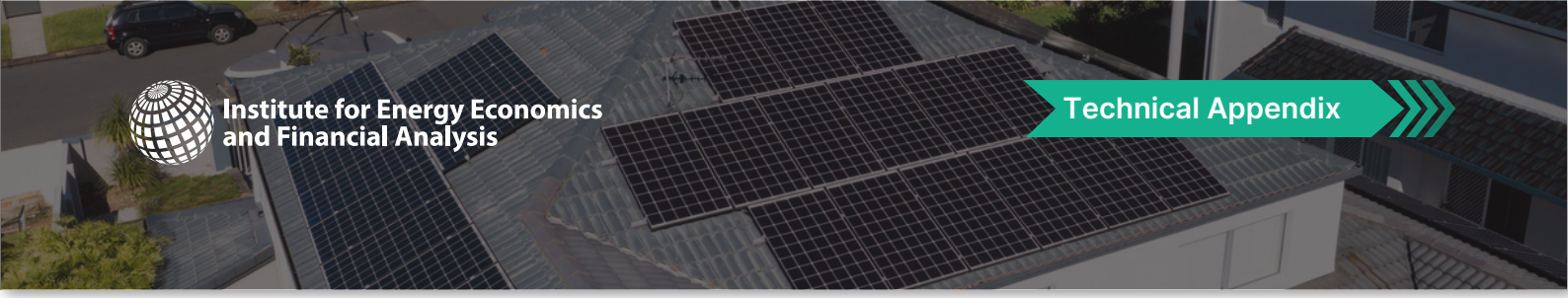

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Technical Appendix: Growing the benefits of solar sharer tariffs

Modelling approach

This report utilises IEEFA's household energy model, which is described in detail in the Technical Appendix to the report, A focus on homes, not power plants, could halve energy bills.

This model allows us to test energy consumption and energy bill outcomes for households under a range of different household parameters: region, household size, thermal efficiency properties, appliance configuration and more.

For the purposes of this report, we added electric vehicle charging to the model, including various parameters to determine the weekly charging requirements of the vehicle, and several charging patterns.

For the four regions in scope of this report (Sydney, Melbourne, Brisbane and Adelaide), we modelled a "typical" household based on the configurations in Table 1. These configurations were chosen to represent a home with both gas and electric appliances, but was likely to be representative of a reasonable share of dwellings in that state. (For example, we assumed gas ducted heating in Victoria, but excluded gas heating for the Brisbane home.)

Table 1: Assumed parameters for typical households used in modelling

	Sydney	Melbourne	Brisbane	Adelaide
Household size	State average (2.6 persons)	State average (2.5 persons)	State average (2.5 persons)	State average (2.4 persons)
Thermal efficiency	2 NatHERS stars	2 NatHERS stars	2 NatHERS stars	2 NatHERS stars
Heating	Gas (room)	Gas (ducted)	Reverse-cycle air conditioner	Gas (room)
Cooling	Reverse-cycle air conditioner	Reverse-cycle air conditioner	Reverse-cycle air conditioner	Reverse-cycle air conditioner
Hot water	Gas (instant)	Gas (instant)	Gas (instant)	Gas (instant)
Cooking	Gas	Gas	Gas	Gas
Rooftop solar	None	None	None	None
Battery	None	None	None	None
EV	None	None	None	None

We then modelled a number of variations to these scenarios, representing the opportunities explored in the report. These are outlined in Table 2.

Table 2: Modelled variations to base scenarios

Opportunity	Scenario variations
1. Hot water	Switched to a resistive electric hot water system.
Homes with existing hot water systems	Tested the impact of shifting hot water loads to a timer aligned to the SSO window.
Homes with gas hot water systems	Tested the impact of switching to a heat pump hot water system, and shifting hot water loads to a timer aligned to the SSO window.
2. Pre-cooling and heating	Switched to a 4 star NatHERS thermal rating. Switched to reverse-cycle air conditioners for heating. Tested the impact of enabling pre-cooling and pre-heating.[1]
3. Electric vehicles *Home with one EV*	Added an electric vehicle with an efficiency of 18kWh/100km, and assumed 270km travelled per week.[2,3] Added a 7kW EV charger. Tested the impact of shifting from an "unscheduled" charging profile, to bi-weekly midday charging.[4]
Large home with two EVs	Switched to a household size of 5+. Added electric vehicles with an average efficiency of 18kWh/ 100km, and assumed a collective 540km travelled per week. Added a 7kW EV charger. Tested the impact of shifting from "unscheduled" charging profiles to daily midday charging.[5]
4. Batteries *Home with 20kWh battery*	Switched to efficient electric appliances.[6] Added a 20kWh battery with the ability to import and export from/to the grid.
Apartment with 5kWh battery	Overall energy consumption scaled down by 21%.[7] Switched to efficient electric appliances. Added a 5kWh battery with the ability to import and export from/to the grid.
Box 1: Home with 20kWh battery and 8kW solar	Switched to efficient electric appliances Added 8kW rooftop solar. Added a 20kWh battery with the ability to import and export from/to the grid.
Non-flexible households *With gas appliances*	Switched to: Gas heating (room, or ducted in Melbourne), gas instant hot water system and gas cooktop.
With inefficient electric appliances	Switched to: Resistive electric heating, resistive electric hot water system and resistive electric cooktop.
With efficient electric appliances	Switched to: Reverse-cycle air conditioners for heating, heat pump hot water system and induction cooktop,

The results section of this appendix presents several sensitivities in addition to these scenarios, outlined in Table 3.

1 Involves running a reverse-cycle air conditioner during the free power period to preset the home to a comfortable temperature in the evening. Our approach draws from Wilmot et al. (2021).
2 Equivalent to a BYD Atto 3.
3 Based on Victorian data (state with the highest average kilometres travelled), year ending 30 June 2018 (ABS).
4 Produced by CSIRO, extracted from AEMO 2025 IASR EV Workbook.
5 I.e. at least one of the vehicles is charged on each day of the week.
6 Reverse-cycle air conditioner for heating, a heat pump hot water system and an induction cooktop.
7 Reflecting that due to various factors, apartments generally consume less energy. Based on Roberts et al. (2019).

Table 3: Modelled sensitivities featured in the Technical Appendix

Scenario / sensitivity	Scenario variations
1. Hot water Larger households	Switched to a household size of 5+. Assumed 50% of hot water consumption aligns to the solar sharer window, and 50% occurs via an overnight boost.[8]
Homes with a controlled load	Assumed hot water electricity consumption is subject to the controlled load rate associated with the selected tariff.
3. Electric vehicles Evening charging	Added one or two EVs consistent with the Electric vehicles scenario in Table 2, but switched to a charging profile starting at 6pm each night (bi-weekly for homes with a single EV, and daily for homes with two EVs).

Approach to energy tariffs

IEEFA's household energy model calculates energy bill outcomes based on actual electricity and gas tariffs. All tariffs used in the model were updated in August 2026, and the approach to selecting tariffs is as follows:

Electricity tariffs

Standard retail plan results are based the average modelling outcomes across primary market offerings from major retailers in Table 4, for each distribution network in each region. These retailers were chosen as they collectively occupy a very high market share: 73% in NSW and SA, 68% in South-east Queensland and 57% in Victoria.[9] Both flat-rate and time-of-use offerings were included unless otherwise specified.

Table 4: Electricity tariffs from major retailers used in the modelling

Major retailer	Standard tariff
AGL	Residential Smart Saver
Origin Energy	Go Variable
EnergyAustralia	Flexi Plan (NSW, Qld, SA) Home 365 (Vic)

Regulated solar sharer tariff results are based on the default Solar Sharer Offer (SSO) specified under the Default Market Offer (DMO)[10] or the proposed Victorian Midday Power Saver (VMPS).11 Results are averaged across all distribution networks in each city. We added flags to the model to determine whether the daily solar sharer cap (24kWh/day in both offerings) is exceeded, and applied the appropriate rate to any excess consumption. A material level of exceedance was not observed in most scenarios, however as noted in the report, some scenarios with batteries or EVs came close to, or slightly exceeded, the limit. This could imply that the daily cap could become a constraint for households participating in multiple opportunities modelled in this report. However, more competitive solar sharer tariffs generally offered a higher daily cap, or no daily cap.

8 Based on IEEFA analysis of data provided by Solar Analytics, which found 50% of households with a midday hot water consumption pattern required some additional boost outside the midday period. This most often occurred overnight.
9 Australian Competition and Consumer Commission. Inquiry into the National Electricity Market: December 2025 Report. 18 December 2025. Page14.
10 Australian Energy Regulator. 2026-27 Default market offer: Final determination. May 2026. Page 100.
11 Essential Services Commission. Victorian Midday Power Saver: Technical Paper. 22 May 2026. Page 5.

Best available solar sharer tariff results presents the lowest-cost energy bill outcome across all market tariffs that IEEFA identified to include a period of free midday electricity, excluding the regulated tariffs. As above, results are always averaged across all distribution networks in each city. Where a solar sharer cap applies, this was modelled as described above. This includes only a limited number of retailers at present — the full list of tariffs considered in this category is in Table 5.

The actual best tariff varied depending on region and scenario. Every tariff in Table 5 featured as the best available tariff in at least one region/scenario combination.

Table 5: Market solar sharer tariffs used in the modelling

Retailer	Solar sharer tariff
CovaU	SolarMax
GloBird Energy	FOUR4FREE
OVO Energy	Free 4 Plan
Powershop	EV day (Only included in scenarios with an EV)

Gas tariffs

To isolate the impact of switching to a solar sharer electricity tariff, we assumed the same gas tariff would apply in all scenarios. This was set to AGL's Residential Smart Saver plan, which was available in all modelled regions.

In practice, when a consumer switches to a new energy retailer, they are likely to consider switching to a gas plan with the same retailer. All retailers in Table 5, except OVO Energy, offer gas plans, and IEEFA has observed that gas rates from smaller retailers can be considerably lower than major retailers. This could yield greater energy bill savings, but not as great as when a household can fully electrify and cease paying for gas altogether.

Identifying key opportunities

To identify the key opportunities in this report, IEEFA first undertook an exploratory analysis in our household model, testing the following variables to see if they materially changed the energy bill outcomes under a solar sharer tariff, compared with a standard retail tariff. These include:

- Household size
- Presence of rooftop solar
- Presence of a battery
- NatHERS rating
- Presence of an EV/charging pattern
- Degree of household electrification
- Hot water consumption patterns
- Enabling pre-cooling or pre-heating

Through this process, we identified that the variables most likely to lead to materially improved outcomes under a solar sharer tariff were:

- Flexible use of electric appliances (i.e. flexible hot water, pre-cooling and pre-heating)
- Presence of an EV and charging patterns
- Presence of a battery

As discussed in the report, there may be opportunities to benefit from solar sharer tariffs that are not within our modelling capabilities. This could include shifting other household appliances — such as dishwashers, washing machines and dryers — to run in the solar sharer window. It could also include pool pumps, which are a material source of energy consumption for homes where they are present.

Results tables

Tables 6–14 contain detailed results behind each graph in the main report, plus some additional sensitivities. For details on the specific modelling assumptions behind these results, please refer to Tables 2 and 3.

Opportunity 1: Hot water

Table 6: Total energy bill for a typical household — hot water scenarios (AUD)

City	Type of hot water system	Electricity tariff / hot water control			
		Standard (uncontrolled)	Controlled load	Regulated solar sharer (timer controlled)	Best available solar sharer (timer controlled)
Sydney	Gas instant	$2,920^	-	$3,118	$3,923
	Resistive electric	$3,257*	$3,024	$2,788*	$2,597*
	Heat pump	$2,780	$2,746	$2,788^	$2,597^
Melbourne	Gas instant	$3,500^	-	$3,540	$3,314
	Resistive electric	$3,798*	$3,617	$3,275*	$3,050*
	Heat pump	$3,396	$3,344	$3,275	$3,050^
Brisbane	Gas instant	$2,693^	-	$2,698	$2,601
	Resistive electric	$2,813*	$2,597	$2,301*	$2,204*
	Heat pump	$2,444	$2,382	$2,301^	$2,204^
Adelaide	Gas instant	$3,825^	-	$3,897	$3,675
	Resistive electric	$4,229*	$3,821	$3,424*	$3,202*
	Heat pump	$3,603	$3,486	$3,424	$3,202^

*Note: *Featured in Figure 2 in report; ^Featured in Figure 3 in report. Control methods only apply to electric hot water.*

Table 7: Total energy bill for a large household — hot water scenarios (AUD)

City	Type of hot water system	Electricity tariff / hot water control			
		Standard (uncontrolled)	Controlled load	Regulated solar sharer (timer controlled)	Best available solar sharer (timer controlled)
Sydney	Gas instant	$3,857	-	$4,119	$3,828
	Resistive electric	$4,419	$4,038	$4,183	$3,923
	Heat pump	$3,687	$3,610	$3,806	$3,534
Melbourne	Gas instant	$4,589	-	$4,119	$3,828
	Resistive electric	$5,028	$4,770	$4,641	$4,329
	Heat pump	$4,452	$4,379	$4,372	$4,040
Brisbane	Gas instant	$3,655	-	$3,656	$3,558
	Resistive electric	$3,851	$3,500	$3,413	$3,359
	Heat pump	$3,250	$3,149	$3,125	$3,061
Adelaide	Gas instant	$5,251	-	$5,350	$5,012
	Resistive electric	$5,915	$5,326	$5,624	$4,930
	Heat pump	$5,010	$4,842	$4,991	$4,553

Note: Additional sensitivity not included in report. Control methods only apply to electric hot water.

Opportunity 2: Electric vehicles

Table 8: Total energy bill – typical household with an EV (AUD)

City	Electricity tariff / charging pattern			
	Standard (unscheduled)	Standard (evening charging)	Regulated solar sharer (midday charging, 2x/week)	Best available solar sharer(midday charging, 2x/week)
Sydney	$3,720*	$3,815	$3,232*	$2,827*
Melbourne	$4,144*	$4,279	$3,607*	$3,314*
Brisbane	$3,480*	$3,659	$2,873*	$2,746*
Adelaide	$4,834*	$5,027	$3,966*	$4,009*

*Note: *Featured in Figure 4 in report.*

Table 9: Total energy bill — large household with two EVs (AUD)

City	Electricity tariff / charging pattern			
	Standard (unscheduled)	Standard (evening charging)	Regulated solar sharer (midday charging, daily)	Best available solar share (midday charging, daily)
Sydney	$5,436*	$5,546	$4,119*	$3,828*
Melbourne	$5,876*	$5,964	$4,632*	$4,284*
Brisbane	$5,185*	$5,354	$3,896*	$3,794*
Adelaide	$7,269*	$7,577	$5,350*	$5,012*

*Note: *Featured in Figure 5 in report. Daily charging means at least one vehicle is charged each day.*

Opportunity 3: Batteries

Table 10: Total energy bill — typical household with a 20kWh battery, no solar (AUD)

City	Battery	Electricity tariff			
		Standard	Standard (time-of-use only)	Regulated solar sharer	Best available solar sharer
Sydney	None	$2,361*	$2,388	$2,466	$2,235
	20kWh	$2,908	$2,455*	$659*	$253*
Melbourne	None	$2,262*	$2,241	$2,200	$1,816
	20kWh	$2,555	$2,181*	$601*	$413*
Brisbane	None	$2,092*	$1,978	$2,018	$1,913
	20kWh	$2,501	$1,625*	$650*	$248*
Adelaide	None	$2,990*	$2,927	$2,917	$2,664
	20kWh	$3,078	$2,030*	$667*	$385*

*Note: *Featured in Figure 6 in report. Flat rate tariffs excluded for battery owners as there is no financial benefit to owning a battery under these tariffs, in the absence of solar.*

Table 11: Total energy bill — typical apartment with a 5kWh battery, no solar (AUD)

City	Battery	Electricity tariff			
		Standard	Standard (time of use only)	Regulated solar sharer	Best available solar sharer
Sydney	None	$1,993*	$2,016	$2,086	$1,909
	5kWh	$1,857	$1,690*	$1,246*	$1,046*
Melbourne	None	$1,878*	$1,862	$1,835	$1,528
	5kWh	$1,778	$1,616*	$1,256*	$1,102*
Brisbane	None	$1,791*	$1,693	$1,731	$1,629
	5kWh	$1,669	$1,318*	$1,126*	$952*
Adelaide	None	$2,495*	$2,446	$2,443	$2,237
	5kWh	$2,280	$1,945*	$1,576*	$1,356*

*Note: *Featured in Figure 7 in report. Flat rate tariffs excluded for battery owners as there is no financial benefit to owning a battery under these tariffs, in the absence of solar.*

Table 12: Total energy bill — typical household with a 20kWh battery and 8kW solar (AUD)

City	Electricity tariff		
	Standard	Regulated solar sharer	Best available solar sharer
Sydney	$745	$659	-$27
Melbourne	$916	$478	$18
Brisbane	$638	$650	-$29
Adelaide	$877	$659	$49

Note: All results featured in Figure 8 in main report.

Opportunity 4: Pre-cooling and pre-heating

Table 13: Total energy bill — 4-star household with efficient electric heating (AUD)

City	Pre-cooling / heating	Electricity tariff		
		Standard	Regulated solar sharer	Best available solar sharer
Sydney	None	$2,649*	$2,836	$2,666
	Pre-cooling & heating	$2,776	$2,678*	$2,516*
Melbourne	None	$2,414*	$2,836	$2,666
	Pre-cooling & heating	$2,601	$2,207*	$2,001*
Brisbane	None	$2,653*	$2,685	$2,587
	Pre-cooling & heating	$2,776	$2,577*	$2,465*
Adelaide	None	$3,251*	$3,330	$3,088
	Pre-cooling & heating	$3,368	$3,116*	$2,872*

*Note: *Featured in Figure 9 in report.*

Results for non-flexible households

Table 14: Total energy bill — typical non-flexible household (AUD)

City	Type of appliances	Electricity tariff		
		Standard	Regulated solar sharer	Best available solar sharer
Sydney	Gas	$2,920	$3,118	$2,927
	Electric (inefficient)	$3,241	$3,636	$3,265
	Electric (efficient)	$2,681	$2,922	$2,690
Melbourne	Gas	$3,500	$3,540	$3,314
	Electric (inefficient)	$2,046	$2,119	$1,781
	Electric (efficient)	$2,606	$2,675	$2,288
Brisbane	Gas	$2,774	$2,775	$2,679
	Electric (inefficient)	$2,654	$2,722	$2,614
	Electric (efficient)	$2,444	$2,457	$2,359
Adelaide	Gas	$3,825	$3,897	$3,675
	Electric (inefficient)	$4,312	$4,530	$4,020
	Electric (efficient)	$3,411	$3,520	$3,219

Note: All results featured in Figure 10 of report.