

Brief Summary:

In future energy systems, residential buildings will need to be prosumers- generating power, consuming power and having storage to manage that power. To support this, COMSA, along with partners across Europe, is leading the HYBUILD project – which integrates thermal and electric storage to reduce total energy demand by 20%-40%, maximize renewable energy self-consumption and provide flexibility opportunities to the grid.

The technology is being developed through next year and will be tested soon after- so now the question is, how would you sell it? Your ideas can help us guide the development of the project to maximize its impact throughout Europe.

Challenge Description

For this challenge, we assume the following:

- There are two systems designed: one optimized for cooling and one optimized for heating
- Each system includes a reversible, DC-driven heat pump, thermal storage (one hot and one cold), a battery and a control scheme to optimize both systems.
- Each system requires a source of heat (solar thermal, district heat, gas boiler, etc.) and an electric input (solar panels, electric grid, etc.)
- Return on Investment of 8 years for non-District Heating buildings, and 15 years for District Heating connected buildings from energy savings.
- Life expectancy of at least 20 years
- Energy and CO₂ savings of 20%-40%
- Contribution to grid flexibility

Challenge questions:

Please choose one or more of the following questions to answer. Considering your chosen question(s), please make

- 1) a diagram describing your answer;
- 2) an explanation of the ideal heat source and power source;
- 3) complete the value proposition canvas

At the end, each team will have **2 minutes** to present their concept, after which a winning team will be selected.

-What is your vision of the ideal scenario for implementing this technology? What are the market players and who is the customer?

-Consider a 3 story apartment building with 9 units in Barcelona (cooling) or Berlin (heating). How would you market the solution to the residents or building owners?

-Consider a single family home in rural Spain (cooling) or France (heating). How would you market the solution to the residents?



This is part of the HYBUILD project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 768824.

The content of this document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.