Institute for Energy Economics and Financial Analysis

Fact Sheet

Making the most of the home batteries boom

Household batteries are financially attractive in many states

Under current settings they can already slash peak demand

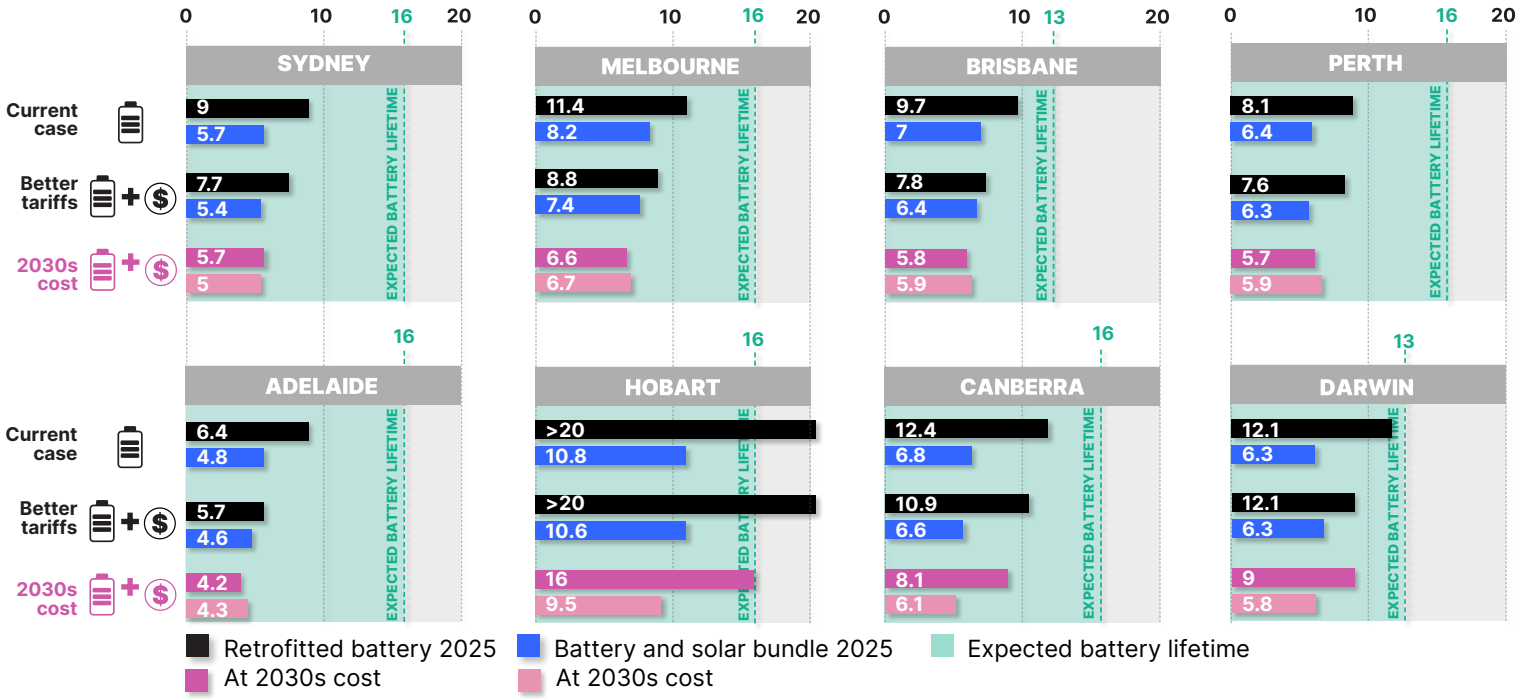
Batteries could provide more support to the system, especially for cold winters

Pricing and other incentives should be reviewed to make the most of the boom

The boom in home batteries is here to stay

The introduction of government subsidies on home batteries has led to an unprecedented surge in take-up, with about 1,000 batteries being installed every day. IEEFA has identified favourable economics for solar-and-battery systems in most states, which is likely to improve further as battery costs fall. By 2030, the financial case is likely to be strong without subsidies.

Payback period on installation of a 10kWh battery (years)



Note: Assumes 8kW rooftop solar; rebates are excluded in '2030 costs' scenario and included in others. Calculations are based on households that have upgraded to efficient electric appliances – a key step to unlock the greatest value from solar and batteries.

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Homes, not power plants, could halve energy bills

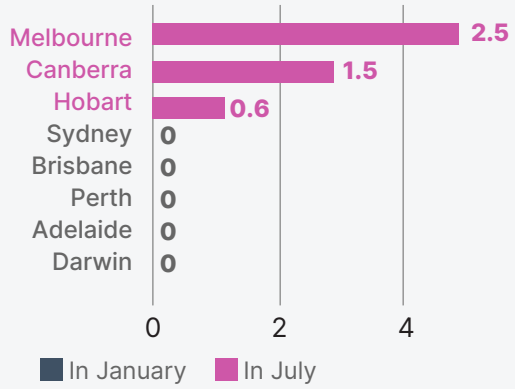
In self-consumption mode, batteries can slash peak demand

IEFFA modelled the impact of batteries when focused on self-consumption of solar generation in an efficient electric home.

▶ **Summer:** In every state, a solar-and-battery system can meet a typical household's full energy requirements during the evening on a typical summer day, effectively eliminating peak demand.

▶ **Winter:** In most states, a solar-and-battery system can still meet all of a typical household's evening energy needs. However, in cold states, material peak demand levels persist – high electric heating loads absorb reduced solar output, leaving insufficient solar to fully charge the battery to meet evening demand.

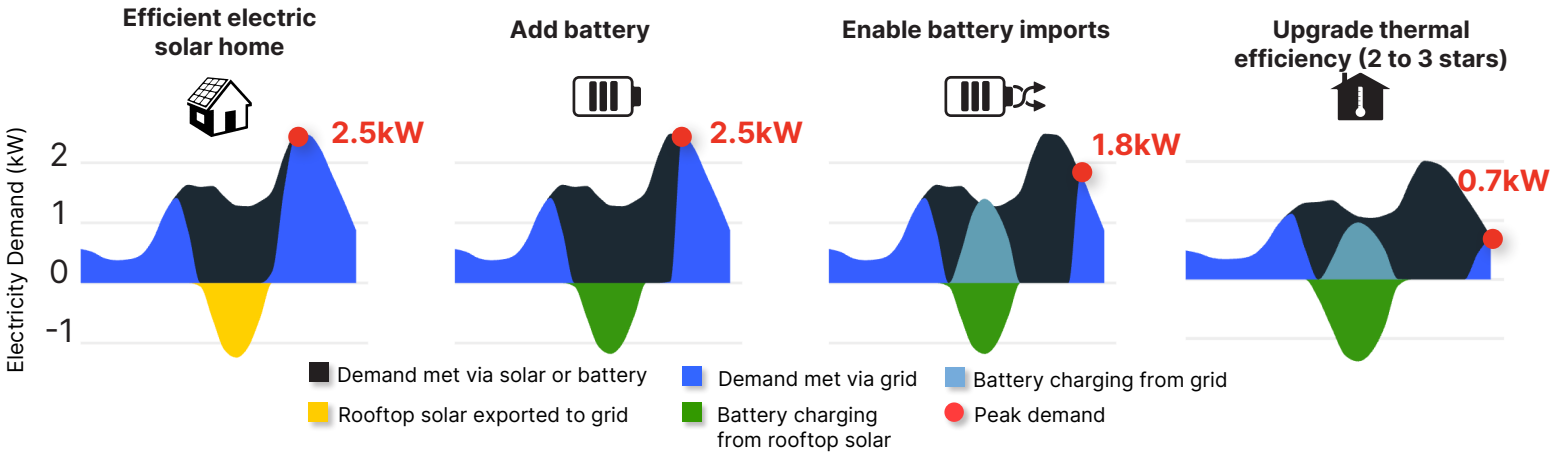
Residual peak demand on an average day, kW



Batteries could do more with the right incentives

In cold states, importing energy from the grid to the battery during the middle of the day (when demand and wholesale prices are very low even in winter) allows the battery to reach full charge and provide a more meaningful reduction in peak demand. Thermal efficiency improvements can also help reduce winter heating load and free up more rooftop solar.

Impact of solar and batteries on an efficient electric home in Melbourne; average day in July



Incentives need to be aligned to optimise system benefits

Standard electricity plans provide limited incentives to operate batteries in an optimised way:

▶ Most retailers offer a **fixed feed-in tariff** based on the wholesale value of solar in the middle of the day, and provide no additional reward for midday consumption and evening exports.

▶ **Time-of-use tariffs** often offer modest savings, much smaller than the value to the market

▶ **Virtual Power Plants (VPP)** provide some benefits, but there is a lack of transparency on their management and the financial implications of signing up.

About IEEFA

The Institute for Energy Economics and Financial Analysis (IEEFA) examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

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