





Sustainable Consumer Engagement and Demand Response

www.sender-h2020.eu

 H2020 SENDER

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"Ensuring the next generation of energy services applications for demand response, home automation and convenience"

6.63 million € budget
48 month duration
15 partners

DEMONSTRATION SITES



Alginet,
Spain



Espoo &
Tampere,
Finland



Weiz,
Austria



OUR PROJECT

SENDER is a collaborative project that aims to **develop and test the next generation of energy service applications** for demand response, home automation and convenience. To achieve this, it engages consumers/prosumers and energy actors in the **co-design of energy services and mechanisms** that facilitate the use of renewable energies to meet the energy demands of individual households.

OUR OBJECTIVES



2 regulatory documents for new legal frameworks



10 types of stakeholders implicated in the co-construction activities



400 households on three demonstration sites



10% relative improvement in load forecast errors



5 initiatives in synergy with other related EU projects



20% kWh of flexibility per households per year

OUR EXPECTED IMPACTS



- Increased predictability of consumption patterns and consumer behaviour
- Demonstrated innovative energy services, with best practices and effective incentives to help replicability at large scale
- Increased reliability and accessibility of innovative energy services
- Increased share of energy or power that can be mobilised to provide flexibility to the grid and increase the use of renewable energies.
- Improved modelling of the flexibility drivers from the new energy services
- Increased data protection and privacy for customers



OUR EXPERIMENT

The **SENDER Box (a small Raspberry Pi)** is connected free of charge to the electrical panel in participants' homes. It reads data and sends information about energy use in the home. It will **automatically plan their consumption to make it more efficient**, and **test how it could also help the grid increasingly disengage from fossil fuels** (in favor of more renewable and sustainable sources).



The SENDER box is able to turn on and off home appliances through the **SENDER app based on the user needs, on the energy prices to lower its bill, on its photovoltaic production (if any)**, etc. It comes with a set of sensors that will be also **installed in the home to monitor the temperature, humidity, brightness and occupancy of the rooms**, as well as small actuators to turn on and off the devices.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 957755.

