



## Innovation and Design Needs

To guide households in reducing their energy consumption, we recommend these seven paths to explore :

- **Making decisions:** Provide guidance or the right resources to the consumer so that they can easily make the appropriate and informed decision.
- **Changing habits:** Encourage positive reinforcement rather than culpability when motivating consumers to change their habits.
- **Easy control:** Identify ways in which energy consumers can become more active and have the possibility to better manage their energy consumption.
- **Acting responsibly:** Ensure that consumers behave responsibly on an individual and collective level when it comes to energy consumption.
- **No-care solutions:** Develop solutions that do not require any effort on the part of the consumer to reduce energy consumption on a daily basis.
- **Picturing energy:** Give a more meaningful representation of energy consumption to households.
- **Considering every use:** Remind users that all energy consumption, however small, should be considered and used responsibly.

### Introduction

Households rely heavily on the services provided by energy. They consume energy to keep their homes comfortable and to operate appliances and all sorts of electrical devices. Whether it is watching TV and surfing the web, cooking and washing, lighting and heating. Households consume a lot of energy. But as time goes by and households become more and more accustomed to comfort, the line between essential and luxurious services provided by energy has gradually blurred. The notion of sufficiency is no longer taken into account, and households consume energy excessively and this without worrying or even thinking about it. Yet energy is not infinite. Nor is it neutral for the planet. Therefore, transforming our production and consumption pattern is crucial.

But how? At the household level, this may mean changing some old, over-consuming appliances, insulating the home or changing the light bulbs, but it also means changing habits and behaviours. How can households be more reasonable consumers? How could they

adapt their behaviours towards more responsible and sustainable uses of energy?

In the course of the project, the consortium discovered some of the needs, barriers (financial, time, knowledge, digital skills, technology, etc.) and gaps in the market that prevent citizen's from taking action in implementing the solutions proposed in the Act4eco.eu platform even if they're aware of the economic and environmental benefits

The feedback shared by users of the platform helped us identify 5 main problem areas to focus on:

- How can energy consumption be made **more apparent**?
- How can we create **better awareness** about energy use and its impact?
- How can we enable households **to be in control** of their energy consumption?
- How can we engage households to **adopt new responsible energy consumption habits**?





- How to ensure that **reducing energy use requires as little effort** as possible and **excessive use requires more**?

In early June 2021, a Design Jam was held in Brussels, Belgium, with 15 designers coming from all over Europe to look for opportunities to tackle these challenges.

Hereafter, you will find the results that emerged from the Design Jam that are presented as our recommendations of seven paths that can be explored when designing solutions to support households in reducing their energy consumption.

## The seven paths to explore

### 1/ Making decisions

***Simplify, provide guidance and the right resources to the consumer so that they can easily make an appropriate and informed decision.***

Whether it is a decision about home improvement or what type of appliance to buy, the easier it is for consumers to make an informed decision, quickly and with less effort, the better. These are critical moments and situations that should be used to guide consumers towards the appropriate decision.

The pressure to analyse many complex factors before making a decision can lead consumers to a form of decision fatigue, or even to focus only on factors that make sense to them, such as price.

### 2/ Changing habits

***Encourage positive reinforcement rather than culpability when motivating consumers to change their habits.***

Changing habits requires stepping out of the comfort zone. This means questioning everyday routines and adopting new ones. This may lead to feelings of anxiety or discomfort, which may result in a loss of desire to adopt a new habit. It is therefore important to introduce playful, fun and engaging ways and solutions that could encourage consumers to try new habits.

### 3/ Easy control

***Identify ways in which energy consumers can become more active and have the possibility to better manage their energy consumption.***

Alongside the suggestion that consumers should become prosumers in order to become active consumers, there should also be other solutions that give them the opportunity to move from being passive consumers to active consumers. This is crucial because, by being an active consumer, they are able to control their energy consumption and easily regulate their demand.

It is imperative to limit systems that tend to disempower energy consumers, such as flat-rate energy bills, the difficulty of easily regulating energy demand, etc.

### 4/ Acting responsibly

***Ensure that consumers behave responsibly on an individual and collective level when it comes to energy consumption.***

At a collective level, making consumers' efforts to reduce energy consumption visible is a way to give citizens a pathway to motivate them to adopt certain actions and in return benefit from concrete, tangible rewards or social recognition.





At the individual level, advice and friendly reminder systems, with clear explanations of what to do, could contribute to helping people act responsibly.

### 5/ No-care solutions

***Develop solutions that do not require any effort on the part of the consumer to reduce energy consumption on a daily basis.***

The effort dimension can be used to limit excessive energy use, but it can also be a factor in making energy saving as easy as possible for the consumer.

In this context, reducing effort means that the consumer does not have to expend any physical, mental or time-related effort. Energy saving solutions are either built into appliances or they are modifications to existing devices that do not require changing or adopting new habits.

### 6/ Picturing energy

***Give a more meaningful representation of energy consumption to households.***

Energy is intangible and invisible. For consumers, the only way to make sense of their consumption is through the energy bill. But unfortunately, the energy bill is usually too complex and only shows the cost to be paid. Yet it is a real window of opportunity to communicate much more than just the price and kWh consumed. For instance, the energy used can be communicated in the form of the different activities that take place in the house like cooking, heating, entertainment and so on. This would allow households to better comprehend the cost and impact of their activities on energy consumption and have a clear idea of the priority areas they can make an effort on.

### 7/ Considering every use

***Remind users that all energy consumption, however small, should be considered and used responsibly.***

Over the years, we have found ways to add extra items whenever we need them for comfort and convenience purposes. We only have to look around to see that there is often more than one plug in every room we are in. Yet restricting access to certain items can help regulate our demand for energy supply.

Based on the energy sufficiency approach, solutions that restrict abundant energy supply could be implemented to better regulate demand. Cutting off the power when energy consumption is high is not reasonable. On the other hand, requiring a little more effort on the part of the consumer when they need to use it for non-essential reasons is a path to explore.

### Methodology for collecting results

Following the identification of needs and gaps expressed by platform users and ECO2 consortium partners, 15 designers were invited to participate in a Design Jam, a two-day creative workshop, to generate ideas to address the challenges. The insights, ideas and design concepts that emerged from this creative workshop were then used to extrapolate these seven paths to explore.

### The ECO2 Project in a nutshell

ECO2 (Energy Conscious Consumers) is a Horizon2020 funded project. Its main objective is to increase the awareness of EU consumers regarding their energy consumption and ways to improve the energy efficiency of their homes. Since consumers play a key role in the transition towards more sustainable energy





use, the project both engages and empowers them by enhancing their knowledge on how to consume energy more consciously in their everyday lives.

The main outcome of the ECO2 project is **ACT4ECO**, an interactive online platform available at [www.act4eco.eu](http://www.act4eco.eu). It is aimed at motivating energy consumers to explore various solutions in terms of home improvements and implementation of energy-saving best practices.

ECO2 also aims at establishing a dialogue with policy-makers and innovators at national and EU level through policy seminars, to discuss energy efficiency measures available to households and their impact on consumer behaviour.

### Project partners

**Fonden Teknologirådet – Danish Board of Technology Foundation (DBT)**, Denmark – Project coordinator

**Hebes Intelligence Single Member Private Company (HEBES)**, Greece

**Sinergie Società Consortile a Responsabilità Limitata (SINERGIE)**, Italy

**Helsingin Yliopisto – University of Helsinki (UH)**, Finland

**Associação Portuguesa para a Defesa do Consumidor (DECO)**, Portugal

**Strategic Design Scenarios (SDS)**, Belgium

**Applied Research and Communications Fund (ARC Fund)**, Bulgaria

**Asociacija Žinių Ekonomikos Forumas (KEF)**, Lithuania

**University College Cork, National University of Ireland, Cork (UCC)**, Ireland

