Institute for Energy Economics and Financial Analysis

Fact Sheet

A focus on homes could slash energy bills

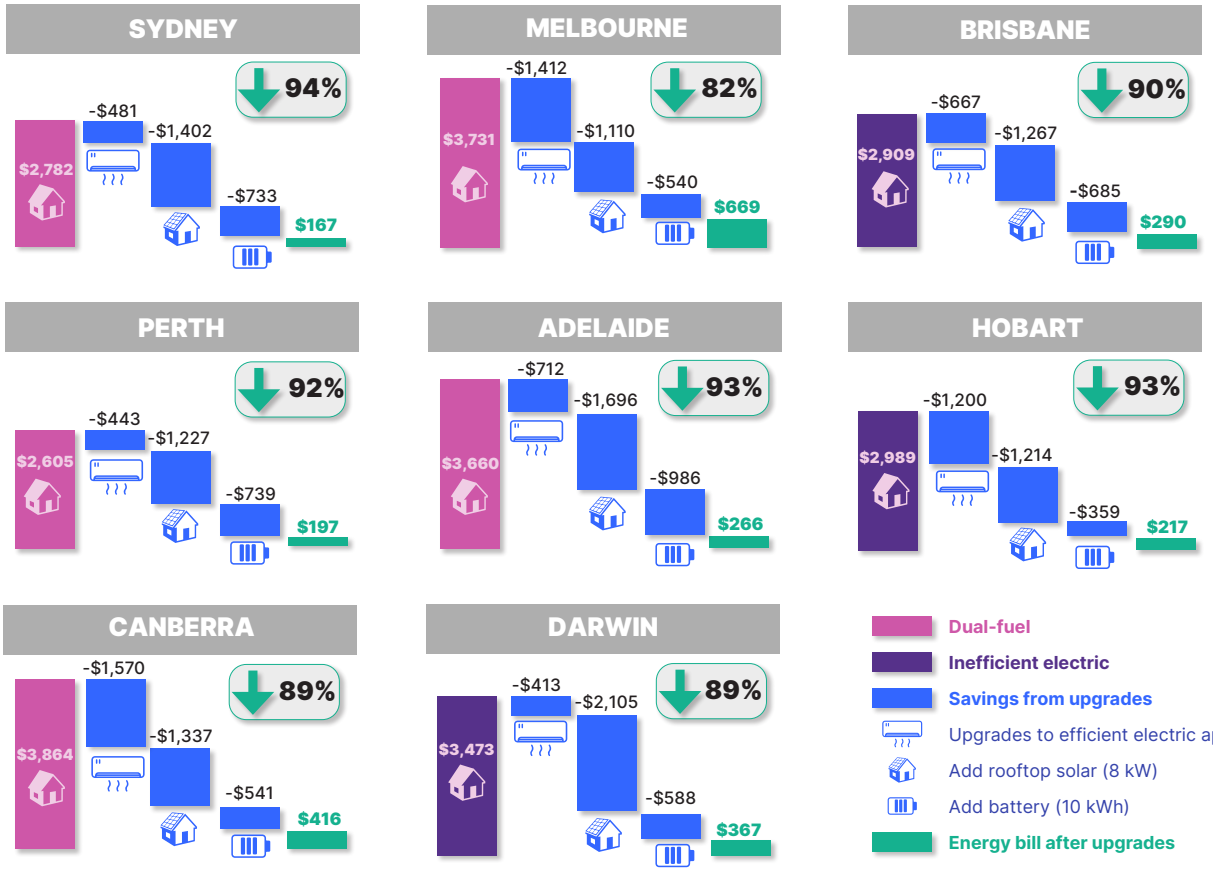
Household energy upgrades could reduce bills by 80-90%, with fast payback times

Improving thermal efficiency can lower bills and peak demand

Batteries can slash peak demand, especially if they can charge from the grid

Policy changes are needed to capture these opportunities

Potential savings from appliance upgrades, solar and batteries



Upgrading to efficient electric appliances typically has a payback of 3-7 years.

Rebates can shorten paybacks further, but their availability is uneven across states.

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Homes, not power plants, could halve energy bills

Improving thermal efficiency delivers multiple benefits

Thermally efficient homes…

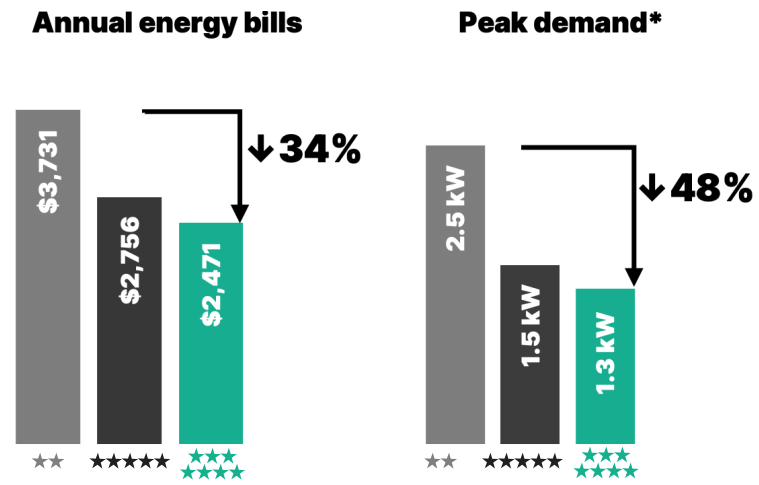
▶ **have the lowest running costs.** In Melbourne for example, a 7-star home is likely to consume about two thirds of the energy of a 2-star home.

▶ **have lower average peak demand.** The difference, before considering other upgrades, is as high as 50% in January (Adelaide), or 48% in July (Melbourne).

▶ **can be pre-heated and cooled.** This can allow the use of excess rooftop solar to heat or cool the home in the middle of the day. This would be particularly impactful during winter in Melbourne.

However, older, poor-performing homes still dominate Australia's existing housing stock.

Example: Melbourne



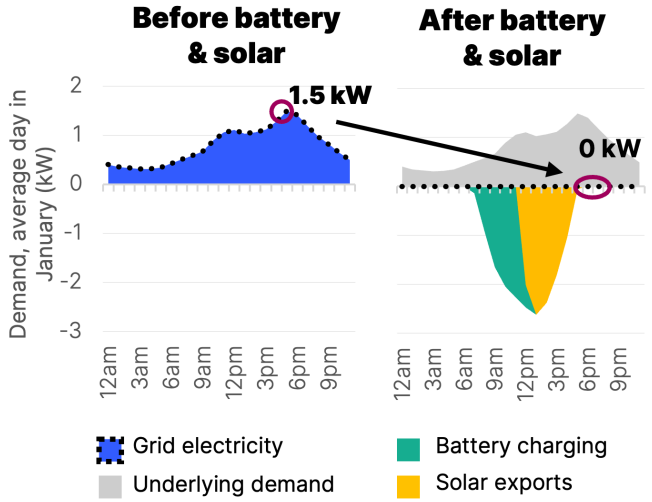
★Efficiency star rating * For an average day in July. Based on a home with efficient electric appliances.

Batteries can slash peak demand

▶ **Summer:** A solar and battery system can often meet a household's full energy requirements during the evening, effectively eliminating any contribution to peak grid demand on a typical day.

▶ **Winter:** Winter peak demand is important in regions with high electric heating loads - like Hobart currently, or like Melbourne and Canberra as more homes switch to electricity. Allowing energy imports from the grid to charge the battery during low demand periods provides a more meaningful reduction.

Example: Sydney



Based on a typical efficient electric home

Policy changes are needed to capture these opportunities

Minimum energy performance standards should be expanded and increased to discourage installation of gas or inefficient electric appliances, and encourage installation of efficient and flexible electric appliances.

A comprehensive, national incentive scheme for energy upgrades should be implemented (perhaps by expanding existing schemes). It should support a broader range of home upgrades and demand flexibility measures, extend beyond 2030, and incorporate equitable funding approaches.

In addition, governments should consider:

▶ committing to halve household energy bills over the next decade.

▶ fairer electricity pricing structures that offer reasonable rewards for efforts to reduce peak demand.

▶ a first-principles review of the economic regulation of gas and electricity networks.

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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