IPART Independent Pricing and Regulatory Tribunal | NSW

Solar feed-in benchmark ranges for 2025-26

Final Report

May 2025

Energy »

Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders both past and present.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

Tribunal Members

The Tribunal members for this review are:

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The Independent Pricing and Regulatory Tribunal

IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website.

Contents

1 Executive summary

Solar panels can provide significant savings to households. A typical household with a 5-kilowatt solar system in NSW could save up to $400 per year on their electricity bills by using the electricity they generate instead of buying this electricity from their retailer.[a]

As an added benefit, consumers can also earn money from a feed-in tariff for unused solar electricity they export to the grid. This is around $210 per year for a typical household.[b]

Retailers in NSW are not required to pay customers for the solar electricity they export, but most do. If retailers offer feed-in tariffs, they set these rates themselves.

Since 2012, IPART has set benchmarks to guide consumers about the value of feed-in tariffs they could expect to be paid by their retailers for their solar exports. These benchmarks provide information about how much solar exports are worth and aim to help consumers compare offers and see if they are getting a reasonable feed-in tariff from their retailer.

IPART's benchmarks are an estimate of the savings that retailers make when their customers are supplied by solar exports. When solar electricity is exported to the grid and supplied to other customers, retailers avoid the costs of buying an equivalent amount of electricity from the National Electricity Market (NEM). We consider this avoided cost represents a fair price that retailers should be willing to pay for solar exports.

1.1 IPART's solar feed-in tariff benchmarks for 2025-26

Our all-day feed-in tariff benchmark range for 2025-26 is 4.8 to 7.3 c/kWh. This is similar to the benchmark range we set for 2024-25 of 4.9 to 6.3 c/kWh, with a slightly higher maximum. This reflects that our forecast of the wholesale price of electricity at the times that solar is exporting to the grid is slightly higher for 2025-26 compared to our forecast for 2024-25.

We have also set time-dependent feed-in tariff benchmarks to guide customers about the value of their exports at different times of the day. These benchmarks are shown in Table 1.1 and discussed in Chapter 6.

In 2025-26, we expect solar exports in the late afternoon and evening to be worth significantly more than the all-day solar feed-in tariff benchmark. In some cases, more than 20 c/kWh higher.

Higher evening feed-in tariffs may be available to customers with batteries if they are able to export stored solar electricity during the evening when wholesale electricity prices are higher and when distribution network service providers ("network providers") offer additional rebates for exports.

[a] A typical household is assumed to:
- use 3,900 kWh of electricity each year (the average usage level in the Ausgrid distribution network)
- consume 30% of the solar electricity they generate
- be on the median time-of-use usage rates in the Ausgrid distribution network as of 1 May 2025 (peak: 46 c/kWh, off-peak: 22 c/kWh).

[b] Assuming a typical household exports 70% of their solar and has a feed-in tariff of 5.6 c/kWh.

However, to receive higher evening feed-in tariffs, consumers would also need to be on an electricity plan or part of a virtual power plant (VPP) program that offers time-dependent feed-in tariffs. As of 1 May 2025, only one retail plan in NSW was offering a time-dependent solar feed-in tariff. However, 4 retailers were offering VPP programs with time-dependent solar feed-in tariffs. We discuss these offers further in Chapter 6.

Table 1.1 Time-dependent benchmark ranges for 2025-26

Network time window	2025-26 range (c/kWh)
Ausgrid	
10 am to 3 pm	4.8 to 5.6
3 pm to 4 pm	9.2 to 12.6
4 pm to 9 pm	15.4 to 20.4
9 pm to 10 am	4.9 to 6.2
Endeavour Energy	
10 am to 2 pm	3.1 to 5.5
2 pm to 4 pm	9.2 to 12.6
4 pm to 8 pm	16.8 to 22
8 pm to 10 am	4.6 to 6.4
Essential Energy	
10 am to 3 pm	4.6 to 5.2
3 pm to 5 pm	10 to 11.9
5 pm to 8 pm	27.1 to 37.6
8 pm to 10 am	5.6 to 6.1

1.2 The main benefit of solar panels

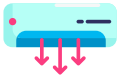
The most significant benefit of solar panels is that customers can reduce their energy bills by using the solar electricity they generate rather than buying electricity from their retailer.

By using the electricity they generate, customers are able to buy less electricity from their retailer and pay less in usage charges. This avoids paying for costs that retailers recover through these charges including the cost of wholesale electricity (including hedging costs), network charges, environmental obligation costs, operating costs, and GST.[1] This means customers could save between 25 and 40 cents for each kilowatt hour of self-consumption, depending on when they generate and use solar electricity.[c]

Figure 1.1 shows how much customers could save if they powered common household appliances with solar electricity, assuming a usage charge of 25 c/kWh.[d]

[c] This range is the median off-peak and peak usage charges for time-of-use customers in NSW as at 1 May 2025.
[d] This is the median time-of-use off-peak usage charge as at 1 May 2025 in NSW.

Figure 1.1 Potential savings from using your solar to power household appliances

		Estimated savings from self-consumption		
		$/day	$/month	$/year
Air conditioner 	6 hours of air-con with 1.2 kW power input	$1.80 Run 6 hours per day	$15 to $25 Run 2-3 days per week	$190 to $280 Run 2-3 days per week
Clothes dryer 	1-hour cycle of a 3.5 kW clothes dryer	$0.90 Run once per day	$8 to $15 Run 2-4 times per week	$90 to $185 Run 2-4 times per week
Fridge 	A fridge that uses 1.5 to 2 kWh during the day	$0.38 to $0.50 Run on solar 7am-5pm	$11 to $15 Run on solar 7am-5pm	$135 to $185 Run on solar 7am-5pm

Source: IPART analysis of common household appliances; Choice, *Air conditioner energy usage and running costs*, accessed 14 April 2025; Choice, *How to choose an energy-efficient fridge*, accessed 14 April 2025.

In comparison, the potential revenue that most customers can earn from feed-in tariffs is much smaller. When customers do not use all the electricity generated by their solar panels, the excess electricity is exported to the grid. Customers may be paid a feed-in tariff for these solar exports by their retailer. However as of May 2025, feed-in tariffs are around 6 times **less** than the value of self-consumption (on a cents-per-kWh basis).

Ultimately, the total savings from self-consumption and feed-in tariffs that a customer receives will depend on a number of factors including the orientation and size (in kilowatts) of their solar panels, their retail offer, and the amount of electricity they use and when it is used.

Installing a battery is one way for consumers to use more of the electricity they generate from their solar panels and avoid purchasing it from their retailer. With a battery, customers can store their excess electricity for later use as well as export it. If they can export this electricity at peak times, they may receive a higher feed-in tariff.

Batteries may only have a positive financial payoff in some circumstances. One way to assess whether a battery has a positive financial payoff is if the payback period (the length of time to pay off the upfront costs of a battery) is shorter than the warranty period.

Research by the AEMC has found that payback period for batteries have fallen in recent years due to lower upfront costs for batteries and higher peak period prices,[e] which are avoided when using electricity stored in a battery. Export tariffs can also provide larger rewards for consumers with batteries if they export during peak times and are on an offer or VPP with a time-of-day feed-in tariff. At the same time, warranty periods for batteries have increased with improving technology. As a result of these changing dynamics, the AEMC have reported that batteries may become *'economic'* for many households from 2025 onwards.[2]

Consumers can estimate the costs and benefits of installing a battery with the help of online tools like the not-for-profit entity SunSPOT's online calculator. In addition, the NSW Government offers discounts for eligible customers to help reduce the cost of installing batteries through the Peak Demand Reduction Scheme. The size of the discount depends on the capacity of the battery (in kilowatt-hours), meaning larger batteries will receive larger discounts.[3]

1.3 Why the all-day benchmark is lower than the retail price of electricity

Like in previous years, stakeholders have raised concerns around the falling value of feed-in tariffs compared to retail electricity prices.[4]

Households are paid by their retailer for the solar electricity they export to the grid. We set a solar feed-in tariff benchmark based on what retailers would have otherwise paid to purchase this wholesale electricity from the NEM minus any additional network costs they would have incurred. We estimate this value will be 4.8 to 7.3 c/kWh in 2025-26.

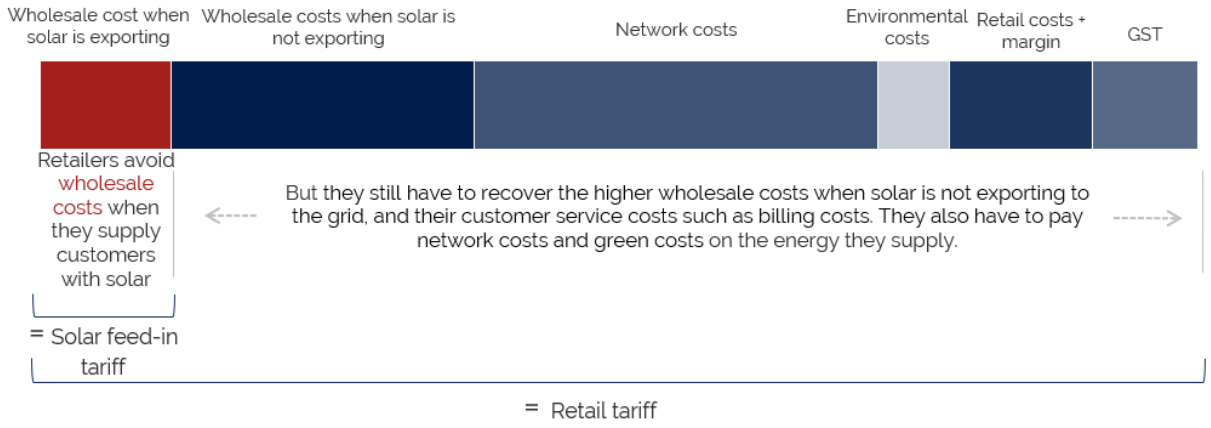
When solar exports are used to supply electricity to other households, retailers still need to recover other costs for each kilowatt hour of electricity they supply. These other costs include:

- the difference between wholesale costs when solar is exporting to the grid and their average wholesale costs, which are higher
- charges for using the distribution network
- costs they incur from meeting their environmental obligations to purchase renewable energy, when they purchase Peak Reduction Certificates, and when they make payments into the climate change fund
- costs from providing their billing services, running their call centres and other operations
- GST.

Retailers also earn a profit margin on the electricity they supply. When these costs are added up, the retail price of electricity is much higher than just the cost of the wholesale electricity. Figure 1.2).

[e] That is higher peak period prices compared to free charging from solar generated electricity or lower cost charging if the battery is charged during off-peak periods using electricity from the grid.

Figure 1.2 Wholesale costs are a small proportion of the average retail consumption charge



Source: IPART calculations, based on data from the ACCC, *Inquiry into the National Electricity Market report – December 2024 Appendix C.*

1.4 Final decisions for the 2025-26 benchmarks

In making our final decisions for the solar feed-in tariff benchmarks for 2025-26, we released a Draft Report, received submissions on our Draft Report, and held a public workshop to receive feedback on our methodology for setting the benchmarks.

Chapter 2 provides an overview of our consultation process and Chapter 3 details how we considered and addressed feedback from stakeholders in our final decisions.

Final decisions

1. The all-day solar feed-in tariff benchmark range for 2025-26 is 4.8 to 7.3 c/kWh.
2. The time-dependent feed-in tariff benchmark ranges for 2025-26 are set out in Table 1.1. These vary by network provider to reflect differences in export tariff charges and rebate times.
3. Our benchmarks for 2025-26 are based on an avoided cost methodology, minus the average net export charge that retailers are required to pay networks for solar exports.
4. For the 2025-26 benchmarks, we have forecast the wholesale value of solar using historical solar export-weighted prices.
5. We have adjusted the all-day benchmark for 2025-26 by an error margin of 15%.

6. Our all-day benchmark range for 2025-26 incorporates network export tariffs by reducing the minimum of the benchmark range by the estimated net impact on Ausgrid customers. The maximum of the range has not been adjusted because many solar customers in the Endeavour and Essential Energy networks will not be impacted by network export tariffs in 2025-26.

7. We have not included demand charges in the benchmark ranges for 2025-26.

2 What we have been asked to do

The NSW Government has asked IPART to provide advice on the value of solar exports since 2012. In September 2023, the NSW Government provided IPART with a Terms of Reference to continue this role for the next 3 financial years (2024-25 to 2026-27). (See Appendix A).

The Terms of Reference require us to set annual benchmark ranges for an all-day solar feed-in tariff and feed-in tariffs for different times across the day. In doing so, we are required to consider the following key parameters:

- there should be no resulting increase in retail electricity prices
- the voluntary benchmark range should operate in such a way as to support a competitive retail electricity market in NSW
- the voluntary benchmark range should be fit-for-purpose and consider network charges for solar exports and demand charges, and how retailers reflect these in their tariffs.

We consider the first parameter means we cannot set the solar feed-in tariff benchmark higher than the price a retailer would pay to purchase that electricity from the NEM. If we did, this could result in retailers passing on this increase in costs, which would result in higher retail electricity prices. Similarly, in relation to the second parameter, a higher feed-in tariff would increase the cost of supplying solar customers relative to non-solar customers, which could:

- disproportionately impact retailers with more solar customers, reducing their ability to compete in the market, and/or
- create an incentive for retailers to opt out of suppling solar customers and reduce competition for these customers.

The third parameter reflects that the tariffs charged by network providers and retailers are changing. We outline how we incorporate export tariffs into our benchmarks in Chapter 8.

In addition to setting the solar feed-in tariff benchmark ranges, we are also required to:

- Publish consumer fact sheets on the all-day solar feed-in tariff benchmark range and time-dependent solar feed-in tariff benchmark ranges. These fact sheets are available on the IPART website.
- Report on the feed-in tariffs currently being offered by each retailer and whether they are within IPART"s benchmark range. We compare retailers' feed-in tariffs with our benchmark range in Chapter 7.

We also provide an interactive dashboard on the IPART website that shows the solar feed-in tariffs on offer and whether they are within our benchmark range.

2.1 Timeline for the solar feed-in benchmark review

This review has been conducted under a Terms of Reference that spans from 2024-25 to 2026-27.

In early 2024 we released an Information Paper that sought targeted feedback on whether our methodology at the time remained appropriate for setting the 2024-25 feed-in tariff benchmarks. We considered this feedback in our Final Report for 2024-25.

This year, we have undertaken a more comprehensive review of our methodology. One of the key reasons for the expanded review is that new network export tariffs will apply more widely in NSW from 1 July 2025, impacting the value of solar exports.

In February 2025, we released a Draft Report proposing changes to our methodology for setting the solar feed-in tariff benchmarks in 2025-26. We sought feedback through submissions to the Draft Report and we also held a public workshop in March 2025.

In making our final decisions for 2025-26, we:

- considered stakeholder feedback in submissions to our Draft Report and the feedback we received during our public workshop
- engaged Endgame Analytics[f] (Endgame) to provide advice on whether our approach for forecasting the wholesale cost of electricity remains appropriate.[5]

We have outlined the key issues raised by stakeholders in Chapter 3. A detailed summary of the submissions received to our Draft Report and our responses can be found in Appendix B.

We will publish solar feed-in tariff benchmarks for 2026-27 by 30 May 2026. We will calculate the benchmarks for 2026-27 using the methodology discussed in this report and will not conduct further consultation next year.

Figure 2.1 Timeline for the solar feed-in tariff benchmark range review

[f] Formerly known as Endgame Economics. Endgame's report can be found on the IPART website.

3 What we heard from stakeholders

In February 2025, we released a Draft Report which detailed draft benchmarks for 2025-26 and sought stakeholder feedback on amendments to our methodology for setting the benchmarks.

We received 8 non-confidential submissions in response to the Draft Report. Stakeholders who made submissions include Ausgrid, the Justice and Equity Centre (JEC), and 6 individuals. These submissions are available on the IPART website.

We also held a public workshop on 11 March 2025. At this workshop we sought feedback on the benchmarks for 2025-26 and changes to our methodology. Network providers also gave an overview of their network export tariffs.[9]

This chapter outlines the main themes and issues raised by stakeholders in submissions and at the public workshop. Detailed responses to specific issues raised in submissions are also provided in Appendix B.

3.1 Stakeholders supported our benchmarks, but called for clearer messaging on their purpose

We received positive feedback in response to our draft benchmarks for 2025-26, and stakeholders supported IPART continuing to publish all-day and time-dependent benchmarks.[6]

The JEC's submission supported IPART continuing to publish time-dependent feed-in tariff benchmarks, outlining they are a positive step towards achieving stronger household and system outcomes from consumer energy resources (CER).[7] One individual submitted that it is reasonable for the feed-in tariff benchmark to reflect varying demand for energy,[8] while another suggested that all feed-in tariffs should be time-dependent.[9]

Stakeholders also suggested IPART provide clearer messaging on the main benefits of solar panels and the purpose of the solar feed-in tariff benchmarks. For example, the JEC submitted that our benchmarks are an important contributor to improving public understanding of consumer choice regarding solar. However, this submission also highlighted that the main benefits of solar panels are still not widely understood by consumers and encouraged IPART to continue using plain language to explain that the main benefits of solar panels arise from using their own solar generated electricity (self-consumption).[10]

Other stakeholders also raised questions that related to the purpose of our benchmarks. For example, one stakeholder asked for clearer information explaining how our time-dependent benchmarks relate to electricity demand and retail pricing periods (e.g. for time-of-use and demand tariffs).[11]

[9] A summary of the public workshop and the slides that were presented on are available on the IPART website.

To address this feedback, we have included additional, including on the main benefits of solar, in this report and in our fact sheets. We have also included information on how consumers can use benchmarks to help them compare feed-in tariffs and see if they are getting a reasonable feed-in tariff from their retailer.

We have also added examples to our final report showing how much consumers can save through self-consumption using various common household appliances (see Section 1.2).

3.2 Stakeholder supported our methodology and suggested 2 additions

Stakeholders broadly supported our methodology,[12] and did not raise concerns with the proposed changes to our methodology detailed in the Draft Report. Two submissions suggested additional items that could be considered in our benchmarks.

One stakeholder proposed there should be an upward adjustment to the benchmark ranges if retailers are selling solar exports as 'green' energy for a premium.[13] The submission discussed that retailers typically charge a premium of around 10% for customers who opt in to green energy offers. This submission suggested that IPART's methodology should account for this green premium to ensure that the benefits of providing green energy are shared with the consumers that generate it.

GreenPower is a government-managed rebate program that allows customers to purchase certified green electricity from accredited generators. When customers buy GreenPower from their electricity retailer, every kWh they purchase is offset by their retailer purchasing an equivalent amount of Large-Scale Generation Certificates (LGCs) from an approved renewable energy project, such as a large solar or wind farm. The scheme and the use of the term 'GreenPower' is regulated, and solar exports from households and small businesses are not eligible to be classed or marketed as GreenPower.[14] As a result, we have not amended our benchmarks to incorporate a premium for GreenPower schemes.

Another individual submitted that IPART should incorporate GST credits to offset costs for residential solar producers. The submission raised concerns that billing practices for households result in excessive GST collection, and that residential solar producers should be compensated with GST credits for their energy production.[15] This issue has also been raised in online forums with retailers.[16]

We do not consider it would be appropriate to uplift our solar feed-in tariff benchmark to account for GST. IPART's solar feed-in tariff benchmark is based on an avoided cost methodology, which calculates the value of solar exports by assessing costs retailers avoid (e.g. wholesale energy purchases).

GST treatment in consumer energy bills does not factor into this calculation, as retailers remit GST directly to the ATO and do not retain these funds. Further, residential solar exports are already exempt from GST, and GST collected on a customer's energy bill does not increase the profit of the retailer.

3.3 We have incorporated network export tariffs into our benchmarks

The Terms of Reference for this review require that we consider how new network charges and rebates for solar exports (export tariffs) in NSW impact solar customers and the value of feed-in tariffs they receive from retailers.

In the Draft Report, we proposed to adjust our methodology to incorporate the average impact of export tariffs into our benchmark ranges.

Stakeholders submitted mixed views on network export tariffs. For instance, Ausgrid submitted that introducing mandatory export pricing is an important step for accommodating more solar capacity in the network,[17] while another stakeholder raised concerns that Ausgrid's proposed export tariff rates lacked transparency.[18]

The JEC also submitted that there is no "right" for private individuals to access public network infrastructure for financial benefit (through solar exports) "*without contributing to the costs associated with that access.*"[19] The JEC considered that the pricing level and structure of residential feed-in tariffs should reflect the costs associated with solar exports.[20]

Stakeholders did not raise concerns with our proposed approach of incorporating the average impact of export tariffs into our benchmarks. We provide further information on network export tariffs and how we incorporate them into our benchmark in Chapter 8.

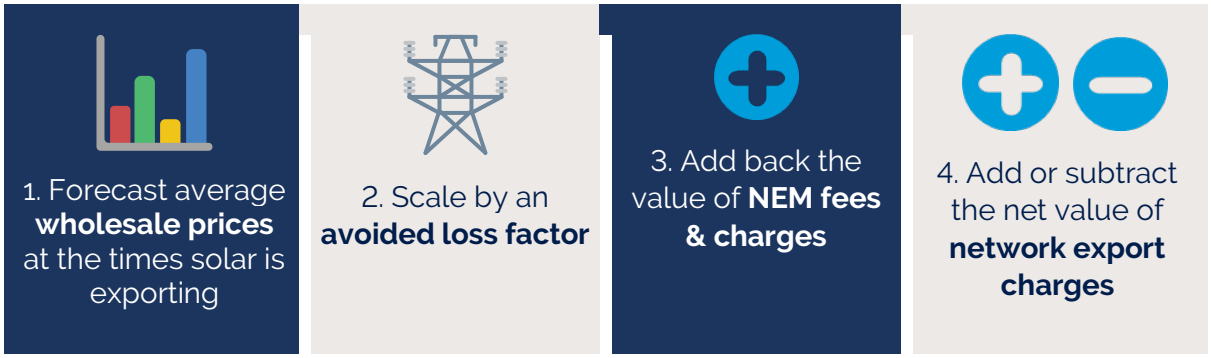
4 Our approach for calculating the solar feed-in tariff benchmarks

In our Draft Report, we proposed several changes to our methodology for calculating the solar feed-in tariff benchmarks and invited stakeholders to provide feedback through submissions and at a public workshop. Stakeholder feedback generally supported our draft benchmarks, and we did not receive any submissions that raised concerns with our proposed methodology.

We have determined the benchmarks for 2025-26 based on the costs that retailers avoid when they supply customers with solar exports from other customers. Our benchmarks also incorporate the net impact of export tariff charges and rebates, which retailers pay on behalf of their customers' solar exports.

This chapter explains our methodology and final decisions for setting the benchmark ranges for 2025-26.

Figure 4.1 IPART's methodology for setting solar feed-in benchmarks for 2025-26



4.1 Forecast the average solar-weighted wholesale price

Generally, wholesale prices in the NEM are:

- lowest in the middle of the day when solar generation is high, as this meets a large proportion of demand
- higher in the evening when demand rises and there is little solar energy exported to the grid.

For the 2025-26 benchmark range, we have decided to forecast the wholesale value of solar using historical solar export-weighted prices for NSW. This reflects the average price that retailers in NSW would pay if they purchased wholesale electricity from the NEM instead of using their customers' solar-generated electricity.

The solar-weighted average price is the average wholesale price across the year weighted by how much solar is exported at the time. For a year, it is determined by multiplying the spot price of each of the 17,520 half-hour periods in the year (48 half-hours per day over 365 days) by the proportion of annual solar exports that occurred in that half-hour. We then sum the results.

We establish a benchmark range by calculating a solar-weighted average using the most recent:

- 12 months of wholesale spot prices to establish one end of the range
- 3 years of historical wholesale spot prices to establish the other end of the range.

We consider this approach provides a more straightforward and transparent way to forecast daytime prices than the approach we previously used, in which we averaged the price of ASX baseload energy swaps and scaled this down by a "solar multiplier" (i.e. the ratio between the historical average wholesale price and the historical solar-weighted average wholesale price).[h]

No concerns were raised in submissions or at the workshop about our proposed decision to update how we forecast the wholesale value of electricity.

Decision

For the 2025-26 benchmarks, we have forecast the wholesale value of solar using historical solar export-weighted prices.

4.2 Scale the benchmark range by an error margin

We have decided to expand the benchmark range by an error margin to account for uncertainties in our forecast. This is so the actual solar-weighted prices during the benchmark year are more likely to fall within our benchmark range.

To determine a baseline error margin, we calculate the long-term average difference between our benchmark ranges in previous years (calculated retroactively using our current methodology) and the actual average solar-weighted price that prevailed each year. On average, our historical benchmarks have been within 12% of the actual solar-weighted average price.[i]

We have decided to adjust this baseline error margin each year based on a qualitative assessment that considers factors such as recent price volatility and the width of our forecast range. For example, if one year the benchmark range is too narrow or prices are notably more volatile than usual, we would apply a wider error margin than the baseline of 12%. Conversely, if the forecast range was wider than usual, we would consider applying a smaller error margin.

For the 2025-26 benchmark, we have selected an error margin of 15%. This is because prices have been slightly more volatile across 2024-25 compared to the long-term average.

Stakeholders have not raised concerns in response to our proposal to include an error margin and adjust it each year based on a qualitative assessment.

[h] Further detail on the methodology that we previously used to set the solar feed-in tariff benchmarks is available in the Draft Report.

[i] This is based on a trimmed mean of retroactively calculated forecasts between 2017-18 and 2024-25. This is an improvement on our previous methodology, which produced a trimmed average difference of 19%.

Decision

We have adjusted the all-day benchmark for 2025-26 by an error margin of 15%.

4.3 Increase the benchmark range by an avoided loss factor

When electricity travels long distances through the transmission and distribution networks to reach customers, some electrical energy is lost. To compensate for this loss, retailers need to purchase more wholesale electricity from the NEM than their customers need.

Retailers can avoid incurring network losses by using local solar exports from their customers to supply neighbouring properties. Because the electricity supply and demand are typically close together, network losses are minimised.

We consider this represents an avoided cost for retailers. Therefore, we increase the value of our benchmarks by multiplying them with an 'avoided loss factor'. The avoided loss factor takes into account the different marginal loss factors and distribution loss factors across all regions in NSW.

This is the same approach we have followed in previous years.

4.4 Add back the value of NEM fees and ancillary charges

Local solar exports enable retailers to avoid paying NEM fees and ancillary service charges on this electricity. These are costs payable on each kWh of electricity purchased from the NEM.

We add back the value of NEM fees and ancillary service charges that retailers avoid paying when they supply customers with other customers' solar exports, because these charges are levied on retailers' net purchases.

This is the same approach we have followed in previous years.

4.5 Incorporate the average net value of network export charges

Under the Terms of Reference, we are required to consider network charges for solar exports (also known as export tariffs) and how retailers reflect these in their tariffs. These are charges and rebates applied by network providers to retailers when their customers export solar to the grid during certain times of the day. Retailers choose how to incorporate these network tariffs into retail tariffs charged to consumers.

Our modelling found that export tariffs will impact the value of solar exports in NSW. We found the impact on all-day solar feed-in tariffs will be relatively minor in 2025-26, while the impact on time-dependent feed-in tariffs will be larger.

We have included the net impact of new network export tariffs in our benchmarks for 2025-26, as we consider this represents a cost (and/or benefit) that retailers incur when they supply solar exports and therefore changes the value of solar exports to retailers.

In Chapter 8, we detail how network export tariffs are structured and how we have incorporated them into our benchmarks.

Decisions

Our benchmarks for 2025-26 are based on an avoided cost methodology, minus the average net export charge that retailers are required to pay networks for solar exports.

Our all-day benchmark range for 2025-26 incorporates network export tariffs by reducing the minimum of the benchmark range by the estimated net impact on Ausgrid customers.

The maximum of the range has not been adjusted because many solar customers in the Endeavour and Essential Energy networks will not be impacted by network export tariffs in 2025-26.

4.6 We have not included demand charges in our benchmark range

The Terms of Reference require that we consider demand charges and how retailers reflect these in their tariffs when setting our benchmarks.

We have assessed the potential relationship between demand tariffs and solar exports and consider that demand tariffs have no impact on the value of solar exports to retailers. This is because there is little overlap between the times when solar exports occur and when demand peaks drive demand charges. Solar exports primarily occur during the day when solar panels generate excess electricity. Peak demand, which influences demand charges, typically occurs in the late afternoon or evening when solar generation is lower or non-existent.

As a result, we have decided not to account for demand charges in our methodology. We did not receive stakeholder feedback in response to this proposal in the Draft Report.

Decision

We have not included demand charges in the benchmark ranges for 2025-26.

5 We have set an all-day solar feed-in tariff benchmark range

Most retailers in NSW offer flat-rate solar feed-in tariffs.[j] To help inform customers of the all-day (flat rate) price they could expect to receive for solar electricity exported to the grid, we publish an all-day benchmark range each year.

When households export their excess solar electricity, retailers can supply other customers with those exports to avoid the costs of purchasing electricity from the NEM, transmission and distribution losses, and NEM fees.

As discussed above in Chapter 4, we set our benchmark ranges based on these avoided costs, minus the average net network charge that retailers are required to pay to network providers for solar exports.

Using this methodology, we estimate that the value of solar exports in NSW will be 4.8 to 7.3 c/kWh in 2025-26 (Table 5.1).

4.8 – 7.3

c/kWh

2025-26 final all-day feed-in tariff benchmark range

Table 5.1 All-day benchmark range for 2025-26

Benchmark component	2025–26
Forecast solar-weighted wholesale electricity price range	4.6 to 6.9 c/kWh
Average solar-weighted wholesale price for the most recent 12-month period (with margin)	*4.6 c/kWh*
Average solar-weighted wholesale price for the most recent 3-year period (with margin)	*6.9 c/kWh*
Error margin	+/-15%
Network loss factor	1.05
NEM fees and ancillary charges	0.06 c/kWh
Network export tariffs range	-0.1 to 0 c/kWh
Estimated average net impact of export tariffs for solar customers in Ausgrid	*-0.1 c/kWh*
Estimated average net impact of export tariffs for solar customers in Endeavour and Essential Energy (customers in these networks can opt out of network export tariffs)	*0 c/kWh*
Solar feed-in tariff benchmark range	4.8 to 7.3 c/kWh

Note: We have not used the 3-year solar-weighted average for Endeavour Energy due to data consistency issues for 2021-22.

[j] As of 1 May 2025, 23 of 26 retailers in NSW offered at least one all-day solar feed-in tariff on Energy Made Easy.

6 We have set time-dependent solar feed-in tariff benchmark ranges

The Terms of Reference require that we set time-dependent benchmark ranges. These benchmark ranges reflect the value of wholesale electricity across different times of the day.

Our time-dependent benchmarks are intended to assist customers with batteries who have greater control over when they export their excess electricity to the grid. These customers could earn more revenue from feed-in tariffs by being on a retail offer with a time-dependent solar feed-in tariff (Table 6.2).

We set the time-dependent benchmarks for 2025-26 using the same approach as the all-day benchmark, except that we forecast separate solar-weighted prices for specific time blocks instead of the whole day.

In addition, while we have a single all-day benchmark range for 2025-26, we have set separate time-dependent benchmarks for each distribution network in NSW.

Our benchmark time windows align with each network provider's export charging and rebate times. Each network provider has established its own set of charges and rebates for solar exports, as well as different time bands for when these apply.

Our time-dependent benchmark ranges are provided in Table 6.1.

Table 6.1 Time-dependent benchmark ranges for 2025-26

Network time window	2025-26 range (c/kWh)
Ausgrid	
10 am to 3 pm	4.8 to 5.6
3 pm to 4 pm	9.2 to 12.6
4 pm to 9 pm	15.4 to 20.4
9 pm to 10 am	4.9 to 6.2
Endeavour Energy	
10 am to 2 pm	3.1 to 5.5
2 pm to 4 pm	9.2 to 12.6
4 pm to 8 pm	16.8 to 22
8 pm to 10 am	4.6 to 6.4
Essential Energy	
10 am to 3 pm	4.6 to 5.2
3 pm to 5 pm	10 to 11.9
5 pm to 8 pm	27.1 to 37.6
8 pm to 10 am	5.6 to 6.1

In its submission to our Draft Report, the JEC recommended that retailers in NSW should be required to offer time-dependent feed-in tariffs to consumers.[21] We consider greater access to time-dependent feed-in tariffs would help to increase the benefits from CER.

However, we also recognise that retailers and third parties are trialling alternative pathways to improve CER utilisation and send price signals about the value of electricity to consumers. This includes through Virtual Power Plants (VPPs), which have the potential to send price signals to consumers about the value of electricity at different times.

We do not consider there should be an obligation for retailers to offer time-dependent feed-in tariffs at this time. We will continue to monitor the growth of VPPs, and dynamic pricing offers as part of our Energy Market Monitor role. We will publish our next Energy Market Monitoring report in December 2025.

6.1 Some virtual power plants offer time-dependent feed-in tariffs

As of May 2025, only one retailer was offering energy plans with solar feed-in tariffs that vary based on the time of day. This was Amber Electric, which offers a solar feed-in tariff that changes depending on the wholesale electricity price in the NEM.[22]

In addition, several retailers in NSW were offering time-dependent feed-in tariffs as part of VPP programs. VPPs are new programs that aim to coordinate consumer energy resources (CER) and can provide additional benefits to the wholesale market and participating customers.[23]

While VPPs can enable customers to access higher evening feed-in tariffs (or other incentive payments) and gain more value from their batteries, they may also include additional fees and are typically only available to customers who own specific solar and battery systems.[24] Table 6.2 outlines the different time-dependent feed-in tariffs available in NSW as of May 2025.

Table 6.2 Time-dependent feed-in tariffs available in NSW, May 2025

Provider and name	Special conditions [a]	Feed-in tariff (c/kWh)
Retail electricity plans		
• Amber Electric retail plans	• Subscription fee	• Wholesale rates
Virtual power plant programs		
• Amber for Batteries	• Subscription fee	• Wholesale rates, optimised
• Diamond Energy WATTBANK VPP	• Establishment fee	• 30 c/kWh in 6pm to 8am
• Diamond Energy NRN VPP	• Only Sungrow battery • Requires NRN System Service Agreement • Additional access charge	• Equal to retail plan usage rate
• Globird ZEROHERO		• 15 c/kWh 5pm to 7pm
• Nectr BEE Super FiT	• Fees may apply	• 50 c/kWh in 4pm to 9pm • 1.85-4.4 c/kWh in 9pm to 4pm
• ShineHub VPP	• Only Hinen battery • 5-year contract and cancellation fee	• 55 c/kWh in VPP events

a. All plans and virtual power plant programs listed in Table 6.2 require customers to be residential and have eligible solar systems and batteries. This column lists additional conditions and fees that may be required for customers to receive time-dependent feed-in tariffs. Additional VPPs are available for small business customers such as Amber's 'Amber for Business' trial.

Source: Amber, *What is Amber's SmartShift and how does it differ from a VPP?*, accessed April 2025; Diamond Energy, *WATTBANK VPP*, accessed April 2025; Diamond Energy, *NRN VPP*, accessed April 2025; Globird, *ZEROHERO VPP FAQs*, accessed April 2025; Nectr, *Basic Plan Information in the Ausgrid Distribution Network: Nectr BEE Super FiT*, accessed April 2025; ShineHub, *The ShineHub Virtual Power Plant (VPP)*, accessed April 2025.

7 How feed-in tariffs in the market compare to our benchmark range

Most retailers in NSW offer solar feed-in tariffs for their residential and small business customers.

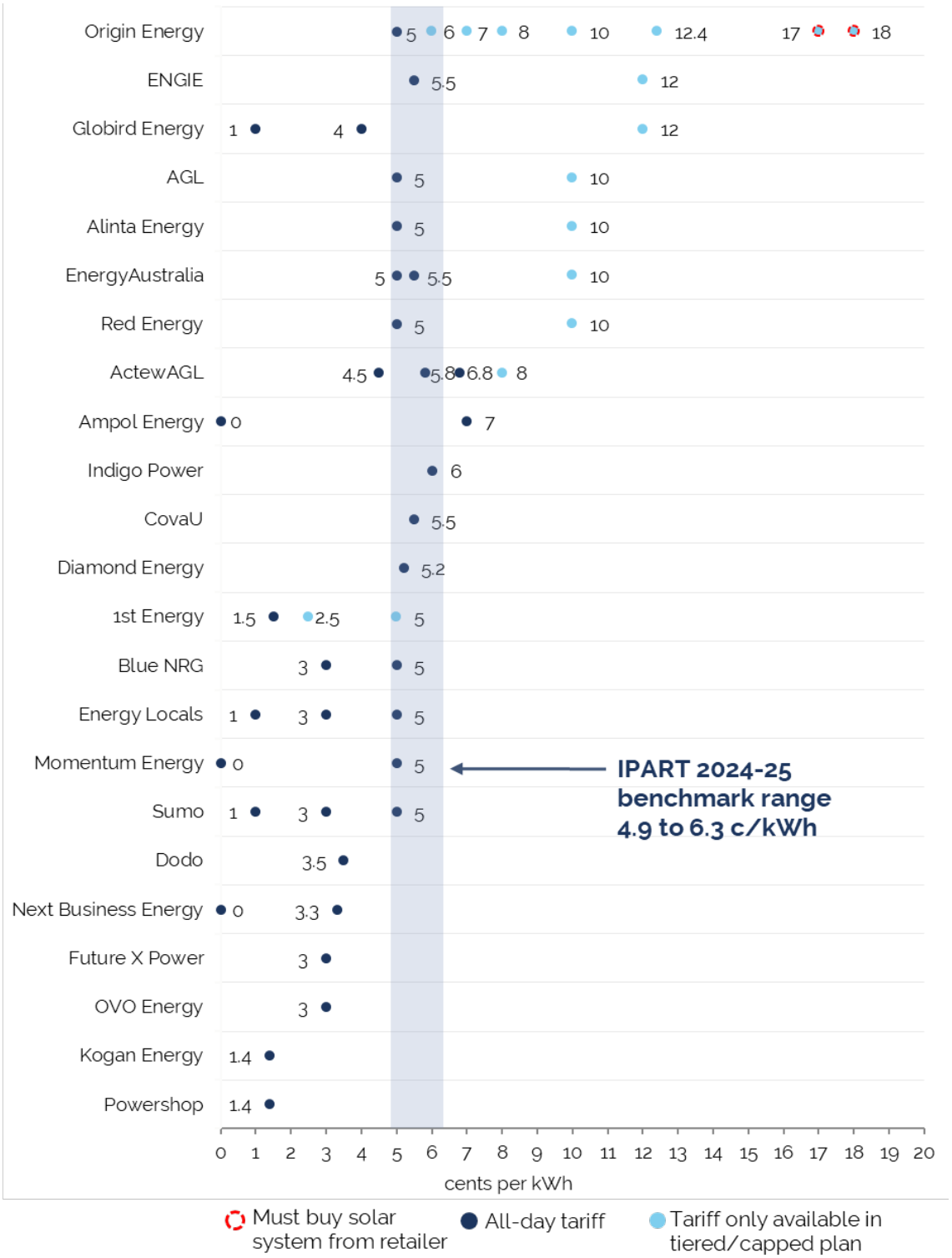
As of 1 May 2025, almost all solar feed-in tariffs available on Energy Made Easy were all-day tariffs, ranging from 1 to 18 c/kWh (see Figure 7.1). In addition, 17 of 23 retailers were offering an all-day tariff in or above our benchmark of 4.9 to 6.3 c/kWh for 2024-25.

However, not all feed-in tariffs are available to all customers or for all exports. Many feed-in tariffs above our benchmark are only available under a capped or tiered-block plan. This means the customer receives a higher feed-in tariff for a limited quantity of solar exports per period (for example, 3 kWh each day), followed by a lower price or no payment for the remaining exports. Some plans also impose conditions that customers must meet to be eligible. For example, a customer may be required to install solar panels sold by the retailer.

In Figure 7.1 below, we show the all-day solar feed-in tariff offers available as of 1 May 2025 and how they compared to our all-day benchmark range for 2024-25.

We have also published a dashboard on the IPART website which shows the solar feed-in tariffs available in the market, our benchmark range for the relevant year and the conditions attached. This dashboard allows consumers to see how their solar feed-in tariff compares to offers in the market and if there may be a better solar feed-in tariff available.

Figure 7.1 Solar feed-in tariffs available in NSW as at 1 May 2025 and IPART's benchmark range for 2024-25



Note: Amber Electric offers a solar feed-in tariff that tracks the wholesale electricity price across the day. As there is no single value for the wholesale electricity price, they have not been included in this figure.

Source: Energy Made Easy solar offers as of 1 May 2025; IPART analysis.

8 We have incorporated export tariffs into our benchmarks

The Terms of Reference for this review require us to consider how new network charges and rebates for solar exports (export tariffs) in NSW impact solar customers and the value of feed-in tariffs they receive from retailers.

Since 1 July 2024, network providers have been able to charge or give rebates to retailers when their solar customers export electricity to the grid during certain times of the day. Retailers determine how and whether they pass these charges and rebates onto their customers.

Over 2024-25, export tariffs could only be applied if customers opted in. From 1 July 2025, network providers can assign customers to these tariffs.

Because export charges impact the cost of solar exports to retailers, we have decided to adjust our 2025-26 feed-in tariff benchmarks to reflect these charges and rebates. However, we expect export tariffs to have a very small impact on the all-day benchmark range for 2025-26. Stakeholders supported our decision to incorporate export tariffs into our benchmark ranges, with one submitting that because solar exports sometimes negatively impact the grid, solar customers should contribute to these costs.[25]

We consider our decision to include the impact of export tariffs in our benchmarks is consistent with our avoided cost methodology. This is because the avoided cost methodology primarily aims to estimate the value of solar exports to retailers, and export tariffs directly impact this value both positively (via rebates) and negatively (via charges).

This chapter explains the export tariffs in each network area and our final decisions for incorporating the impact of export tariffs into our all-day and time-dependent benchmark ranges for 2025-26.

8.1 Network export tariffs in NSW

Each network provider sets its own network export tariffs, which are approved by the Australian Energy Regulator each year. Table 8.1 shows each network's export tariff for 2025-26.

It is also important to note that each network has a basic export level up to which customers can export solar electricity to the grid with no charge.

Table 8.1 2025-26 network export charges and rebates for each network in NSW

Network	Tariff name	Export charge c/kWh	Export charge time	Export rebate c/kWh	Export rebate time
Ausgrid	Small customer export tariff	1.232	10 am to 3 pm each day	3.855	4 pm to 9 pm each day
Endeavour Energy	Prosumer	1.79	10 am to 2 pm each day	11.3 – high season 3.335 – low season	4 pm to 8 pm business days
Essential Energy	ToU Sun Soaker	0.817	10 am to 3 pm each day	11.572 – residential 12.087 – business	5 pm to 8 pm each day

Notes: Export charges and rebates have been rounded to 3 decimal places.
Endeavour Energy reports an export rebate for the 'high season' which covers November to March inclusive, and for the 'low season' which covers April to October inclusive.

Source: AER, *Consolidated stakeholder report 2025-26: Tariff schedule*, May 2025. Ausgrid, *Statement of Compliance 2025/26*, p 6; Endeavour Energy, *Pricing Proposal Statement of compliance, Prices effective 1 July 2025*, March 2025, p 6; Essential Energy, *2025-26 Statement of Compliance*, March 2025, p 7.

Each network provider also has a different policy for moving NSW customers onto export tariffs. From 1 July 2025, Ausgrid will assign export tariffs to all exporting customers with smart meters,[k] and customers are not able to opt-out.[26]

However, export tariffs will apply to a smaller proportion of solar customers in the Endeavour Energy and Essential Energy networks. This is because in 2025-26, these network providers will only apply export tariffs to new or upgrading customers,[l] or existing customers who choose to opt in.[27]

More information about each network's export tariffs, the basic export level, and assignment policies are available from each network provider and the AER:

Ausgrid	Essential Energy	Endeavour Energy
• **Export tariff rates for 2025-26** • **Export tariff assignment policy**	• **Export tariff rates for 2025-26** • **Export tariff assignment policy**	• **Export tariff rates for 2025-26** • **Export tariff assignment policy**

8.2 How we have incorporated export tariffs into our all-day benchmark range

For 2025-26, we have adjusted our all-day benchmark range by our estimate of the average impact of export tariffs on the value of solar exports over the year.

For each network, our calculation of the net impact of export tariffs is based on a random sample of 2,000 customers' 30-minute solar export profiles across the previous financial year as well as the export charge and rebate rates for the next financial year. This means this year we have used sample data from 2023-24 and export tariff rates for 2025-26.

[k] In its submission to our Draft Report, Ausgrid noted this would include more than 275,000 customers.

[l] 'Upgrading' includes installing a smart meter, connecting a new solar system or battery, or upgrading an existing one.

To calculate the average cents-per-kWh impact of export tariffs across all export tariff customers, we first calculate the net impact (in dollars) for each customer in our sample. This is the customer's total rebates minus their total charges over the year. We then sum the combined net impact (in dollars) for all customers in our sample. Likewise, we add up the combined total exports (kWh) for all customers in our sample. To produce a c/kWh estimate of the net impact for all export tariff customers, we divide the total net impact ($) by the total exports (kWh).[m]

Using this methodology and the sample data from each network provider, we estimate that in 2025-26 the average impact of export tariffs on solar customers in the Ausgrid network will be negative 0.10 c/kWh. This equates to an annual cost of around $2.5 per solar customer based on the average level of exports in our sample. Conversely, the median impact on residential customers is estimated to be positive (that is, 51% of residential customers would be better off if retailers pass through the export tariff prices).[28] We have decided to incorporate the average impact into our benchmark for 2025-26, as this reflects how retailers would recuperate the total cost of export tariffs across their customer base.[n]

As discussed above, most solar customers in the Ausgrid network will be assigned to an export tariff in 2025-26 and won't be able to opt out. We consider this means all feed-in tariffs available to customers in the Ausgrid network should account for the impact of export tariff charges and rebates.

We expect the net impact of export tariffs for solar customers in the Endeavour Energy and Essential Energy distribution networks will be minimal. This is because the majority of solar customers in the Endeavour Energy and Essential Energy networks will not be on an export tariff in 2025-26,[29] and customers can opt out.[30] We consider this means most feed-in tariffs available to customers in these networks will not be adjusted to account for the impact of export tariff charges and rebates.

Because the difference in average impacts between distribution networks is minor, we have decided to set a single all-day benchmark range for all NSW customers (that is, a single range that applies to all 3 networks). To ensure our benchmark accounts for the different impact of export tariffs in Ausgrid's network compared to Endeavour Energy and Essential Energy's networks, we have:

1. adjusted the minimum of the range downwards by -0.1 c/kWh
2. not adjusted the maximum of the range.

The table below shows the impact of export tariffs on the benchmark range for 2025-26.

[m] No behavioural changes are assumed in the sample data as it is from before export tariffs were widely introduced. In future, customers may use a battery to manage the new charge and reward pricing and reduce the average impact.

[n] We have assumed retailers will recuperate the costs and rebates from export tariffs by adjusting the all-day solar feed-in tariff on a cent-per-kilowatt basis. Retailers would need to do this adjustment based on the average impact across their entire customer base, because Total Cost ($) = Count (kWh) x Average Cost. If retailers adjusted the feed-in tariff by the median impact, they would not recoup all costs and be out of pocket. This means that even if the median impact of export tariffs is positive, the impact on solar feed-in tariffs can still be negative.

Table 8.2 Impact of export tariffs on the all-day benchmark range (c/kWh)

	Benchmark excluding export tariffs (c/kWh)	Net impact of solar export tariffs (c/kWh)	Benchmark including export tariffs (c/kWh)
Minimum	4.9	-0.1 c/kWh	4.8
Maximum	7.3	0 c/kWh	7.3

8.3 How we have incorporated export tariffs into our time-dependent benchmarks

As shown in Figure 8.1, there are large differences in the export tariff rebates offered by each network provider. For example, rebates for residential customers in the evening vary widely, ranging from 3.3 to 11.5 c/kWh, depending on the distribution network (and assuming that retailers pass these directly through to their customers).

Due to the large differences in export tariff rates, in the Draft Report we proposed to publish separate time-dependent benchmark ranges for each network[o] and align the time periods for our benchmark ranges with the time windows for each network provider's export tariff.[p]

Stakeholders did not raise concerns with this approach in their submissions or at the public workshop.

The average charges we have estimated for 2025-26 are slightly lower than the charges reported by the network providers. This is because rather than adjusting our benchmarks by the raw export charge that only applies to solar exports above each network's free export level, we calculate the average impact these charges after accounting for the free export level.

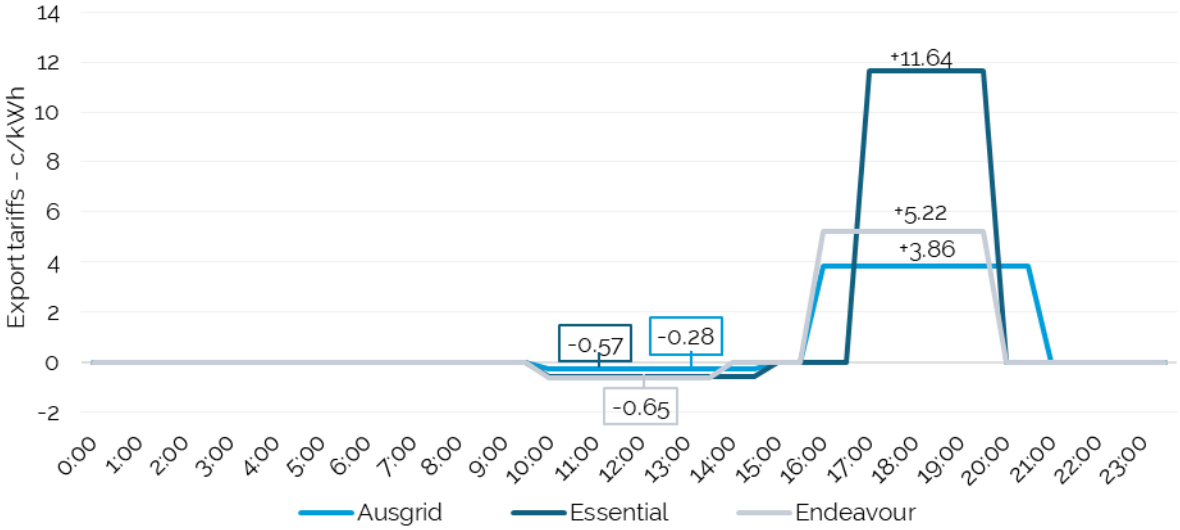
Likewise, our calculated average rebates for Endeavour Energy and Essential Energy differ from their reported rates, because:

- for Endeavour Energy, we average the high season and low season rebates based on solar exports over the year
- for Essential Energy, we take a weighted average of its residential and small business rebates, which are slightly different.

[o] The alternative to this approach would be to set very wide time-dependent benchmark ranges. We did not consider this approach would be as useful for consumers.

[p] For previous time-dependent feed-in tariff benchmarks, we set time blocks based on the level of wholesale price variation observed throughout the day, aiming to minimise price variation within each block.

Figure 8.1 Average 'per kilowatt-hour' export tariff rates for solar exports by time of day for solar exporting customers, 2025-26 (c/kWh)



Note: The average charges per kWh are based on all export charges, including exports that are below each network's free threshold. In addition, where a network offers different charges or rebates for residential and small business customers, we use a weighted average based on the proportion of residential and small business solar exports in our data sample.
As a result, our estimated average export charges and rebates may be less than each network's reported rates.
Source: AER, *Consolidated stakeholder report 2025-26: Tariff schedule*, May 2025.

For 2025-26, we have adjusted the time-dependent benchmark ranges by increasing the evening benchmarks by the average rebate (in c/kWh) and decreasing the daytime benchmarks by the average charge (in c/kWh). This is shown in the table below. There is no impact on benchmark ranges during other time blocks.

Table 8.3 Impact of export tariffs on the time-dependent benchmark ranges

Network	Time window	Benchmark range (c/kWh)	Net impact of export tariff/rebate (c/kWh)	New benchmark range (c/kWh)
Ausgrid	10 am to 3 pm	5.1 to 5.9	**-0.28**	4.8 to 5.6
	3 to 4 pm	9.2 to 12.6	-	9.2 to 12.6
	4 to 9 pm	11.5 to 16.6	**+3.855**	15.4 to 20.4
	9 pm to 10 am	4.9 to 6.2	-	4.9 to 6.2
Endeavour	10 am to 2 pm	3.7 to 6.2	**-0.65**	3.1 to 5.5
	2 to 4 pm	9.2 to 12.6	-	9.2 to 12.6
	4 to 8 pm	11.6 to 16.8	**+5.22**	16.8 to 22
	8 pm to 10 am	4.6 to 6.4	-	4.6 to 6.4
Essential	10 am to 3 pm	5.2 to 5.8	**-0.57**	4.6 to 5.2
	3 to 5 pm	10 to 11.9	-	10 to 11.9
	5 to 8 pm	15.5 to 26	**+11.64**	27.1 to 37.6
	8 pm to 10 am	5.6 to 6.1	-	5.6 to 6.1

Note: Benchmark ranges are rounded to 1 decimal place. The net impact is rounded to 2 or 3 decimal places depending on significant figures.

Source: IPART analysis of sample solar export data provided by the network providers, 2023-24; Export charges and rebates for 2025-26.

Appendices

A Terms of Reference

The investigation and determination by IPART of an annual benchmark range for feed-in tariffs for financial years 2024-25, 2025-26 and 2026-27

Reference to IPART under section 9 of the *Independent Pricing and Regulatory Tribunal Act 1992*

With the approval of the Hon. Christopher Minns MP, Premier of NSW and Minister administering the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act), pursuant to section 9(2) of the IPART Act, the Independent Pricing and Regulatory Tribunal (IPART) will enter into arrangements with the Office of Energy and Climate Change (OECC) to investigate and determine:

- the voluntary benchmark range for solar feed-in tariffs paid by retailers for electricity produced by complying generators and supplied to the distribution network
- time dependent benchmark ranges paid by retailers for electricity produced by complying generators and supplied to the distribution network during different times of the day.

Conduct of investigation
In conducting this investigation, IPART is to consider the following key parameters:

- There should be no resulting increase in retail electricity prices.
- The benchmark range should operate in such a way as to support a competitive retail electricity market in NSW.
- The benchmark range should be fit-for-purpose and consider network charges for solar exports and demand charges, and how retailers reflect these in their tariffs.

In conducting this investigation, IPART may incorporate:

- half-hourly solar export data reflecting customers in all three network areas
- forecast electricity wholesale prices for the financial year of the determination
- any other matter IPART considers relevant.

Reporting
IPART is to:

- report on the standard and time-of-use feed-in tariffs offered by each retailer at the time of writing its report
- note whether that tariff was within the benchmark for the preceding financial year
- provide factsheets that assist consumers to understand feed-in tariffs.

Consultation
In preparing its report on the voluntary benchmark range, IPART may consult on any matter that it regards as material.

Timing
The dates below are set to allow electricity retailers enough time to update their solar feed-in tariff pricing by 1 July each year.

- IPART is to provide its benchmark range determination by 30 June 2024 for financial year 2024-25 and by 30 April in 2025 and 2026 unless the Minister advises IPART of a change to the Terms of Reference by the October prior to the commencement of the next determination.

Signed:

Penny Sharpe MP MLC
Minister for Climate Change, Minister for Energy, Minister for the Environment, Minister for Heritage

Date: 22/9/23

B Stakeholder submissions to the Draft Report and IPART's response

We received 8 non-confidential submissions in response to the Draft Report. In Table B.1 below, we have summarised issues and questions raised in submissions and provided responses.

Several submissions also raised questions or considerations that were out of out of scope for this review. These issues are summarised in Table B.2. We will consider these issues in our role as Market Monitoring for the retail electricity and gas markets in NSW.

Table B.1 In-scope issues and questions in submissions to the Draft Report

Submission details	IPART's response
Theme: Falling feed-in tariffs and rising retail electricity prices	
• An anonymous submission discussed that retailers have lowered feed-in tariffs for several years, typically by 1 to 2 cents, and IPART's benchmark has also fallen. This submission raised the concern that time-of-use energy prices have increased in for both peak and off-peak times and questioned how off-peak rates can rise while the solar feed-in tariffs are falling.	• Retailers typically set off-peak rates based on the average cost of supplying electricity to customers across all off-peak times. This includes during the daylight hours when solar electricity is being produced (and exported), but also overnight and early in the morning. For instance, the off-peak window in the Ausgrid network is at all times of the day except 3 pm to 9 pm. • This means that even if wholesale prices are lower during the daylight hours, retailers' off-peak rates need to take into account higher wholesale prices that occur overnight or early in the morning, when solar electricity is not being exported. At these times, wholesale electricity is mostly generated with thermal coal, which has increased in price over recent years. • As a result, while wholesale prices during the day have decreased in recent years leading to lower feed-in tariffs, prices across non-peak times have not fallen and have increased for some offers.
• The submission from J. Alterator raised concerns that feed-in tariffs are low, around 5 c/kWh, while retailer prices can be up to 50c/kW in peak times. • An anonymous submission highlighted that electricity prices have increased and continue to increase while feed-in tariffs have been stagnant at around 5 c/kWh in recent years. This submission discussed that inflation is increasing, including for maintenance and repair cost for solar panels and associated electronic components, yet feed-in tariffs are not.	• Households are paid by their retailer for the solar electricity they export to the grid. Retailers are able to choose whether or not to pay a feed-in tariff and the level they set it. • When this solar electricity is supplied to other households, retailers still pay charges on each kilowatt hour of electricity they supply. • The main charges are those paid to the network provider for using the energy grid. Retailers also must recover other costs: – the difference between wholesale costs when solar is exporting to the grid and their average wholesale costs, which are higher – their environmental obligations to purchase renewable energy, demand reduction certificates, and paying into the climate change fund – their billing services, running their call centres, and other operations. • When these costs are added up, the retail price of electricity is higher than just the cost of the wholesale electricity supplied into the grid by households.

Submission details	IPART's response
Theme: Network export tariffs	
• The submission from Ausgrid noted that in financial year 2026 (FY2026), Ausgrid will be the first network provider in the NEM to introduce mandatory export pricing for residential and small business customers (transferring more than 275,000 customers to its two-way export tariff). The submission discussed this is an important step in accommodating more solar capacity in Ausgrid's network and ensuring that the way it recovers revenue is fair for all customers. It explained that based on historic data, Ausgrid's proposed FY26 two-way export prices will result in 51% of residential customers being better off, if passed through to a customer by their retailer.	• 2025-26 is the first year our solar feed-in tariff benchmarks have incorporated the impact of network export tariffs. It is important that we accurately reflect the net impact of 2-way tariffs in the same manner applied by retailers. We appreciate Ausgrid's engagement with our consultation process for this review and its feedback to ensure our method for calculating the average impact of network export tariffs is accurate and uses the most up-to-date information.
• The submission from the JEC noted that residential solar systems are predominantly privately-owned infrastructure, and that residential solar exports feed into shared network infrastructure and rely upon that infrastructure. This submission explained that while residential solar-owners are contributing to positive carbon-emissions outcomes by replacing grid electricity with solar for their own use and contributing excess solar when it is available, the benefit of solar exports (to the energy system and emissions reduction) is contingent upon when they are made and at sometimes is actually negative. The submission raised that it is important to recognise there is no *"right"* to access the public infrastructure for financial benefit (through solar exports) without contributing to the costs associated with that access. The pricing level and structure of residential feed in tariffs should reflect this.	• We agree that the benefit of solar exports to the grid depend on when exports occur. The JEC's emphasis on aligning feed-in tariffs with the time-dependent value of solar exports is central to our methodology. We endeavour to ensure our public messaging, including in the fact sheets, makes it clear that: – Tariffs reflect system value, not retail rates – Maximising self-consumption remains the biggest benefit of solar panels. • By publishing the methodology and assumptions behind our benchmark range, we also aim to help stakeholders understand how benchmarks reflect both the benefits and costs of solar exports.
• The submission from C. Sammut raised concern that Ausgrid's proposed demand and supply charges for exceeding 200 kWh of solar feed-in during daytime in the Sydney metropolitan area appear inequitable and poorly justified. The submission detailed that Ausgrid's rationale for charges and penalties, including oversupply from systems exceeding 5 to 10 kW, lacks transparency and fails to account for the existing capacity and conditions of domestic networks.	• Network pricing proposals, which include Ausgrid's export tariffs, are assessed and approved by the AER. • IPART's role is to incorporate these approved network charges into feed-in tariff calculations to ensure they accurately reflect solar-related supply costs for retailers. • Stakeholders may submit feedback on network pricing directly to Ausgrid or the AER during its consultation processes.
Theme: Feedback on IPART's all-day benchmark range	
• The submission from the JEC supported our draft all-day benchmark range for 2025-26. The submission acknowledged that residential solar is a mature technology which has reached a high system penetration, explaining that in this context subsidies and other incentives are less necessary, and it is appropriate for feed-in tariffs to more accurately reflect the benefit and costs of residential solar exports to the energy system. The submission acknowledged that some consumers may not have been aware that high feed-in tariffs could not continue as the daytime cost of energy declined with the increasing penetration of renewables in the wholesale market. It also noted that inflated feed-in tariffs would unfairly impact disadvantaged households who are currently unable to access the benefits of solar.	• We welcome the JEC's support for the proposed 2025-26 all-day benchmark. We consider our solar feed-in tariff benchmark provides the most value to consumers when it reflects what the value of solar exports is, rather than the value stakeholders would prefer solar to be worth. • As noted by the JEC's submission, maintaining inflated feed-in tariffs would unfairly burden households without solar, who already cross- subsidise grid costs for customers with solar. We anchor the benchmark range to the actual value of solar exports so that households can understand whether their retailer is providing them a reasonable rate. • We acknowledge the JEC's observation that the purpose of feed-in tariffs is not widely understood. We have emphasised the messaging in this report and our fact sheets that: – feed-in tariff benchmarks reflect the value of wholesale electricity at the times solar is exporting

Submission details	IPART's response
	– maximising self-consumption remains the biggest benefit of solar panels.
• The submission from C. Sammut noted and welcomed IPART's recommendation to increase the flat-rate solar feed-in tariff benchmark by approximately 3% this year, but considered this falls short of addressing inflationary pressures, which more accurately reflect a cost-of-living increase of around 30%.	• The 3% increase from our 2024-25 benchmark mainly due to higher wholesale energy prices at the times solar is exporting. Our benchmark rises or falls mainly due to changes in wholesale market prices, not inflation or cost-of-living pressures. • Retailers are not obligated to adopt our benchmark. Its value lies in providing transparency about the fair value of solar exports. Overstating the benchmark to address inflation and cost-of-living pressures would distort price signals. Further, if we set a higher solar feed-in tariff and electricity retailers followed this, it would mean electricity retailers would need to cover this cost by charging customers higher overall prices for electricity. This means that customers who don't have solar panels would end up paying more overall. Many of these customers are unable to install solar because they rent or live in an apartment. • We acknowledge that cost-of-living pressures are significant, and consumers would prefer higher payments from retailers for their solar exports. However, this is not a factor we take into consideration when setting the benchmark ranges.
Theme: Time-dependent benchmarks	
• The submission from R. Nicholls considered that feed-in tariff benchmarks should reflect the demand for energy. It requested that IPART's Final Report be clear that the proposed range of tariffs is expected to be demand-related, and setting an expectation that the high-end of the range is payable when residential premises are paying peak rates and the low end when residential premises are paying shoulder or off-peak rates. The submission noted this would signal that starting residential peak rates at 2pm in the summer is inconsistent with calls for "sun soaker" tariffs at times of low demand.	• Our time-dependent benchmark windows reflect the demand for energy at different times. These benchmarks align with each network provider's export charging and rebate periods. • The network providers in NSW have set export tariff charge periods to align with when demand is low (day-light hours) and solar exports are high. At these times additional solar is not needed and as a result a small charge applies if solar exports exceed the *'basic export level'*. However, a export tariff rebate (or reward applies) in peak periods (typically around 4pm to 8pm) when demand is high and solar exports stop. This encourages more exports during these peak times, and rewards consumers with batteries (who can store electricity and export at later times) or those households with westward facing panels. • However, these time windows may differ to the peak, off-peak and should periods set by retailers. Retailers are able set their own time periods for different prices and these may not align with the network tariff export and reward periods set by the network providers. • We have provided messaging in the Final Report and Factsheets that our time-dependent benchmarks are aligned with the export tariff time bands set by the network providers.

Submission details	IPART's response
• The submission from D. Ferrell strongly supported moving to time-dependent feed-in tariffs. • The submission from the JEC supported the NSW Government requiring IPART to produce time-dependent feed-in tariff benchmarks. It explained the time-dependent benchmarks are a positive step towards achieving stronger household and system outcomes from consumer energy resources. However, this submission raised concern that the impact of time-dependent feed-in benchmarks is undermined by very few retailers offering time-dependent feed-in tariffs, and it recommended that IPART request the NSW Government place an obligation on electricity retailers to offer time variant feed-in tariffs to consumers in NSW.	• We welcome the support for the continued production of time-dependent feed-in tariff benchmarks. Currently, only Amber Electric offers a dynamic (time varying) feed-in tariff in NSW, which is tied to the real-time wholesale electricity price. Most retailers in NSW continue to offer only flat-rate or tiered feed-in tariffs. These do not incentivise customers to export solar electricity when it benefits the grid, such as in the evening. • However, we recognise that retailers and third parties are trialling alternative pathways to improve CER utilisation such as Virtual Power Plants (VPPs), which may also provide important price signals to consumers. • We will continue to monitor the growth of VPPs and dynamic pricing offers as part of our Energy Market Monitor role before we consider recommending compulsory time-dependent feed-in tariffs in NSW.
• The submission from C. Sammut considered that time-of-use (tiered) retail pricing lacks consistency across seasons and that frequent quarterly adjustments undermine it as a tool for demand management, such as shifting usage to off-peak. • The submission suggested solar feed-in rates should adopt a 2- or 3-tiered rebate system, with different rates for generation before 2 pm and a higher rate after 2 pm, increasing to 8 pm.	• In 2025-26, we have set time-dependent benchmarks that split the day into 4 time bands. • These align with each network provider's approved export charging and rebate windows. This means that our lowest benchmark ranges occur during the day when demand is low and include the network providers' solar export charges, while our highest benchmark ranges occur during the evening when demand is high and include the network providers' solar export rebates.

Table B.2 Out-of-scope issues and questions in submissions to the Draft Report

Submission details	IPART's response
Theme: Network costs and infrastructure	
• The submission by J. Alterator questioned why the Supply Access Charge is higher in Essential Energy than Ausgrid. The submission noted that as most solar and wind energy production comes from the country [Essential Energy] and is sent back to the cities [Ausgrid]. This submission considered these network costs should be reviewed.[31]	• The Australian Energy Regulatory (AER) is responsible for approving the NSW network providers' annual pricing proposals. Any requests to review network provider pricing should be addressed to the AER.
• The submission by C. Sammut considered that current energy policies disproportionately penalise residential solar generators while sparing new developments the costs of poles and wires, and that new developments should bear these charges as part of planning and construction. The submission also raised concern that despite community calls for underground cabling in regions where existing infrastructure is prone to outages, Ausgrid has dismissed these proposals without thorough cost or benefit analyses.[32]	• Network infrastructure planning and maintenance, including resilience to weather-related outages, fall is conducted by the network providers (Ausgrid, Essential Energy, Endeavour Energy) and by the AER. • Similarly, network charges or infrastructure cost allocations for new developments are determined by the network providers and approved the AER. Stakeholders with concerns about network reliability should provide direct feedback to these entities.
• The submission from C. Sammut raised the concern that baseload power pricing could be reduced through government regulation of retailer profit margins or by eliminating private retailers and reintroducing government ownership of energy assets, which would allow for stable pricing, reduced extraneous charges, and more equitable billing practices.[33]	• IPART's role is limited to setting solar feed-in tariff benchmarks. Broader energy market reforms are matters for state and federal governments. • Stakeholders seeking structural changes to the energy market should engage with the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) or the Australian Government.

Submission details	IPART's response
Theme: Approval process for solar systems	
• The submission by C. Sammut noted that approval processes for solar back-feed systems require greater clarity and consistency. It explained that all applications are assessed for network compatibility to prevent saturation, yet these approvals seem disconnected from broader incentives or credits for reducing emissions.[34]	• These processes for installing solar systems are determined by several sources such as the National Electricity Rules (NER), the *Electricity Supply Act 1995 (NSW)*, and network providers' Network Standards. Stakeholders should contact their network provider regarding network connection costs and processes.
Theme: Community battery solutions	
• The submission from C. Sammut considered that discussions about community battery solutions remain vague and disconnected from practical implementation. The submission noted that where charges are introduced, existing solar generators (who have collectively invested billions into the network) must be protected by grandfather clauses.[35]	• Community battery initiatives are part of broader energy infrastructure planning, which is outside IPART's scope for the solar feed-in tariff benchmark review. • The NSW Government's Electricity Infrastructure Roadmap outlines strategies for distributed energy resources (DER). Stakeholders may engage with the Energy Corporation of NSW or the network providers on related projects. • IPART considers the growth of DER in the NSW retail energy market monitoring reports.
Theme: Broader market issues	
The submission from the JEC raised several issues which it acknowledged are outside the direct scope of our review. These issues include: • **The trend towards larger residential solar systems**. The JEC is concerned these are being installed without batteries or being associated with equally large household electricity loads. It considered IPART should support improved information and further measures to help address this. • **Lack of retailer responsiveness to solar price signals**. Retailers are not responding to solar price signals, even though increased penetration of residential solar in NSW is an opportunity for retailers to innovate and provide more dynamic solar soaker offers to spread the benefits of solar to all customers. • **Energy bill cost-stack**. While NSW households with solar can offset rising costs associated with large energy infrastructure investments, the quantum and share of those costs still impacts them and other NSW households. For NSW households who have often installed solar to insulate themselves from rising costs this is a potential social licence issue for the energy transition.[36]	• We agree that these issues are outside the direct scope of our solar feed-in tariff review, however we consider it is important to continue receiving submissions that help us maintain an up-to-date awareness of the key issues affecting the electricity market. • We will consider these issues in our role as the Market Monitor for the NSW retail electricity and gas markets.

C Glossary

Term	Meaning
All-day solar feed-in tariff	One type of solar feed-in tariff that is the same price throughout the day. All-day (or flat-rate) solar feed-in tariffs are the most common type of solar tariff in NSW, with very few retailers offering alternative types like time-of-day solar feed-in tariffs.
c/kWh	Cents per kilowatt-hour.
CER (Consumer Energy Resources)	Small-scale units of local generation or storage owned by consumers and connected to the grid. Examples include solar panels and household batteries.
DCCEEW (NSW Department of Climate Change, Energy, the Environment and Water)	The government department in NSW responsible for managing and overseeing matters related to climate change, energy, the environment, and water management.
DER (Distributed Energy Resources)	Small-scale units of local generation connected to the grid at the distribution level. Examples include solar panels and small-scale batteries.
DNSP (Distribution Network Service Provider)	The DNSPs in NSW are Ausgrid, Endeavor Energy and Essential Energy.
Export tariff	A network tariff that charges customers for exporting solar electricity during specific daytime hours and provides a rebate to customers for exporting during peak evening hours.
FiT (Feed-in Tariff)	A rate paid to electricity consumers like households or businesses for renewable electricity that they generate, typically with solar panels, and export back into the grid.
kW (Kilowatt)	A unit of power equal to one thousand watts, used to measure small amounts of electricity.
kWh (Kilowatt-hour)	A unit of energy representing the power consumption of 1 kW running for one hour, commonly used to measure electricity usage.
LGC (Large-Scale Generation Certificate)	Tradable certificates used in the Renewable Energy Target (RET) scheme. Each LGC represents 1 megawatt-hour of eligible renewable electricity generated by large-scale renewable energy generators like commercial solar farms.
MW (Megawatt)	A unit of power equal to one thousand kilowatts, used to measure the capacity of large power plants or the amount of electricity required by large entities.
NEM (National Electricity Market)	The wholesale electricity market where electricity suppliers buy and sell electricity in Queensland, NSW, Victoria, SA, Tasmania and the ACT.
Net metering	A system in which solar panels or other renewable energy generators are connected to the power grid and surplus electricity is transferred into the grid, allowing customers to offset the cost of power drawn from the retailers.
Network provider	Another term for Distribution Network Service Provider. The network providers in NSW are Ausgrid, Endeavor Energy and Essential Energy.
PV (Photovoltaic)	Solar photovoltaic technology, which converts sunlight into electricity using semi-conducting materials.
Rooftop solar	Solar PV panels installed on the roofs of buildings, homes or businesses.
Smart meter	An electronic device that records consumption of electric energy in intervals (between 5 minutes and 1 hour) and communicates that information to the utility company for monitoring and billing purposes.
Solar export charges	Network fees that solar system owners may be required to pay when they export excess solar electricity into the grid at certain times of the day. These are designed to encourage consumers to export (and not export) electricity when it is beneficial (and not beneficial) to the grid.
Solar inverter	A device which converts DC current from a solar panel into AC current that can be fed into electrical grids.
Time-of-day feed-in tariff	A type of solar feed-in tariff that changes price through the day depending on the time. This type of solar feed-in tariff is not common in NSW, with only one known retailer offering time-of-day solar feed-in tariffs to customers as of May 2025. This is Amber Electric, which offers a variable solar feed-in tariff based on the actual wholesale price.

Term	Meaning
TOU (Time-of-Use)	Prices that vary depending on the time of day, encouraging consumers to use electricity during off-peak hours at a lower cost.
VPP (Virtual Power Plant)	A network of solar panels and batteries that are centrally controlled and coordinated by an aggregator (e.g. a retailer) to act as a united energy source.

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[6] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, p 5; D. Ferrell, *Submission to IPART Draft Report*, March 2025, p 1.
[7] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, p 3.
[8] R. Nicholls, *Submission to IPART Draft Report*, March 2025, p 1.
[9] C. Sammut, *Submission to IPART Draft Report*, March 2025, p 3.
[10] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, p 2.
[11] R. Nicholls, *Submission to IPART Draft Report*, March 2025, p 1.
[12] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, p 2; Anonymous, *Submission to IPART Draft Report*, March 2025.
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[15] C. Sammut, *Submission to IPART Draft Report*, March 2025, pp 3-4.
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[25] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, p 2.
[26] Ausgrid, *Tariff Structure Statement Compliance Document*, November 2023, pp 32, 40.
[27] Endeavour Energy, *2025-26 Pricing Proposal Summary*, March 2025, p 9; Essential Energy, *2025-26 Annual Pricing Proposal Overview*, March 2025, p 4.
[28] Ausgrid, *Submission to IPART Draft Report*, March 2025, p 1.
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[31] J. Alterator, *Submission to IPART Draft Report*, March 2025, p 1.
[32] C. Sammut, *Submission to IPART Draft Report*, March 2025, pp 1-2.
[33] C. Sammut, *Submission to IPART Draft Report*, March 2025, pp 4-5.
[34] C. Sammut, *Submission to IPART Draft Report*, March 2025, p 1.
[35] C. Sammut, *Submission to IPART Draft Report*, March 2025, p 1.
[36] Justice and Equity Centre, *Submission to IPART Draft Report*, March 2025, pp 2, 3, 6.

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