open to all members of the public. The helpline manages the referal system for government and health funding for energy efficiency measures. The Warm & Well staff take the customer through the eligibilty checkllist and then initiatate the installation process. In additon staff carry out home visits, 1 to 1 energy advice sessions and energy cafe events to vulnerable customers in the communities in which they live. We aim to train a minimum 6 HEAs from this segment.

8.4 Foreseen activities

8.4.1 Pilot action 1: HEA Home Visits

Currently as part of their everyday role, CCP staff and volunteers visit their clients in their own homes. This may be because the customer is infirm and unable to leave their house or to better assess their needs – they *do not* currently offer energy advice. Because of the ASSIST training, the HEA will be able to identify indicators of fuel poverty in the household. In particular, the HEA will provide practical advice on how to save money on energy bills,

including tariff switching, behaviour change and low-cost improvements in the property. They will also be able to identify fundable measures which would benefit the customers and potentially make a referral (or assist the customer in making a referral) to the Warm & Well helpline.

Through the completion of ex-ante and ex-post questionnaires, including questions on energy consumption, the energy saving benefits of the HEA activity will be recorded. The objective is that the households will acheive at least 7% savings on energy bills.

Table 56 Home visits

Action/event title	Home visits (planned)
Action description	
Action target	Vulnerable consumers receiving home visits from CCP social care services.
Geographic dimension	Regional
Geographic area	Gloucestershire
Number of involved users (estimated)	5-10 households per advisor doing home visits estimated minumum around 75 households
Success rate	Estimated 20% of the involved households will get extended support from Warm & Well
Action tools	Providing tailored advice and solutions on energy efficiency measures and habit change, but also service and support available e.g. if person is eligible for financial support a referral is made to Warm & Well
HEAs involvement	
Type of HEA	Home visits will be delivered by trained HEA that are working in organisations that do house visit as part of their daily tasks, CCP staff and volunteers from voluntary sector organisations
Foreseen involvement	Integrated in the trained group's routine work
Action monitoring	
HEAs activity	House visits
Control group	Control group is aimed to be at least 10% that consumption can be verified, if consumption cannot be verified aim is to collect usage information from bills
Monitoring tools	HEA reports through questionnaires on the engaged vulnerable households
Large control group	NA
Estimated energy savings	With this group energy saving is targeted at 7%, depending on extended support from Warm & Well through referral
Monitored group	NA

8.4.2 Pilot Action 2: 1 to 1 Energy Advice Surgeries

Both the CCP and Citizens' Advice regularly hold advice surgeries in their communities providing advice and support services to people with multiple problems including; debt, physical and mental disablities, family breakdown and social exclusion, but *not* specific energy advice.

ASSIST trained HEAs working in the surgeries will help customers better understand their energy bills and manage any fuel debt they may have. The advice will include information on tariff switching, energy bill payment and energy efficiency advice. Where the HEA indentifes a need for grant funded measures such as new heating systems or other support, a referral is made to the Warm and Well helpline. Other energy efficiency measures include upgrading of boilers, loft insulation and cavity wall insulation

It is targeted that the vulnerable consumers will acheive at least 7% savings from energy advice received through the surgery visit.

Through the completion of ex-ante and ex-post questionnaires, including questions on energy consumption, the energy saving benefits of the HEA activity will be recorded. The objective is that the households will acheive at least 7% savings on energy bills.

Table 57 Energy advice surgeries

Action/event title	1 to 1 energy advice surgeries (planned)
Action description	
Action target	target groups will be vulnerable consumers who are in need of support in financial as well as social and health issues
Geographic dimension	City centre location (1st Stop Drop-In Centre) in Cheltenham
Geographic area	Cheltenham and surrounding area
Number of involved users (estimated)	c.100
Success rate	All participants supplied with basic energy saving information leaflets, estimated that around 20% of households will get extended support through Warm & Well.
Action tools	Trained HEAs will organise surgeries to distribute energy saving information, information leaflets and get further contact details
HEAs involvement	
Type of HEA	Trained HEAs at CCP and volunteer HEAs from voluntary sector organisations will undertake the energy advice surgeries
Foreseen involvement	Between 1 and 2 surgeries to be held per month, the frequency may vary depending on the seasonality
Action monitoring	
HEAs activity	Hosting advice surgeries and providing practical advice on energy efficiency measures and tariff switching, as well as making referrals into the Warm & Well programme.
Control group	Estimated that 20% will leave their contact information for a follow up survey, these will act as control group.
Monitoring tools	Number of leaflets distributed, record of attendance, number of e-mails collected, number of regional web site visits to the targeted consumer website within a week from the event.
Large control group	NA

Estimated energy savings	Estimates will be defined for individual actions, savings estimation will depend on control group results on applied actions. 7%
Monitored group	NA

8.4.3 Engagement strategies and soft actions

The engagement strategies and soft actions in the UK are to be undertaken by the HEAs and their partner organisations. These include newletters, mailouts, social media activity and promotion through posters and leaflets in key public spaces such as doctors' surgeries, community/town/village halls. These activities will include information on ASSIST activities where appropriate. Community Events will be run and attended by ASSIST HEAs where appropriate.

Table 58 Phone/e-mail advice

Action/event title	Advising via various media
Action description	
Action target	Vulnerable consumers, people with low income and hard to heat homes.
Geographic dimension	Regional
Geographic area	Gloucestershire and South Gloucestershire
Number of involved users (estimated)	2,500
Success rate	All participants supplied with basic energy saving information, estimated that around 20% of households will get extended support through grants.
Action tools	Leaflets, flyers, posters, emails with information concerning energy-efficiency, referrals to other support agencies, helpful links (e.g. Health Through Warmth, tariff switching sites)
HEAs involvement	
Type of HEA	CCP staff and volunteers from voluntary sector organisations
Foreseen involvement	Distribution of energy advice literature
Action monitoring	
HEAs activity	Distribution of energy advice literature for vulnerable consumers
Control group	10% of vulnerable consumers surveyed for feedback
Monitoring tools	Database recording all information provided from vulnerable consumers and actions undertaken.
Large control group	NA
Estimated energy savings	2%
Monitored group	NA

8.5 Monitoring tools

8.5.1 Pilot action 1: HEA Home Visits

Through the completion of ex-ante and ex-post questionnaires, including questions on energy consumption, the energy saving benefits of the HEA activity will be recorded. The objective is that the households will acheive at least 7% savings on energy bills. The questionnaires will be submitted to the Assist Co-ordinator by email who will compile the results.

8.5.2 Pilot Action 2: 1 to 1 Energy Advice Surgeries

It is targeted that the vulnerable consumers will acheive at least 7% savings from energy advice received through the surgery visit. The advice given will be recorded by the HEA and then submitted to the Assist Co-ordinator by email who will compile the results. Through the completion of ex-ante and ex-post questionnaires, including questions on energy consumption, the energy saving benefits of the HEA activity will be recorded. The objective is that the households will acheive at least 7% savings on energy bills. The questionnaires will be submitted to the Assist Co-ordinator by email who will compile the results.

8.5.3 Engagement strategies and soft actions

The engagement strategies and soft actions in the UK are to be undertaken by the HEAs and their partner organisations. These include newletters, mailouts, social media activity and promotion through posters and leaflets in key public spaces such as doctors' surgeries, community/town/village halls. These activities will include information on ASSIST activities where appropriate. Community Events will be run and attended by ASSIST HEAs where appropriate.

It is targeted that the vulnerable consumers will acheive at least 2% savings from energy advice received through the various media distribution. The advice given will be recorded by the HEAs and then submitted to the Assist Co-ordinator who will compile the results.

8.6 Conclusions

The ASSIST project will allow us to maximise the benefits brought about through volunteers working alongside our professional energy advice service. It will be interesting to look at a comparison between the different actions outlined above, especially the efficacy of the different types of HEA. Do people who have personal experience of energy poverty bring additional value to the way vulnerable consumers are reached and supported? The project also provides an opportunity to improve the way partner organisations work together, with a view to streamlining processes.

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