LOW CARBON OXFORD NORTH

Go Solar: Sizing Your System

Using our new solarPV - battery analytical tool

Tuesday 17 November 2026 · 7pm
Woodstock Road Baptist Church
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USER MANUAL

How do I use the tool?

1. **Start with your home**
   - are you gas heating + hot water, or all electric? → current electricity use kWh and tariff
   - are you weighing up solarPV, battery, or both? → future electricity use kWh and tariff
2. **Price and size** your solarPV and/or battery installation
3. **Add in your assumptions** eg interest rates, device lifetimes etc
4. **The tool then simulates** your system each half-hour for a year, projects that over its life, and produces a data rich “verdict”, including savings, repayment time, future value etc
5. **Adjust your system** or assumptions to see the impact in real time
6. **Add your email** to save your session and return to it later!

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APPROACH

How does the model work*?

CURRENT AND FUTURE: The "now" box recreates your current bill; the "after installation" box drives every saving. These are measured against your after-installation electricity usage on your current tariff with no new equipment, so any extra electricity you plan to use (an EV or heat pump) does not count.

DEMAND: Your annual use is spread over each day over the year, with morning and evening peaks. Gas / oil homes are steady all year. All-electric homes add heating (winter mostly, following Oxford temperatures) and hot water (all year). On a time-of-use tariff, the off-peak slider sets the share of your use that naturally falls in off-peak times, including any time shifting (eg running dishwasher at night).

SOLAR: Annual output (kWp × yield) follows a seasonal curve, with December making about a fifth of June, using Oxford daylight hours. Every day is an average day, with no sunny or dull spells. Solar you can't use at the time is exported or stored if you have a battery.

** because the tool's "please read" section may not be read!* 😂

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APPROACH

How does the model work?

BATTERY: operates off the best case knowing demand, solar and prices in advance. It charges from solar or the grid, runs your home, and exports when that pays. Losses are taken on discharge and a cycle is only completed if the gain beats the wear allowance. Cycles per year are capped at total rated cycles across battery life.

TARIFF SWITCH: The cost from changing tariff alone, based on your after-installation usage, counts against the equipment. A saving is shown but not credited to performance.

FINANCIAL: Every tariff rate including export rises each year with modelled inflation, and panels and battery degrade. Repayment occurs when cumulative savings cover the upfront cost. Net benefit over life is savings minus cost in future pounds, not discounted. Valuation is savings still to come at repayment date. The analysis horizon is when the first device wears out; no replacements are modelled.

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WEAKNESSES

What does the model leave out?

NOT INCLUDED: Standing charges; day-to-day weather; the battery and inverter's own standby use; export and grid-connection limits; inverter clipping; minute-by-minute peaks such as kettles and ovens, so real homes use a little less of their solar directly than shown; gas and oil bills; the cost of a heat pump or EV; maintenance, repairs and replacements; tax.

Check you qualify for a tariff before acting on it: some need an EV, a heat pump or a battery.

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IMPORTANT

Please read!

This tool provides indicative estimates for general information only. It is **NOT** financial, investment, tax or procurement advice, and must not be relied upon as such. All figures are modelled from the assumptions you enter, involve simplifications, and are neither a quote nor a guarantee — your actual costs, savings, repayment time and returns will differ, possibly materially. Tariffs, prices, panel and battery performance and regulations change over time. The starting values are illustrative and lean optimistic, so enter your own usage, tariffs and quotes. Obtain written quotes and consult a suitably qualified independent adviser before making any purchase or investment decision. No liability is accepted for any action taken in reliance on this tool.

www.lcon.org.uk/solarpv-battery

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Questions?

Thank you for coming!

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