Intelligent battery optimisation

If you move to a time-of-use tariff we can automatically optimise the times that you charge or discharge your battery - and help you save even more on your electricity bill. Better still, optimisation works year-round, meaning you can set and forget.

By controlling your inverter to intelligently charge the battery when electricity is cheap and using it when electricity is expensive (or even selling it back to the grid for a profit) you will keep your bills even lower.

As expensive electricity periods tends to correlate with more fossil fuel generation there is an environmental benefit as well as a financial one.

Setting up optimisation

You'll need to connect your electricity account * so that we can fetch your tariffs. From the 'Site & System Settings' menu, press the 'Add an energy provider' button and follow the instructions.
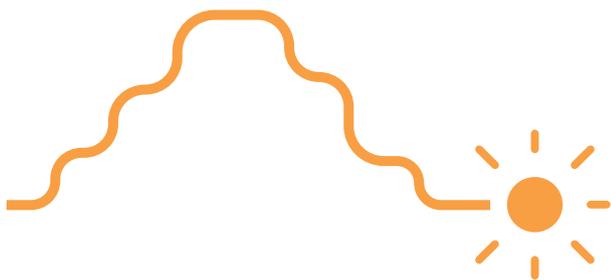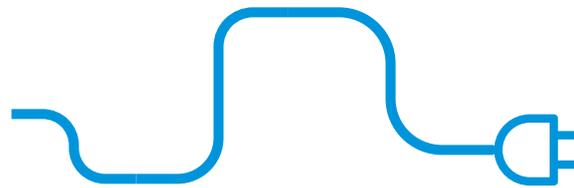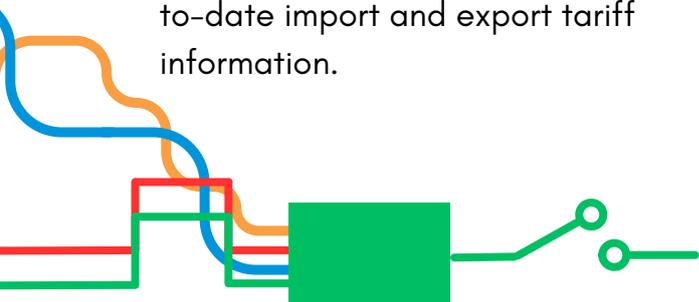
*selected electricity suppliers only

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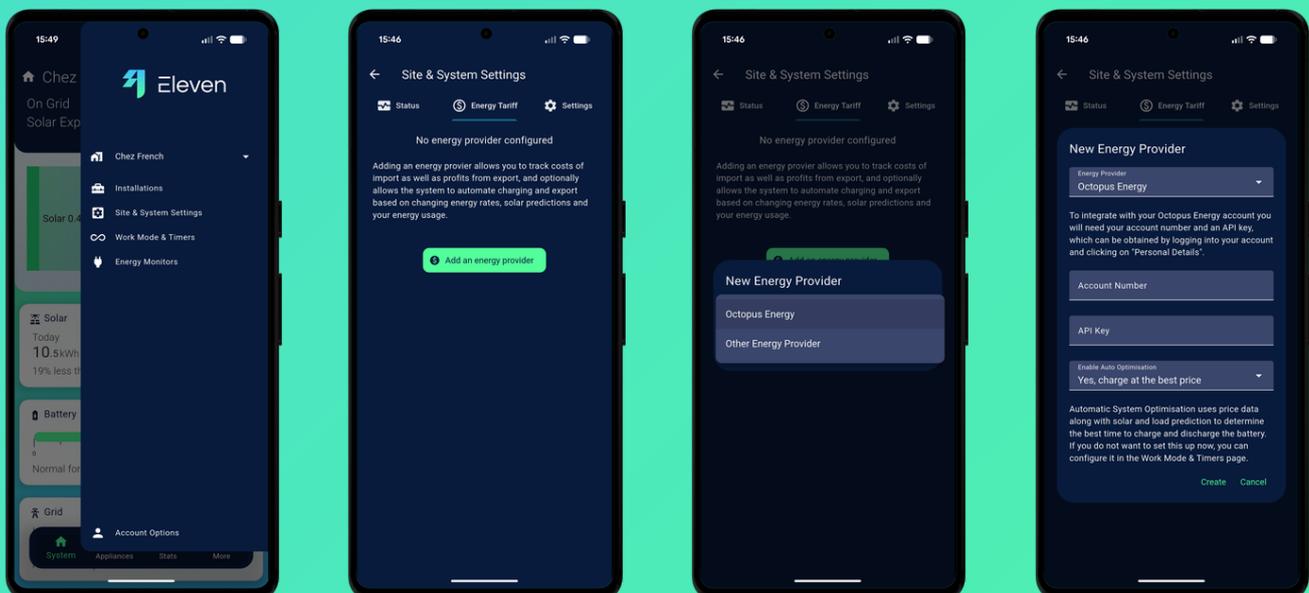
How it works

Consumption forecast
We build a forecast of your electricity consumption based on your past pattern of electricity use in the property.
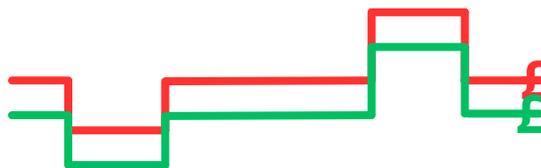
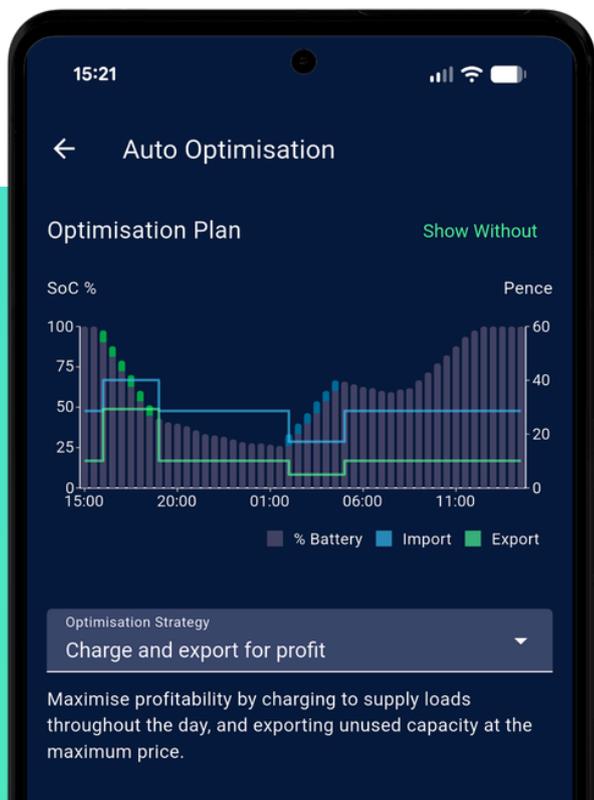### Generation forecast
We use a combination of weather forecasts and machine learning to predict electricity generation for your property.

Amir

Tariff forecast
We connect to your electricity account to make sure we have up-to-date import and export tariff information.

£
£

Modelling
Using all the above information we can model your system to predict how much money you will spend on imported electricity and how much you will make from exported electricity.

15:21

← Auto Optimisation

Optimisation Plan   Show Without

SoC %   Pence

100   60

75

50   40

25   20

0   0
15:00   20:00   01:00   06:00   11:00

▪ % Battery ▪ Import ▪ Export

Optimisation Strategy
Charge and export for profit

Maximise profitability by charging to supply loads throughout the day, and exporting unused capacity at the maximum price.

The clever bit
We can use the same model to work out the best times to top up your battery when electricity is cheap and sell when it is expensive.

We work out the scenario that gives you the best savings and income, and we set your inverter to charge and discharge on the appropriate schedule.

Examples

Winter
In the winter you will typically use more electricity than you generate from your solar array. You need to import the remainder.

The app will import this energy during cheap periods so that you can avoid having to buy more expensive electricity later when the battery is empty – saving 24p per kWh in this example .

Summer
In the summer you will typically generate more from your solar array than you consume in the property.

Rather than simply exporting the excess only when the battery is full the app will discharge the battery in peak price periods so that you get paid more – an extra 8p per kWh in this example.
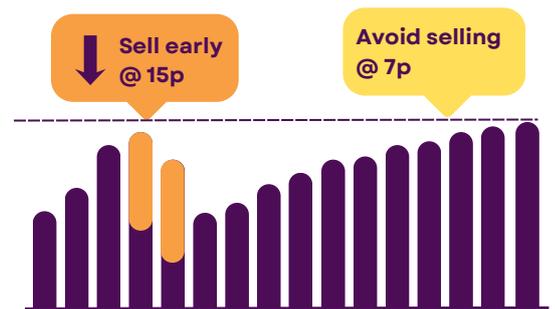
Trading
If you have spare battery capacity you can fill it with cheap electricity to sell later at a profit when electricity is expensive. In this example, you would make 11p on every kWh of electricity bought and subsequently sold.

Flex markets

What is Flex?
The electricity market in the UK is extremely complex. Supply has to always be matched exactly by demand, and every day energy generators bid to provide power for the next day.

Flexibility markets pay customers who can change their energy use during busy times on the electricity grid. Instead of building expensive new infrastructure to handle peak demand, grid operators compensate electricity users for adjusting when they consume or generate electricity.

What does it mean in practice?
If you are sign up to Flex, we will take into account the opportunity to take part in Flex events when calculating the best times to charge and discharge your battery. We will only change the way your battery behaves when it is financially beneficial to do so. You will receive payment for taking part in Flex events.

What will I earn?
It is very hard to predict exactly how much you might earn from Flex, as it depends on a very large number of factors such as whether the local electricity network is constrained, the tariff you are on, the pattern of your electricity use and many other things. However, for a typical domestic property we expect payments to be in the region of around £100 per year.

During our initial trial period we will make a fixed payment of £10 per month for taking part in our trial.

How to Flex
At present we are running a limited trial of Flex, and we will sign up your system manually. Contact us at sales@elevenenergy.co.uk if you would like to take part.

FAQ

Will my warranty be affected?
By turning on optimisation you will use a little more of your battery capacity each day. On some tariffs, with trading enabled, you might use significantly more. However, sodium ion batteries cope with repeated discharge much better than lithium batteries and we warrant the batteries to 8000 cycles or 10 years, whichever comes first. Even with optimisation turned on you are very unlikely to reach 8000 cycles in 10 years. Your warranty should not be affected.

How much will I save?
It is hard to predict savings accurately as it depends on your battery size, the tariff you are on, the pattern of electricity use in the property and how consistent it is, and a number of other factors. We expect most users to see additional savings of around £100–£200 when optimisation is toggled on where they are on a suitable import and export tariff. Flex will typically add a further £100 in annual savings.

Can I use Octopus Agile tariffs?
Yes! Optimisation works well with tariffs that follow wholesale prices.

I can't find my electricity supplier / tariff in the app.
If you are on a tariff that varies with time of use we'll see if we can add it for you. Please let us know at the email address below.

I'm not on a time-of-use tariff - can I still use optimisation?
Optimisation savings result from moving electricity consumption from expensive periods to cheap periods, and from moving exported electricity from cheap periods to expensive periods. If you are on a flat tariff, you can't make optimisation savings. The good news though it that it is usually easy to change tariffs or suppliers to benefit from advanced optimisation.