Ocean Group – Deploying smart hot water tanks to lower bills, carbon & kWh's!

What was the project?

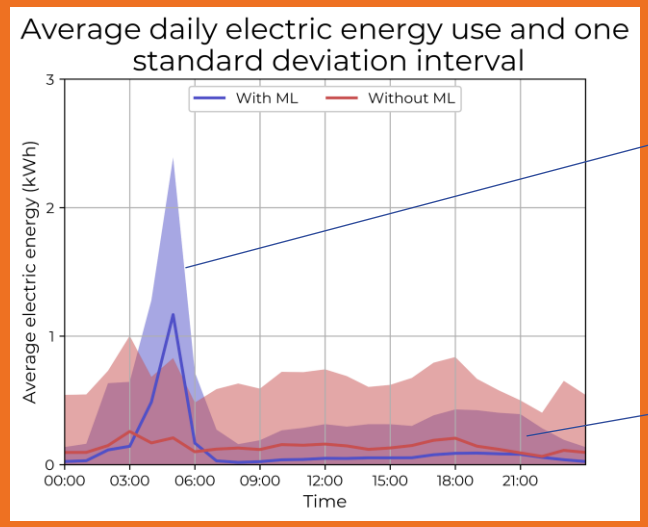
As part of the BEIS funded 'PETE project', Ocean Housing offered their residents the chance to apply for a funded replacement Mixergy smart hot water cylinder. The primary aim of the project was to demonstrate a scalable domestic demand side (DSR) response offering. However, the project not only proved the mass-market viability of DSR, but also significant environmental and resident benefits…

Context…

According to the Energy Savings Trust the average household cost to generate hot water each year is £125 per annum and direct electric customers are usually confined to simple 'economy 7' tariffs to lower bills.

What is the opportunity?

Mixergy's smart hot water cylinders utilise machine learning algorithms to optimise heating schedules, only heating what is needed at the lowest possible cost. This allows users to minimize running costs, carbon and kWh's!



The implementation of machine learning shifted energy consumption into off peak so that twice the amount of energy was delivered at less than half the price.

12% less energy was consumed overall as the tank only heats what you need

Project scope:

71 x Mixergy Hot Water Tanks

- 65 x 90L direct
- 6 x 180L direct
- 1 x 180L indirect

Carbon insight:

The Mixergy cylinders were able to deliver hot water at a lower carbon intensity than a combi boiler:
183gCO2/kWh vs. 230gCO2/kWh

What were the results?

A 35% reduction in running cost from £125 to £80 per year

The average consumption per tank was 2.18kWh/day

16% reduction in carbon emissions

Equating to **>50kg** of CO_2 saved per tank per annum of operation

12% reduction in energy consumed by implementing ML

When compared to a Mixergy cylinder running a normal 'customer set' timed schedule