MODELLED ANNUAL SAVING

£3,213 / yr

— **~52% off the household's modelled bill.** Three battery modules (40.5 kWh combined) on a smart overnight tariff, against the household's current bill on Octopus Cosy. A pre-install projection; year-one metered figures will follow once the system is live.

The fix was not more solar.
It was when they bought electricity.

THE HOUSEHOLD

- Five-bed new-build, 2024 · large glazing
- One EV, one PHEV
- All-electric (3× ASHPs, 2× e-boilers)

AT A GLANCE

Annual consumption	Well above UK avg
Current bill	~£6,200 / yr
Current tariff	Octopus Cosy
Stage	Install underway

THE PROBLEM

Good intentions during the build, but the all-electric option was not fully optimised.

01 / THE SETUP

A brand new home, no gas.

Completed in 2024, built to a high spec. Three air-source heat pumps (one for the swimming pool), two e-boilers, an EV and a plug-in hybrid.

02 / THE BILL

Roughly £6,200 a year, on Cosy.

Structural, not unusual. Concentrating an entire household's energy on one volatile commodity is the trade-off when you go fully electric.

03 / THE INSTINCT

The instinct is more solar.

A bigger array. More generation. At this load profile, daytime solar can't cover heat-pump-plus-pool winter loads. The lever is elsewhere.

04 / WHAT WE MODELLED

Two configurations against the current bill. One loses money. The chosen path pays back.

CONFIGURATION	Tariff switch only Cosy → Intelligent Octopus Go	RECOMMENDED · CHOSEN INSTALL 3× Battery modules On Intelligent Octopus Go · as procured
BATTERY CAPACITY	0 kWh	40.5 kWh
INSTALL COST	£0	~£14,000
ANNUAL SAVING	−£1,000 Costs ~16% more than today, not less	£3,213 52% of current bill
PAYBACK	N/A No outlay, no return	4.5 years

TARIFF ALONE LOSES MONEY

On its own, switching from Cosy to Intelligent Octopus Go costs this household roughly £1,000 a year more. Without a battery, IGo's higher peak rate outweighs the cheap overnight window for this load profile.

1× BATTERY DOES NOT PAY BACK

A single 13.5 kWh battery module does not pay back at this load profile. Too much night-time displaceable load, and one module cannot store enough cheap-rate electricity to cover the day. Modelled figures; year-one verified figures will follow.

THE 10-YEAR VIEW

What ten years actually returns.

PAYBACK PERIOD

4.5 years

Against the £14,000 install at the modelled £3,213 / yr saving.

BATTERY WARRANTY

10 years

The manufacturer's underwritten window. Batteries of this class typically operate for longer.

NET SAVING, TO YEAR 10

£18,000

£3,213 / yr × 10, minus the £14,000 install. Undiscounted, modelled.

NOTE ON HORIZON

The 10-year horizon is where the warranty ends, not where the battery does. Lithium home-storage systems of this class commonly operate for 12 to 20 years in practice. Any saving past year 10 is unmodelled upside on top of the £18,000.

05 / WHAT THIS MEANS

THE ARBITRAGE

7p /kWh

The overnight rate on Intelligent Octopus Go. Day rate at the same household: roughly 29p.

The role of the battery is not to store solar. It is to buy electricity at the right time of day.

The battery does the heavy lifting. At this load profile, daytime solar can't cover the heat-pump-plus-pool winter draw. Generation is not the lever.

The tariff unlocks the rest. Buy electricity overnight at 7p, hold it in the battery, use it through the day instead of paying 29p.

06 / THE TAKEAWAY

Going all-electric was the right environmental call. This finishes the picture.

Designing a new-build with no gas connection, three heat pumps and the load profile to match is, from an emissions perspective, the right call. The household chose the harder, cleaner path.

High electricity bills in homes like this are not a sign of doing something wrong. They are the structural cost of the all-electric route. The way to reduce them is not to retrofit gas back in, or to add solar at any cost. It is to time-shift consumption. A battery sized for the load, on the right tariff.

1

Right battery, right size

Three modules (40.5 kWh) sized to the household's actual load, not to the size of the roof.

2

Right tariff, paired with storage

A smart overnight tariff on its own costs more at this load profile. The battery is what makes the tariff pay.

3

Understanding solar's role

Daytime generation can't cover heat-pump-plus-pool winter draw. Solar helps; it isn't the lever here.

4

Independent figures, not installer ones

We don't sell or fit batteries. The numbers are what the model returned, not what a sale needed them to be.

> *New build, all-electric, £6,000-a-year electricity bill. The fix wasn't solar. It was buying electricity at the right time of day.*

— **New Energy Education** modelling for a five-bed 2024 new-build, Surrey

TALK TO US

Curious what the numbers look like for your home?

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Visit the site →

METHODOLOGY

Figures modelled from the household's load profile against Octopus's published 2026 tariffs (Cosy and Intelligent Octopus Go). Savings are pre-install projections, undiscounted and indicative; year-one metered figures will follow once the system is live. We model every home from its own data. We don't sell, fit, or resell hardware, and take no commission from any installer or manufacturer.