mixergy

Mixergy are market leaders in smart and connected hot water tank innovation.

Our tanks enable households to live better, save money, and reduce their impact on the environment.

We do things differently.

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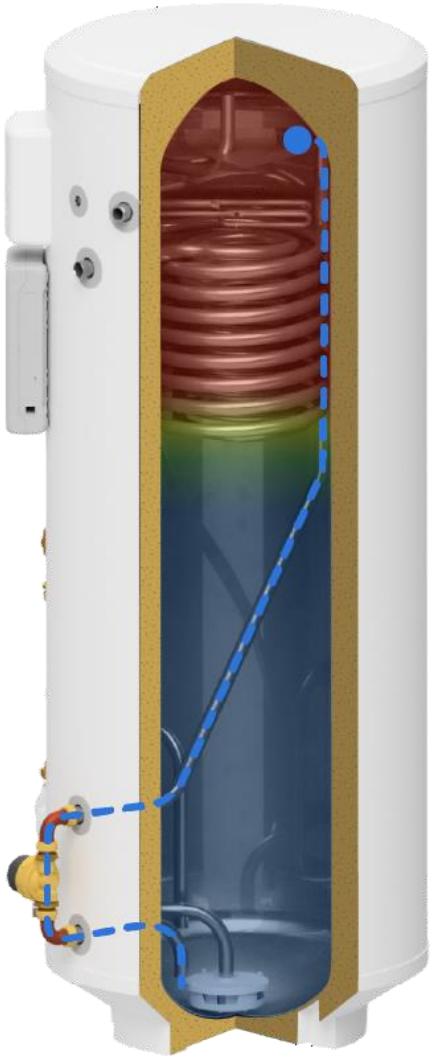
Conventional V Adaptive Top Up Technology.

+



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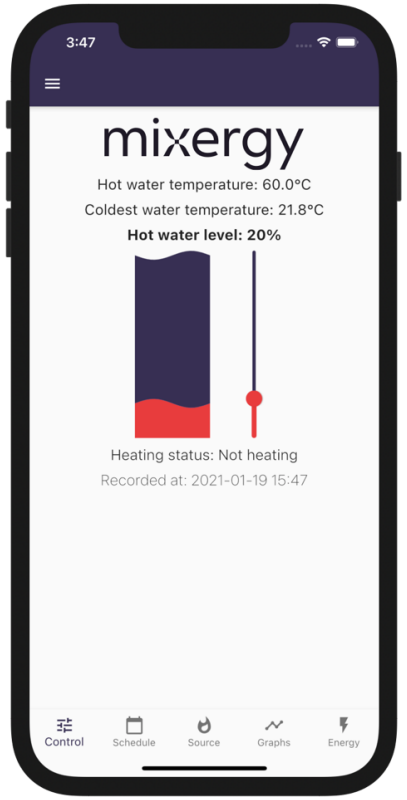

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The intelligent way to heat water.

Top-down heating!
Using thermal stratification, Mixergy heat from the top down which means they heat faster with lower losses.

Saving energy and money
They only heat the hot water you need (typically just 40% of the tank volume), so energy and money is saved every time a full tank is not heated!

Flexible heat source
Heat your water with a range of energy sources: gas or oil boiler, electric, solar PV, solar thermal or heat pump

Faster recovery
Mixergy tanks deliver usable hot water (45 °C+) up to 5x faster than conventional tanks

Smaller tank size
Mixergy delivers up to 30% more usable hot water - install a smaller tank with no loss of performance.

Heat pump ready
All Mixergy tanks are heat pump ready, so it will work seamlessly should you change your energy source in the future

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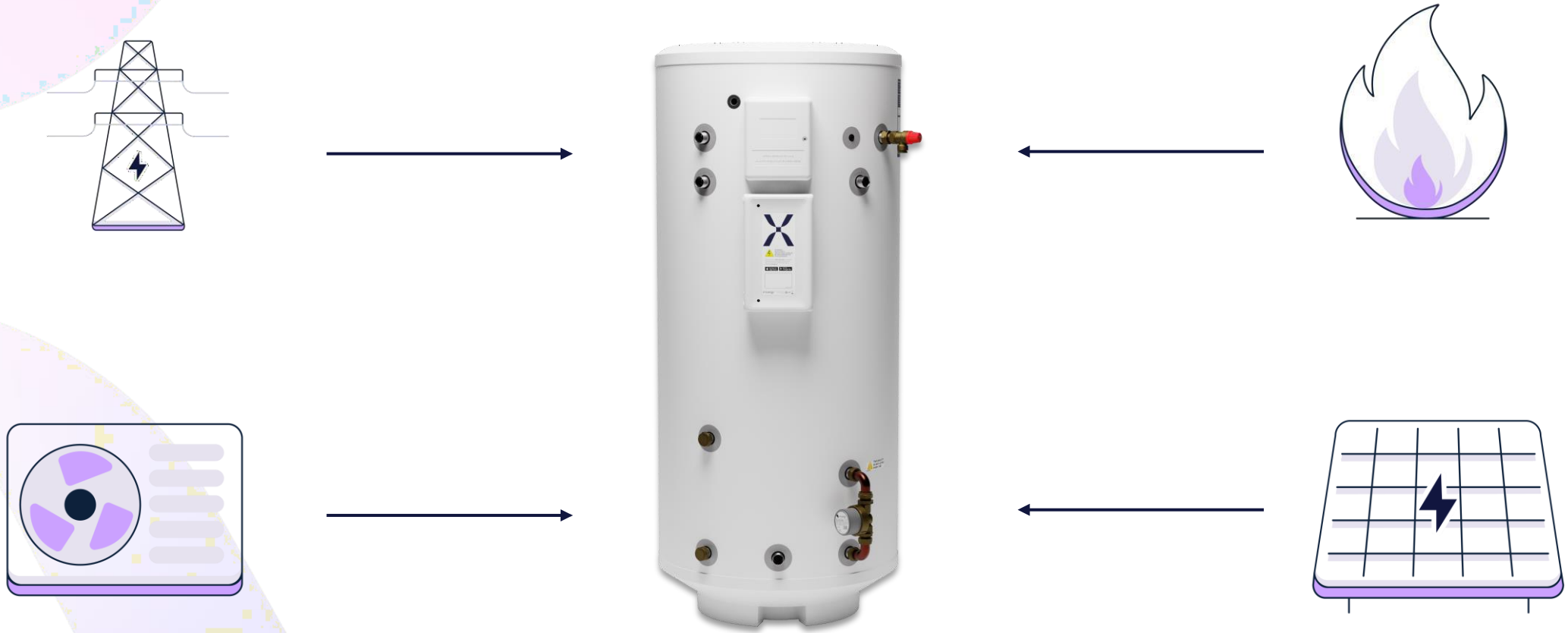
Flexible heat energy sources.

Whether it be working with a gas boiler, direct electric heating, a heat pump, solar thermal or solar PV, the Mixergy tank helps you save energy, reduce your bills, and cut carbon emissions.



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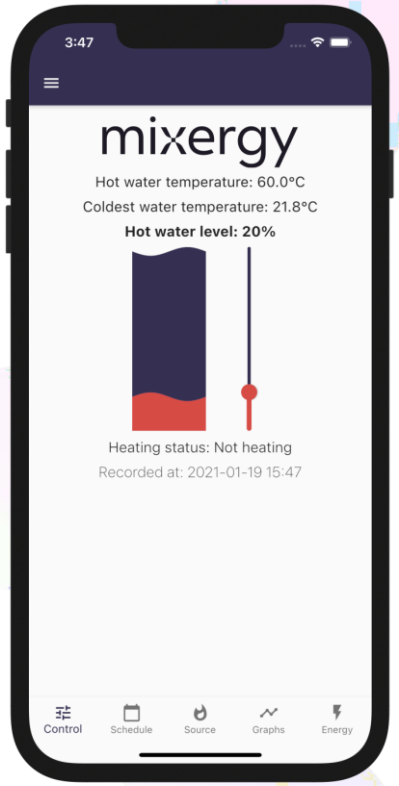
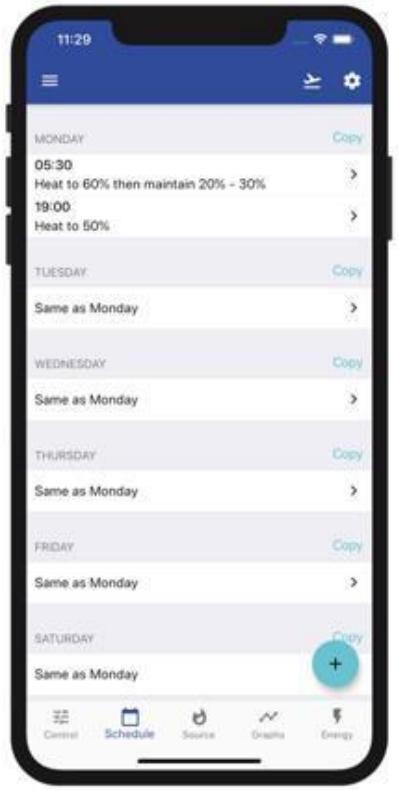
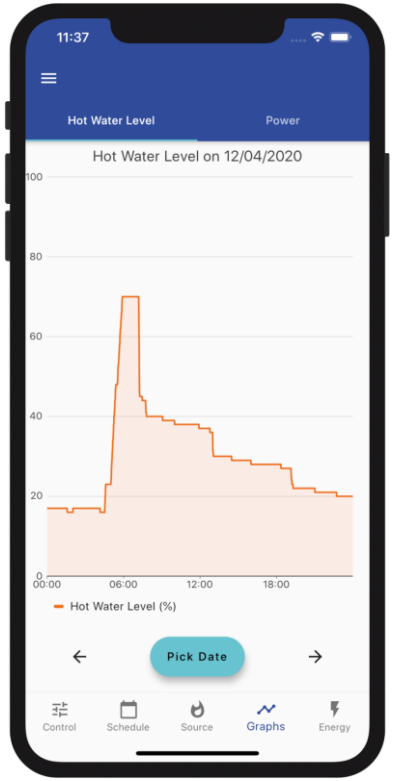
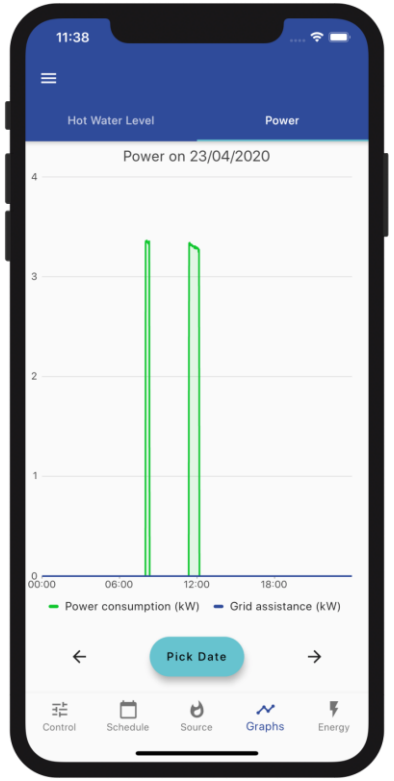
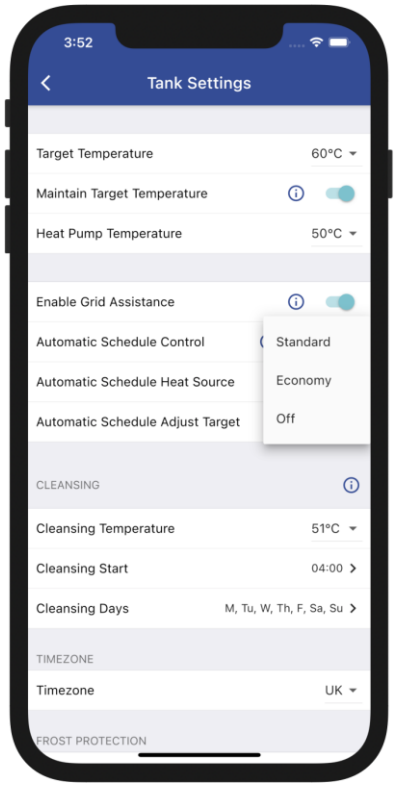
The App











Available on the App Store

GET IT ON Google Play

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IMPACT?

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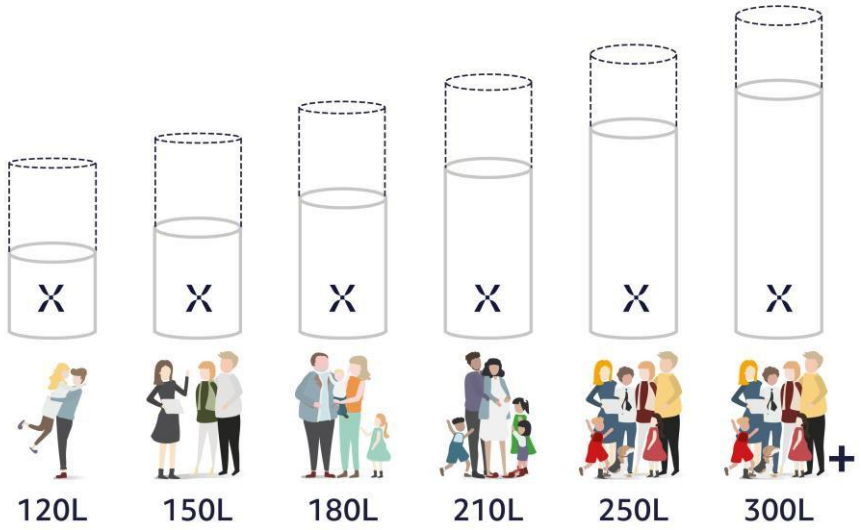
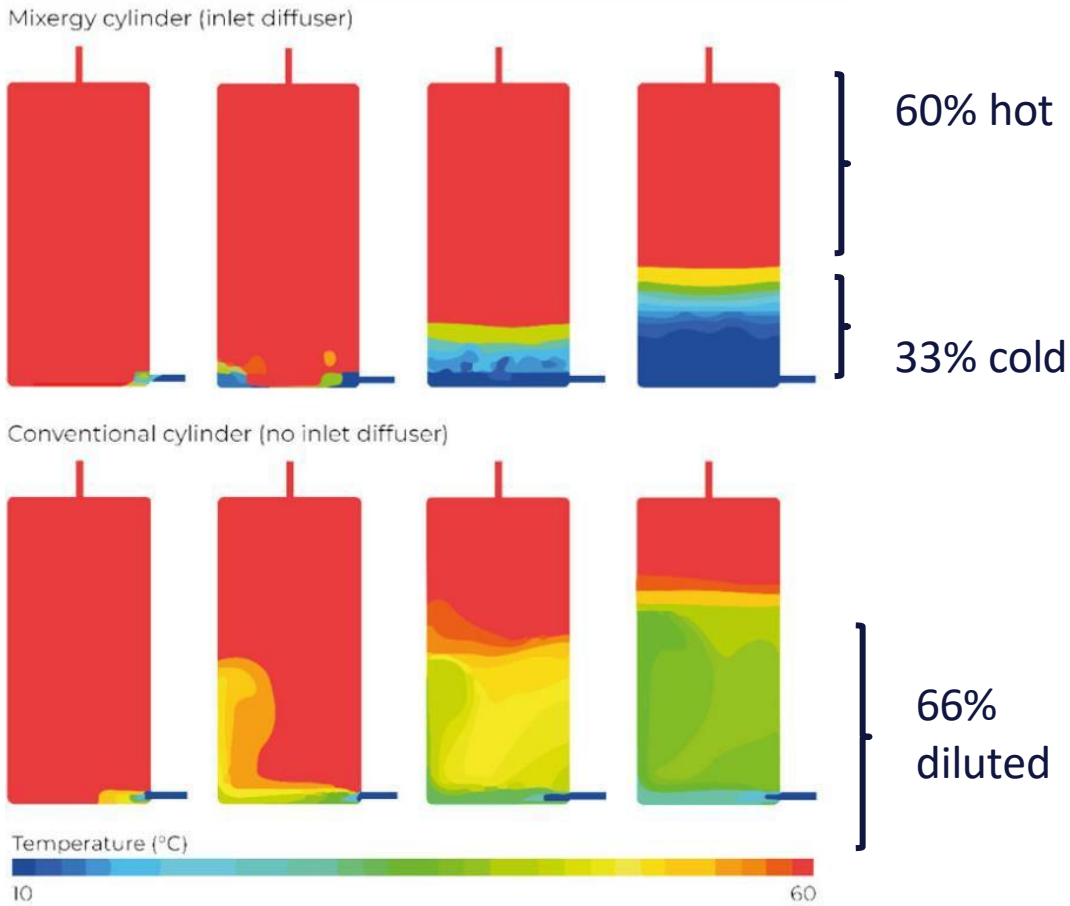
Install a size smaller

As a result of:

1) Knowledge of state of charge
2) Ability to rapidly reheat
3) Prevention of dilution on discharge

You can drop down a cylinder a size or reduce design volume by ~30%, the combination of controlled discharge leaves 30% more usable hot water from the same volume cylinder:





Above: 60litres discharged from a 180l conventional vs. 180l Mixergy tank.

*The 30% additional usable volume is verified by the National Physical Laboratory (NPL): https://www.npl.co.uk/case-studies/verifying-cutting-edge-environmental-technologies

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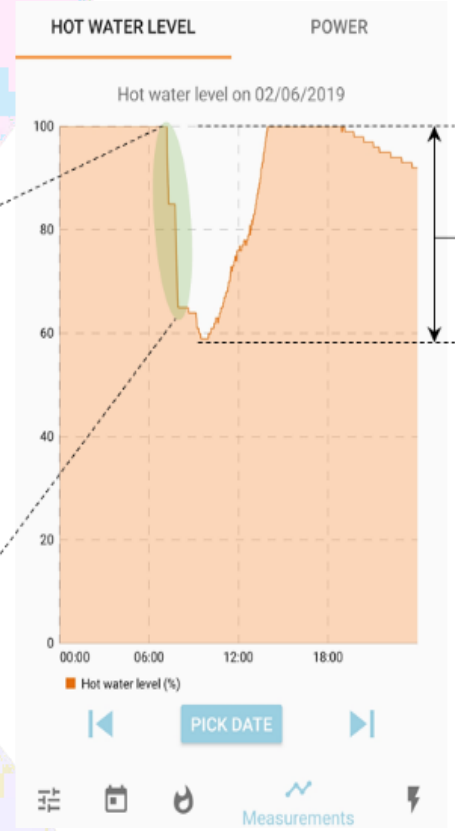
Machine learning increases Solar PV utilisation

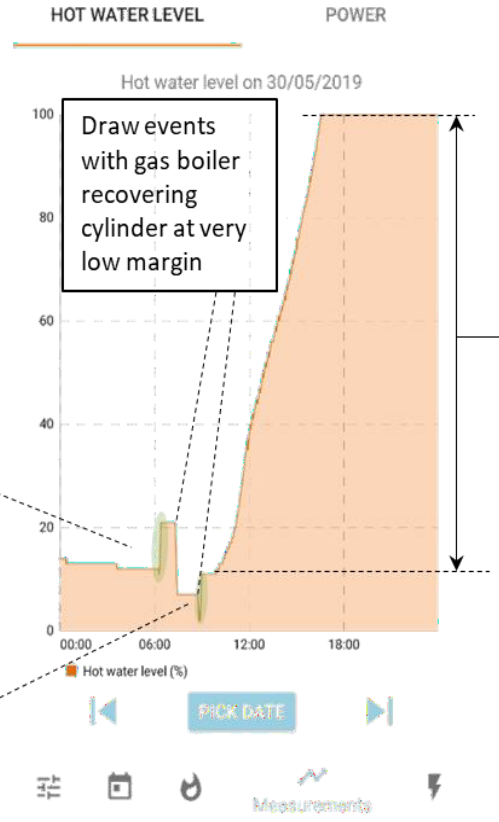


Conventional tank preheated with gas to full state of charge ready for morning usage

Initial morning draw events discharges the tank whilst gas system boiler is scheduled to be off

Only 42% of tank capacity was recharged from solar since the tank was already biased at a 58% when solar energy became available.

Vs.



Draw events with gas boiler recovering cylinder at very low margin

The Mixergy tank is able to operate at a significantly lower state of charge with occasional recovery from the system boiler

Because of the top-up topology and knowledge of state of charge, the system boiler is able to kick in and intervene to provide cover when operating at the margins without running out.

88% of tank capacity was recharged from solar.

Conventional = storage volume limited by morning usage.

Mixergy = storage volume maximised by limiting morning usage to what is needed.

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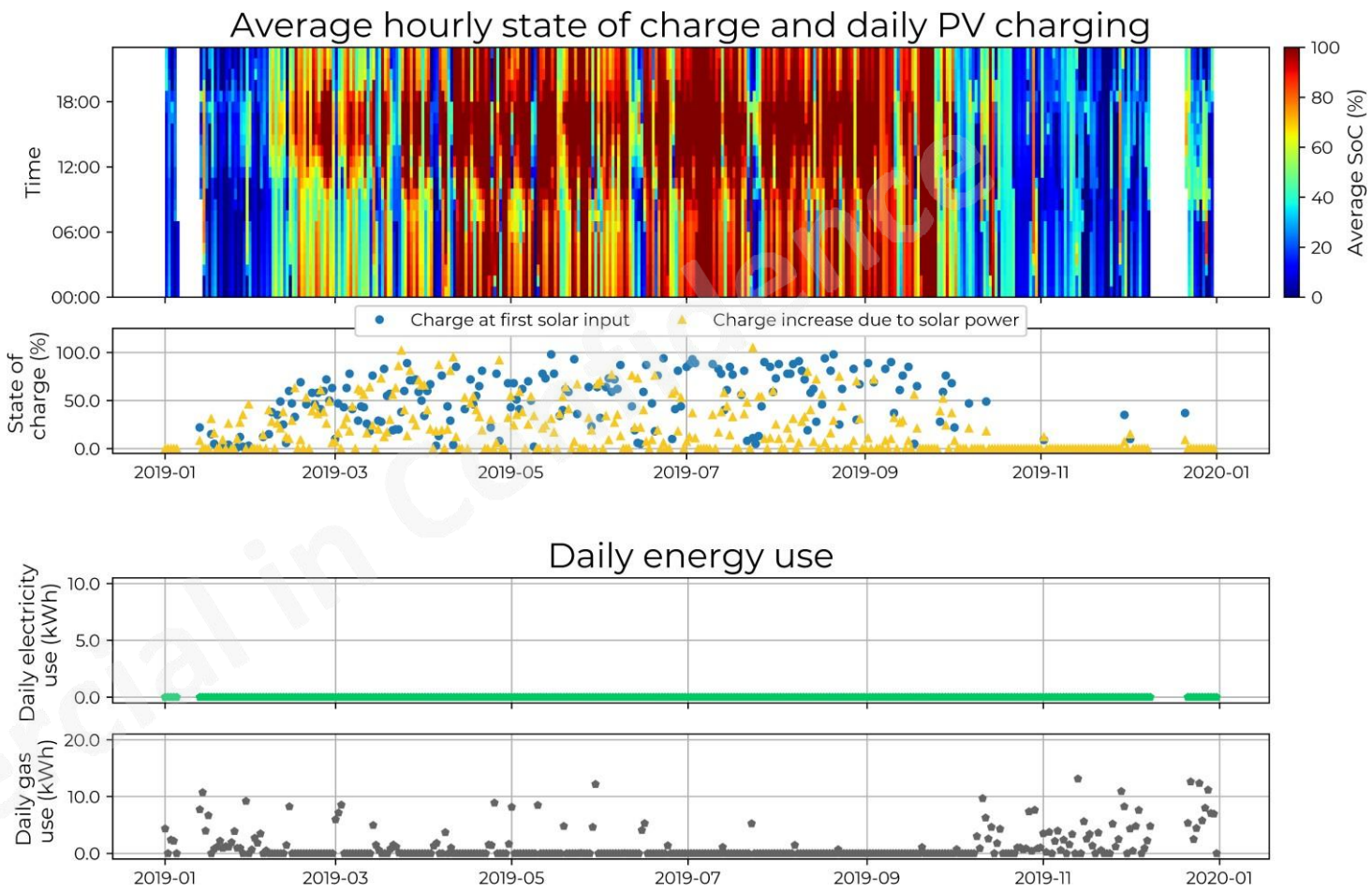
MX000152

Model code: MX-210-IDE-EXT-550-2-1-A
Volume: 210L



Schedule	Date set	Start	Target	Min	Max
	06/02/2019	17:15	20%	0%	0%

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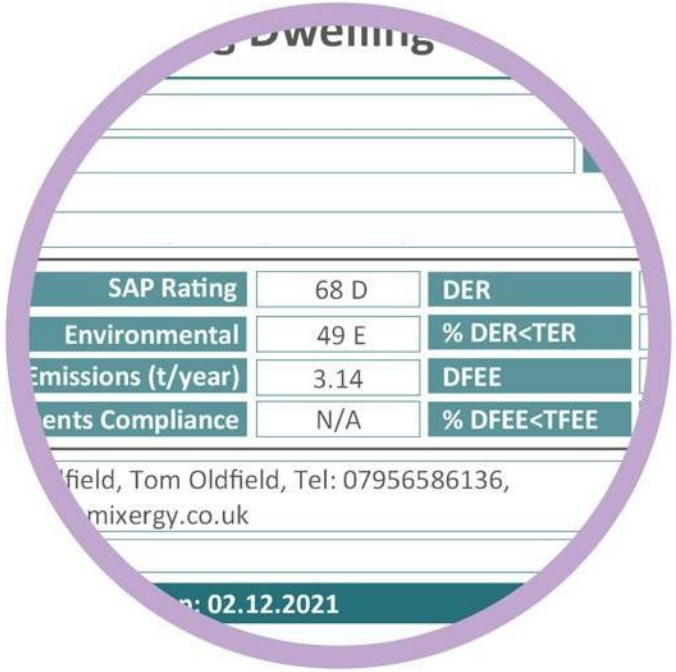
RdSAP – Infrared Heating & 2KW PV

Original EPC score



SAP Rating	68 D	DER	
Environmental	49 E	% DER<TER	
Emissions (t/year)	3.14	DFEE	
ents Compliance	N/A	% DFEE<TFEE	

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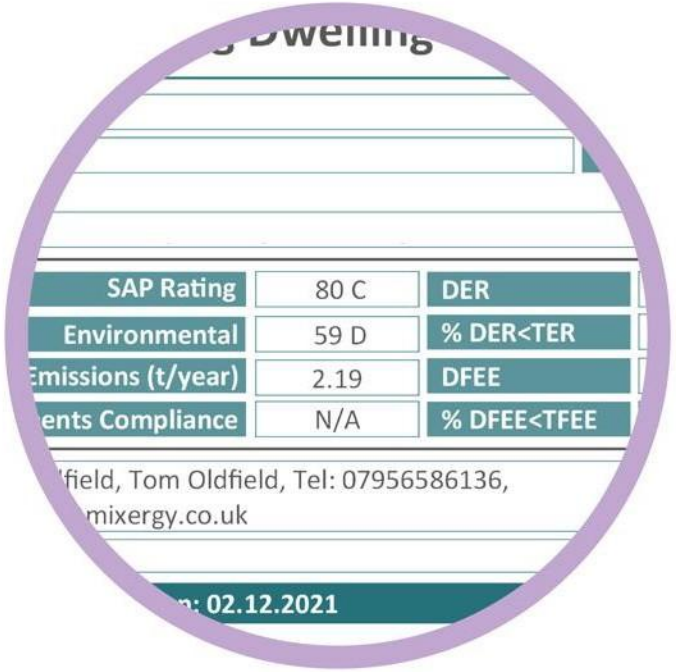
mixergy.co.uk

n: 02.12.2021

PV EPC score



SAP Rating	80 C	DER	
Environmental	59 D	% DER<TER	
Emissions (t/year)	2.19	DFEE	
ents Compliance	N/A	% DFEE<TFEE	

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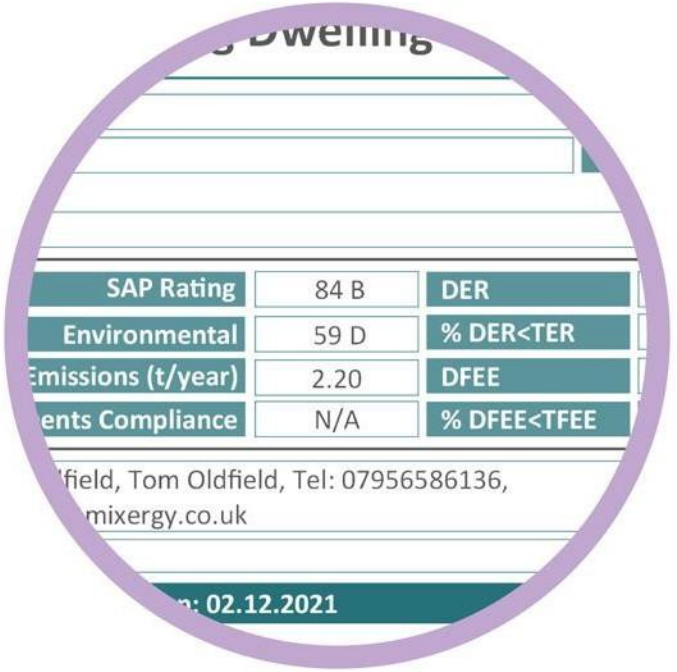
n: 02.12.2021

Mixergy + PV EPC score



SAP Rating	84 B	DER	
Environmental	59 D	% DER<TER	
Emissions (t/year)	2.20	DFEE	
ents Compliance	N/A	% DFEE<TFEE	

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n: 02.12.2021

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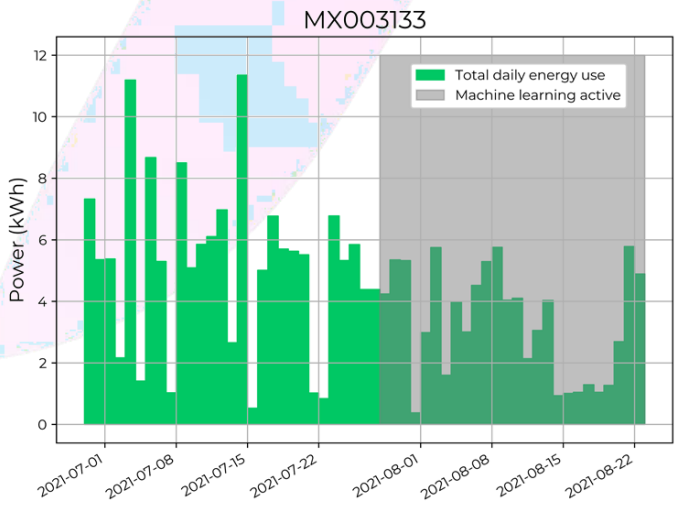
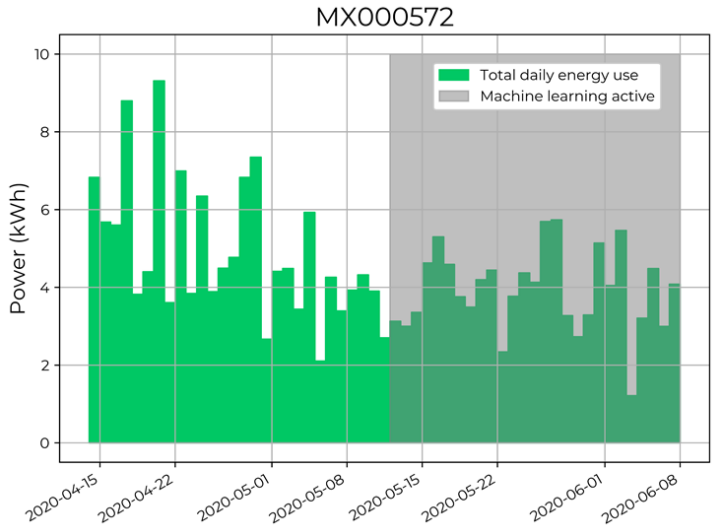
Energy savings from machine learning



Average daily kWh

Before ML	After ML
5.28	3.33

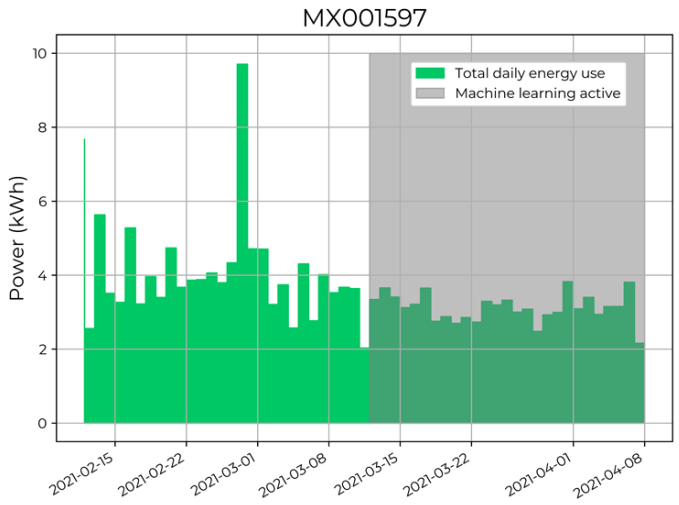
~37% decrease in energy use



Average daily kWh

Before ML	After ML
4.96	3.88

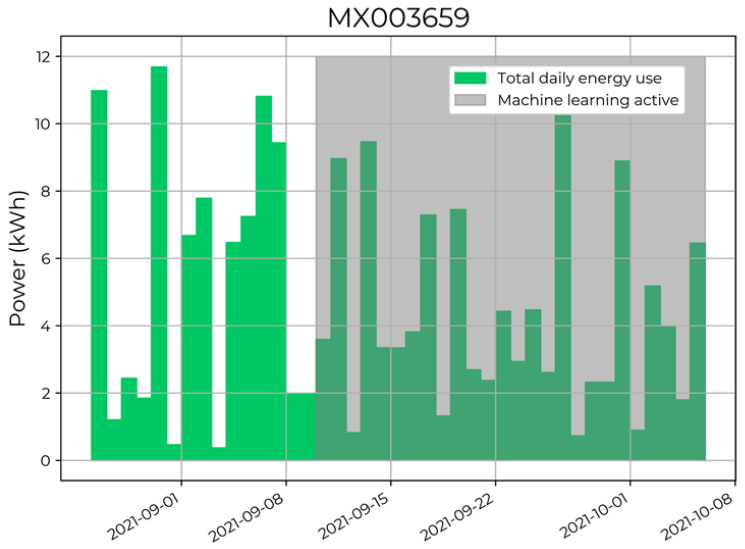
~22% decrease in energy use



Average daily kWh

Before ML	After ML
4.19	3.08

~27% decrease in energy use



Average daily kWh

Before ML	After ML
5.84	4.32

~26% decrease in energy use

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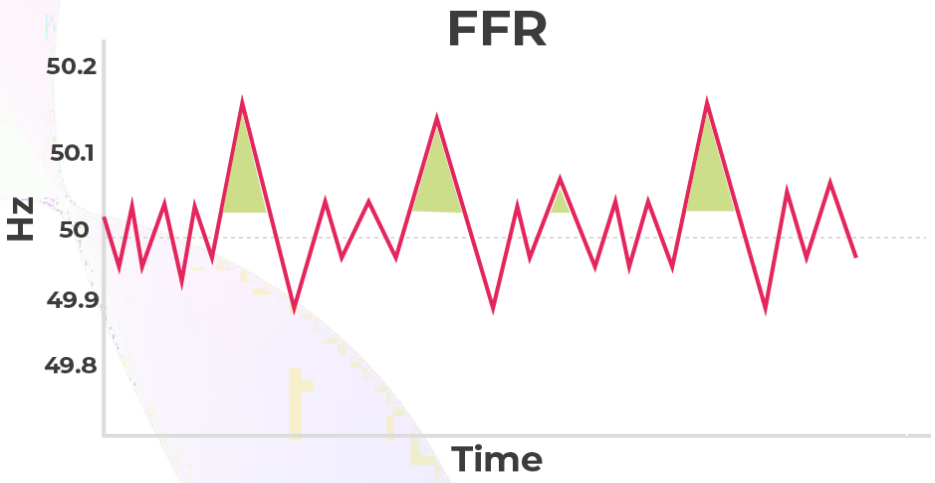
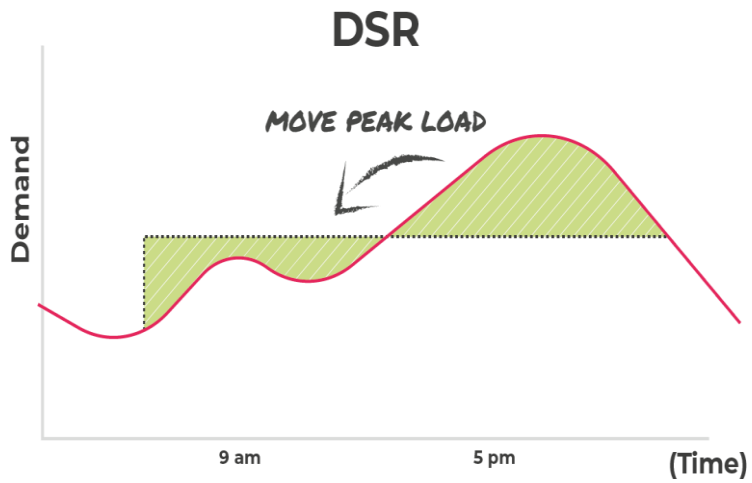
Mixergy's 'internet of tanks' provides flexibility to the grid.

We are developing an ever-expanding digital network of hot water tanks which provides flexibility to the grid and supports the clean energy transition.





Mixergy are delivering >5MW to National Grid in the UK, as well as intelligent arbitrage on flexible tariffs.

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https://www.mixergy.io/dashboard/mixergy

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

What was the project?

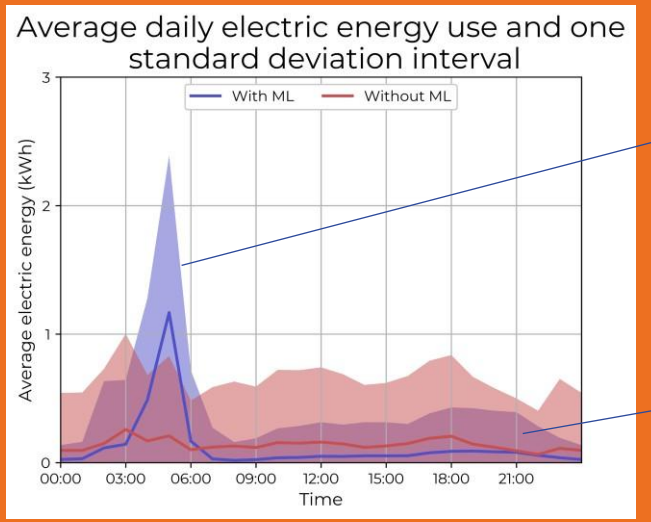
As part of the BEIS funded 'PETE project', Ocean Housing offered their residents the chance to apply for a funded replacement Mixergy smart hot water cylinder. The primary aim of the project was to demonstrate a scalable domestic demand side (DSR) response offering. However, the project not only proved 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
1x 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

Thank you for listening

Tom.oldfield@mixergy.co.uk

mixergy.co.uk

@MixergyTom

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