

Optimised energy-as-a-service (EaaS)

Discovery project case study



Part of the Net Zero Innovation Portfolio

Organisation lead

E.ON Energy
Solutions Ltd

Project partners

Heatio Financial Services Ltd
Energy Systems Catapult

GHFA funding

£196,921

Theme

Energy and heat-as-a-service

What problem(s) was your project trying to solve?

Low carbon heating systems such as heat pumps can have higher upfront capital costs than incumbent technologies such as gas boilers, and this is a key barrier to their widespread adoption. In our research, 77% of consumers were also concerned that heat pumps may have higher running costs than gas boilers, due to the high cost of electricity relative to gas. Furthermore, homeowners can find it daunting to understand the suitability of different technologies for their home with 61% being unsure about the suitability of their property for low carbon heat. It can be challenging for customers to optimise and manage low carbon heat systems in a way that minimises costs and increases comfort.

What solution did you develop and who is this for?

Through our Discovery phase project, we developed the Optimised Energy-as-a-Service (EaaS) proposition, which provides a comprehensive energy package for consumers at £0 upfront cost. This includes supply, installation, maintenance, monitoring and optimisation of a low carbon heating system, coupled with a smart home energy management system (HEMS), Solar PV and battery to reduce dependency on the grid, delivering self-generation and self-storage capabilities. The EaaS product would be offered as an agreement to provide energy services to a property for a fixed monthly fee, over a specified period of up to 20 years. The consumer would hold a separate energy supply contract for an exclusive, market leading tariff (including export tariff) that is optimised for the technology bundle. The customer will not own the solar PV, battery or HEMS but will retain ownership of the heating system while continuing to benefit from all associated support services.

Our consumer research showed that this proposition is most appealing to “aspirational households” including those who are: 1. Aware of energy use but prioritise comfort and warmth in their home. 2. Interested in the new technology but need greater knowledge and confidence in heat pumps 3. Generally, owner-occupiers in more affluent areas living in 3-4 bed homes. 4. Living in homes that are ready to accept a low carbon technology with minimal modifications

Project partners



The EaaS proposition is not a completely new topic, however it has not yet been rolled out at scale, despite offering potentially huge benefits to consumers. Our Discovery Phase project approach and subsequent framework have proven successful, and we believe could be replicated, at varying scales and cost commitments for any new finance (or otherwise) proposition design.

E.ON

Programme Manager, Charlotte Flowerdew

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What were the key things you learned during Discovery?

1. Deliver a proposition that is easy to understand

- Our research found that prospective customers generally perceived the EaaS concept as easy to understand. However, we identified opportunities to improve the way it is communicated to allay common customer concerns.

2. Communicate the benefits that consumers care about

- 68% of respondents to our online survey said they are more likely to adopt the service if the provider could guarantee it would cost no more than their current average monthly energy bill. Consumers also valued inclusive maintenance support very highly.
- Many customers had concerns about hidden costs and increasing energy bills (86% and 77% of respondents, respectively, cited these as concerns).
- Overall, our consumer research found that successful deployment of the proposition is dependent on a positive and transparent message about the financial value the solution can deliver.

3. Understand the proposition's appeal to different consumer segments so we can engage with the target audience in a valuable way

Our financial modelling showed that, whilst cost savings can be generated for some market segments, cost savings are not guaranteed in all scenarios for all households. However, the following factors would increase the appeal of the proposition to a wider target audience:

- Including a "fair use policy" to guarantee that savings would at least match the EaaS service fee. This could be delivered by providing detailed measurement and verification through a Home Energy Management System (HEMS) to monitor energy use and inform the "fair use" estimate
- Specifying a 20-year agreement term to achieve lower monthly service fees
- Increase savings by including Smart Export Guarantee tariffs in the package and maximising the value of offering grid flexibility services through batteries
- Minimise the costs of upgrading existing heating systems by identifying the suitability of high-temperature heat pumps in appropriate circumstances.

How will you take the concept forward?

E.ON's optimised energy-as-a-service project has secured pilot phase funding from the Green Home Finance Accelerator. We will use learnings from this Discovery Phase to test a route-to-market. We believe that a regional deployment approach will support local scalability and cost-effective installation for the supply chain and reduce operational expenditure pressures on onward management of the initial portfolio of customers.

The Green Home Finance Accelerator (GHFA), funded by the Department for Energy Security and Net Zero's (DESNZ) Net Zero Innovation Portfolio (NZIP), promotes finance propositions that encourage domestic energy efficiency, low carbon heating, and micro-generation retrofit in owner-occupied and private rented sectors. PwC is supporting DESNZ to administer the grants and manage the programme, they are not responsible for the design, development or viability of any financial products, services or projects directly. Carbon Trust is supporting PwC by leading dissemination of project insights and learning. This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, The Department for Energy Security and Net Zero, PricewaterhouseCoopers LLP, the Carbon Trust and the Project Partners do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

Project info



Case study
developed by:

