

Assessing and comparing the impacts of measures to reduce energy poverty: results from **EmpowerMed**

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EmpowerMed

What is EmpowerMed?

EmpowerMed is a European (H2020) project focusing on addressing energy poverty in Mediterranean coastal areas. It is led by **nine partners** in **seven countries** and has pilots in Albania, Croatia, France, Italy, Slovenia and Spain.

Objectives:

- Raising public awareness on energy poverty and the means for its alleviation, focusing on the specifics of coastal areas, gender and health aspects.
- Implementing **practical solutions** tailored to empower households affected by energy poverty.
- Formulating local, national and EU policy recommendations and promote solutions to tackle energy poverty.



EmpowerMed's practical actions

Table 1. Practical actions implemented per pilot

Action		Albania	Croatia	France	Italy	Slovenia	Spain
●	Collective assemblies						
●	Household visits						
	PV panels						
	Smart meters						
	Low-cost measures						
Support to financial schemes							
Health workshops							



Key performance indicators

Table 2. Set of KPIs proposed to evaluate the actions' impacts

Dimension	KPI	Units
Energy	Total energy savings	kWh/year
	Total electricity savings	kWh/year
	Total heat savings	Total heat savings
	Total primary energy savings	kWh/year
Climate	Total emissions savings	CO _{2eq} /year
	Total water savings	m ³ /year
Economy	Total economic savings	€/year
	People free of debt	Households
Health	Participants in health support workshops	Participants
Gender	Number of participants per gender	Number of people
	Percentage of energy savings directed to women	%
	Percentage of cost savings directed to women	%
	Number of women free of debt	Number of women



Assessing tools - HH visits

- Building conditions
- Available appliances
- Current consumption levels
- Current fuel and electricity sources
- Utility costs
- Implemented efficiency measures
- Savings calculated automatically.
- Gender and health indicators.

Main target areas: energy, climate and economy.

EmpowerMed **Saving check - electricity, heating, water**

Household ID
Year of the advice

Data about the building, the household and the annual consumption

O8. In what type of dwelling do you live
Nr. of flats in the building
O4. Type of household?
If it's a flat:
Where is the flat in the house?
If it's a house:
What kind of house?

O9. Tenancy status?

Age of the building
O19. Does your dwelling have any insulation?
standard of windows
O11. Do you heat or cool the entire dwelling or only some rooms?
O10. Size of dwelling in m2 m²
Number of rooms
Number of persons in household person(s)
O3. Specify no.: female male other
Minors (0-17)
Adults (18-64)
Eldery (65+)

How long do you live there?
ceiling height
standard of window frames
O34. Under whose name are contracts with energy and water suppliers in your HH?
O35. Who is in charge of paying the bills?
O36. Who is in charge of contacting energy and water suppliers?
Who takes decisions on energy, water?
Average days of absence per year? days
Average days at home per year? 365 days
Do people mostly stay at home all day?
O5. Are you recipient of public social welfare?
O6. Are you accommodated in social housing?

Annual consumption of electricity (for lightning, cooking, washing, cooling...)

Do you have green energy tariff?
Would you like to have renewable energy?
Payment per month for electricity
Consumption of electricity per month (kWh)
Price per kWh electricity per kWh, incl. VAT and sewerage
Elec. consumption per year 0 kWh
Consumption includes electricity for heating?

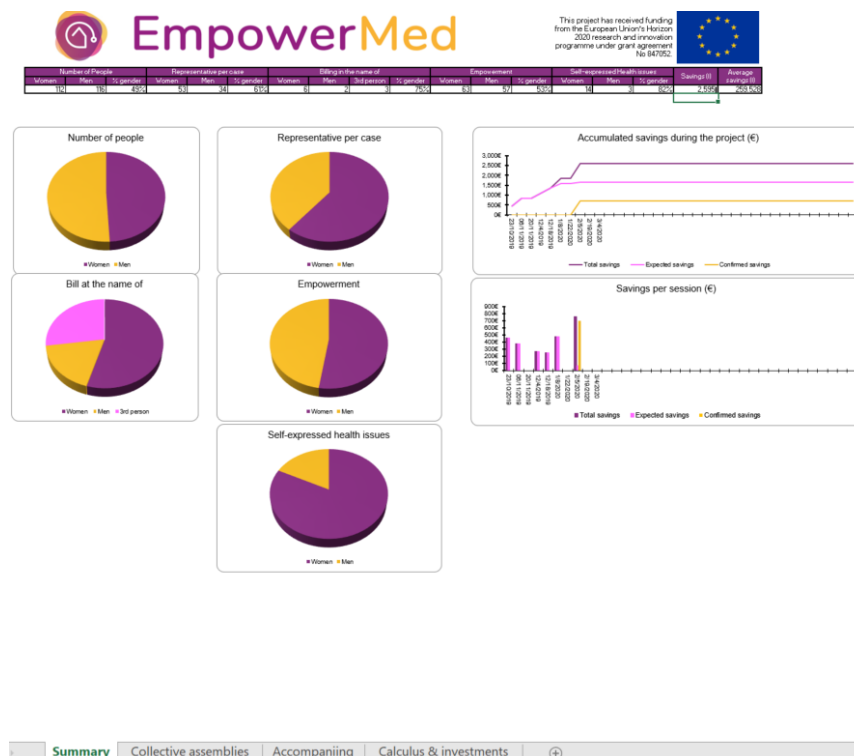
Electricity consumption (without heating) in kWh / year	0	result electricity consumption
Costs for kWh electricity	0.00 €	
included basic costs per year	0	
Actual costs per year (total costs from the bill)	0.00 €	
Consumption includes electric water heating?		assessment: kWh/year
		economical Nr persons?
		good Nr persons?
		high Nr persons?
		very high Nr persons?
Incl. electricity for heating pump?		

► **Name+Address** **household+building** **electricity** **light, standby** **water** **water**

Assessing tools - Collective assemblies

- Number of participants (attendees & active participants).
- Economic savings achieved after collective assemblies interventions.
- People free of debt as a result of collective assemblies interventions.
- Gender and health indicators.
- All information disaggregated by gender.

Main target areas: Economy & gender.



Key outcomes

- By the end of summer 2022, a **total of 577** households participated in EmpowerMed's **household visits**. The large majority of these (68%) are located in Croatia and Slovenia.
- **Most energy, water and emissions savings achieved in EmpowerMed were done through household visits.** Preliminary, a total energy savings of **1.1 GWh/year**, water savings of **4.5 thousand m3** per year and emissions savings of **247.2 ton CO2/year** have been registered for this action.
- The **main source for energy savings is not the same for all regions**. In Croatia most savings (87%) are related to heat savings, while in Italy most are related to electrical savings (91%). In the rest of pilots, savings origin are close to 50-50%.
- The above translated into total **economic savings** of **€122 thousand per year**. Economic savings **varies considerably across regions** depending on local energy usage patterns and fuels and electricity costs.



Key outcomes

- In all pilots, a **total of 1,850 people participated in EmpowerMed's collective assemblies**, benefitting an equivalent number of households.
- Although just a few energy and emissions savings were achieved through collective assemblies, **this action led to total economic savings of €49 thousands and the only group of beneficiaries free of debt** (21).
- **Most** of these savings and free of debt people **came from the Spanish pilot** in which collective assemblies were englobed in an already existing platform with long history regarding political activism for energy rights.
- **Spain's large savings were possible thanks to a series of social schemes existent in the country**, some of which were promoted through the social platform in which collective assemblies play a key part.



Key outcomes

- It must be noted that **not all cases resulted in quantifiable savings as households were originally below the basic energy consumption baseline**, actually having to increase consumption to meet their needs.
- When comparing the achieved savings per time and resources effort it is observed that **household visits achieve significant energy and cost savings, but are investment and labor intensive**. Still, they can lead to significant impacts if performed in places where energy usage is highly inefficient (due to type of fuels or appliances used, or the building efficiency levels).
- **Community approaches take longer to build, but once settled they can reach a high number of beneficiaries with less resources invested**. They are particularly effective when accompanied by a political platform or developed in a context in which social schemes are already in place to protect vulnerable customers.





ANNEX



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Household visits

Implemented efficiency measures: LED lightbulbs, power strips with on/off button, efficient shower heads, tap aerators, draught proofing window, draught proofing door and insulation behind radiator.



Household visits



Collective assemblies

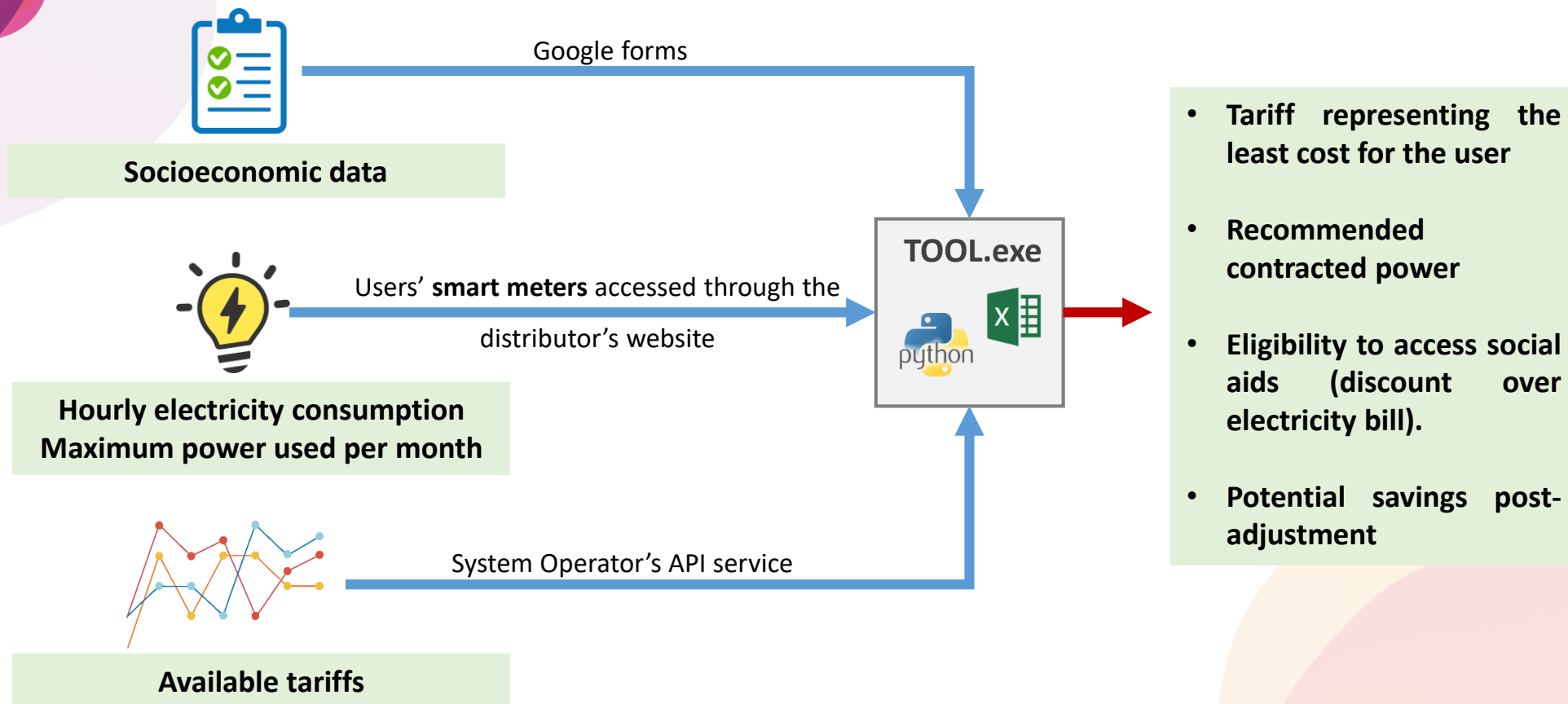
Implemented actions: help to access social aids (such as discount over final bill), bill optimization advice, accompaniment during processes for vulnerable consumers such as debt annulments, distribution of efficient lightbulbs (some pilots) and advice over service contracting and energy efficiency.



Collective assemblies



DIY Smart meters



Other activities

Consisted mostly on **workshops to raise awareness about Energy poverty issues across different audiences**, this included affected people and policy-makers, among others. Some interesting examples were the health support groups organized in the Spanish pilot or the workshop addressed to health practitioners so they are aware of Energy poverty as a risk factor to certain diseases.



Key outcomes

- **In the rest of actions lower savings in terms of energy, water, emissions or cost reductions were registered** in comparison to household visits or collective assemblies. Still, other areas like health or gender were strongly impacted.
- For instance, the **mental health support groups for people affected by energy poverty received extremely positive feedback** from attendees, which claimed to observe an improvement in their state of mind.
- This highlights the **importance of considering other indicators beyond energy, cost and emissions savings**. Although some are difficult to quantify, such as positive impacts on mental health, their contribution to mitigate energy poverty might be equal or more important than other typical metrics.
- **Women participation in all cases was significant**, reaching 50% of higher participation in most pilots and actions.





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