



Minimum Electricity Feed-in Tariffs from 1 July 2025

Final Decision

27 February 2025



Acknowledgement

We acknowledge the Traditional Owners of the lands and waterways on which we work and live.

We acknowledge all Aboriginal and Torres Strait Islander communities and pay our respects to Elders past and present.

As the First Peoples of this land, belonging to the world's oldest living cultures, we recognise and value their knowledge, and ongoing role in shaping and enriching the story of Victoria.

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Summary

- The minimum time-varying feed-in tariffs will range from 6.57 cents per kWh in the evening peak to 0.00 during daytime hours. These will start 1 July 2025.
- The minimum flat feed-in tariff will be 0.04 cents per kWh starting 1 July 2025.
- This is lower than previous years due to the extra solar electricity generated by Victorian solar customers during the day. Supply and demand of electricity during different times of the day is driving this change.
- Retailers can offer the flat feed-in tariff and/or time-varying feed-in tariffs. These minimums are floor prices. Retailers can offer more but not less.
- In setting the minimum feed-in tariffs to apply from 1 July 2025, we had regard to the wholesale electricity costs; avoided distribution and transmission losses; the avoided social cost of carbon; and avoided human health costs as outlined in the *Electricity Industry Act 2000*.¹
- The commission carefully considered all stakeholder submissions in making this final decision. In general, solar customers did not support our decision to reduce minimum feed-in tariffs. Submissions from solar customers did not include alternative methodologies or evidence that showed the forecast value of solar exports should be higher than the proposed draft decision, having regard to our legislative obligations, including under the *Electricity Industry Act 2000*.² Nevertheless, we have responded in depth to key themes from those submissions in this final decision.
- The number of total-accumulated small solar installations in Victoria has increased significantly from around 446,000 in 2019 to around 793,000 by 31 December 2024.³ This growth reflects the Victorian community's commitment to reducing carbon emissions and increasing renewable energy generation, as well as a desire to lower household energy bills through self-consumption of solar electricity. The rise in solar installation has boosted daytime

¹ *Electricity Industry Act 2000*, s. 40FBB(2)(a) and *Electricity Industry Act 2000*, s. 40FBB(3)(a)(b), and (c).

² *Electricity Industry Act 2000*, s. 40FBB(3)(a)(b), and (c).

³ Clean Energy Regulator, '[Postcode data for small scale installations](#)', [Table 5 on page](#), accessed 28 January 2025, and Essential Services Commission analysis.

electricity supply while lowering overall demand. As a result, the value of solar exports during the day has decreased since the introduction of feed-in tariffs.

- Even though the feed-in tariff is lower, it is important to note that when a customer uses their own (generated) electricity, it helps them avoid paying retail electricity prices.
- For a customer on the Victorian Default Offer, the retail price ranges from approximately 26 to 35 cents per kWh, depending on their distribution zone.⁴ These are the actual costs that solar customers avoid and are always higher than the feed-in tariff.
- Households can maximise their savings by shifting their electricity usage to daylight hours – when their solar system is producing electricity. By doing this, households are not paid feed-in tariffs but avoid higher retail electricity prices.
- Under the *Electricity Industry Act 2000*, the feed-in tariff cannot be set below zero. This means that retailers cannot charge their customers for solar exports.⁵

⁴ Essential Services Commission, Victorian Default Offer prices to apply from 1 July 2024 to 30 June 2025, [Victorian Default Offer price review 2024–25 | Essential Services Commission](#), flat tariffs for general usage-residential customers. The lowest rate is in the CitiPower distribution zone (\$0.2575/kWh), and the highest rate is in the AusNet distribution zone as Block 1 rate (\$0.3536/kWh). Accessed 11 December 2024.

⁵ The *Electricity Industry Act 2000* regulates the minimum feed-in tariffs that retailers must pay their customers, but it does not cover the tariffs a distribution business can charge retailers.

Summary

The feed-in tariff is paid to customers for their solar exports

Electricity retailers pay a feed-in tariff to customers for their solar exports. Electricity retailers with a minimum of 5,000 customers must pay eligible customers at least the minimum feed-in tariff when those customers export electricity into the grid.

What is a feed-in tariff?

Feed-in tariffs are credits paid to customers with qualifying solar systems for electricity they export to the grid. Solar customers export electricity after their system usage meets all household consumption needs. Electricity retailers bill their customers for their electricity use on a net basis. This means customers receive the feed-in tariff for each kWh they export and pay the retail price for each kWh they import.

While the Essential Services Commission sets the minimum feed-in tariffs, it is the retailers themselves that set the feed-in tariffs they pay their customers. This means that some retailers may offer a feed-in tariff which is higher than the minimum.

Solar customers are eligible for the minimum feed-in tariff if they have a renewable generation facility with a capacity of less than 100 kilowatts, with total output at the connection point of less than 30 megawatts.⁶ This represents most household solar systems in Victoria.

Some commercial businesses will also receive the feed-in tariff if the capacity of their system and the amount it produces are within the above limits.

⁶ *Electricity Industry Act 2000*, s. 40F(1) and clause 13(1) of the General Exemption Order 2017 (as amended) made under s. 17 of the *Electricity Industry Act 2000*.

The feed-in tariff is paid to customers for their solar exports

We must consider certain matters in setting the minimum feed-in tariffs

On or before 28 February each year, the Essential Services Commission must set one or more minimum rates for the electricity solar customers export to the grid to apply from 1 July.⁷

The *Electricity Industry Act 2000* lists the factors we must have regard to when setting a minimum feed-in tariff:

- prices in the wholesale electricity market
- avoided transmission and distribution losses
- the avoided social cost of carbon and human health costs attributable to a reduction in air pollution.⁸

In setting the minimum feed in tariff, the commission also has regard to its objective as provided for in the *Essential Services Commission Act 2001*, to promote the long-term interests of Victorian consumers.⁹

This final decision sets two kinds of tariffs:

- a flat (constant anytime) feed-in tariff.
- time-varying feed-in tariffs (two options available).

Electricity retailers can choose which of these they offer. Customers can only be on one of these tariffs at a given time, not a mixture (hybrid) of both.

An electricity retailer may develop their own feed-in tariff structures. However, they must offer at least the minimum feed-in tariff set by us. Electricity retailers cannot mix the blocks and prices of the time-varying feed-in tariffs. Electricity retailers can pay customers more than the minimum feed-in tariff, but they cannot pay less.

⁷ *Electricity Industry Act 2000*, s. 40FBB(2)(a).

⁸ *Electricity Industry Act 2000*, s. 40FBB(3)(a)(b) and (c).

⁹ *Essential Services Commission Act 2001*, s. 8.

We must consider certain matters in setting the minimum feed-in tariffs

We have maintained our approach in setting feed-in tariffs

In setting the minimum feed-in tariffs to apply from 1 July 2025, we applied the same methodology as our previous tariff reviews. We have retained a consistent approach as we consider it best aligns with our legislative obligations, and the factors we are required to consider in setting minimum feed in tariffs.

We carefully considered all submissions, including those proposing alternative methodologies and approaches. We have made several clarifying amendments in this decision paper in response to matters raised in submissions. However, we maintained our approach in setting feed-in tariffs as we are of the view that alternative approaches and methodologies proposed in submissions either:

- did not comply with our legislative obligations, including the specific factors we must consider in setting minimum feed in tariffs
- were not directly applicable to, or would not achieve, an efficient price reflecting the true value of solar exports
- were not in the long-term interests of all Victorian consumers, because of their impact on higher retail prices (see comments in key submission theme 2)
- involved methodologies that were less transparent or disproportionately more complex than our existing methodology.

See pages 22 to 33 for further analysis of stakeholders' submission on our draft decision.

Avoided costs approach

We use an avoided costs approach in determining minimum feed-in tariffs. An avoided costs approach forecasts the value of solar exports using the costs retailers *avoid* when sourcing electricity from solar customers. These include:

- the avoided costs of having to purchase electricity from the wholesale electricity market, including avoided market fees and ancillary service charges
- avoided line losses
- the avoided social cost of carbon and human health costs.

The avoided costs of purchasing wholesale electricity and the avoided social cost of carbon are the largest costs avoided by retailers when sourcing electricity from solar exports. As the avoided social cost of carbon is set by an Order in Council, forecasted wholesale electricity prices are the biggest driver of minimum feed-in tariff values.

More details and technical information on our methodology for determining minimum feed-in tariffs for 2025-26 is outlined in Appendix A.

We must consider certain matters in setting the minimum feed-in tariffs

Forecasting wholesale electricity prices

We forecast wholesale electricity prices using three different data sources: solar export data, historic wholesale electricity prices, and wholesale electricity futures prices.

We received half-hourly **solar export data** for the 2023–24 financial year from Victoria’s five electricity distribution businesses.

For **historic wholesale electricity prices**, we used the wholesale electricity spot prices for the 2023-24 financial year from the Australian Energy Market Operator.¹⁰ These are the actual prices retailers paid. We use this data because these are the most recent financial-year prices.

We then collected the **wholesale electricity futures prices** for the 2025–26 financial year from ASX Energy. We use the wholesale electricity futures prices as they reflect price expectations in the 2025–26 financial year, the period in which the feed-in tariffs will apply.

We engaged Frontier Economics to prepare a report (the Frontier Economics Report) forecasting wholesale electricity costs for the coming financial year using all three data sets. The Frontier Economics Report sets out more detail on their methodology.¹¹

We also considered two alternative approaches to forecasting wholesale electricity costs as part of this review:

- removing extreme market events and outliers from the wholesale forecasts
- averaging wholesale electricity prices over three years.

Details on these alternatives are also set out in the Frontier Economics Report.¹² These alternatives were ultimately not adopted as neither made a significant difference to minimum feed-in tariff values.

Solar weighted average approach

We use a solar-weighted average approach to forecast the wholesale electricity price. This method adjusts the average wholesale electricity price to reflect the average wholesale price when most

¹⁰ Australian Energy Market Operator, [‘Aggregated price and demand data’](#), accessed 11 November 2024; Essential Services Commission data.

¹¹ Frontier Economics, *Wholesale price forecasts for calculating minimum feed-in tariff 2025-26*, final report for the Essential Services Commission, February 2025.

¹² Frontier Economics, *Wholesale price forecasts for calculating minimum feed-in tariff 2025-26*, final report for the Essential Services Commission, Chapter 5: Sensitivities, February 2025.

We must consider certain matters in setting the minimum feed-in tariffs

solar exports occur.¹³ We do this by taking the future average wholesale price once calculated and using solar export data to calculate an average solar weighted price. Under this approach, we give more emphasis to the times when most solar exports occur.

This approach means the minimum feed-in tariffs reflect the value of solar exports at the time they are exported (that is, supplied) to the grid. This approach is consistent with how other generators – renewable or fossil fuel derived – operate in the National Electricity Market. The wholesale spot price of electricity is determined by supply and demand. When demand is low and supply is high (or increasing), generators receive a lower price for the electricity they sell to the grid.

¹³ Frontier Economics, *Wholesale price forecasts for calculating minimum feed-in tariff 2025-26*, final report for the Essential Services Commission, February 2025, p 7.

We must consider certain matters in setting the minimum feed-in tariffs

Minimum feed-in tariffs will decrease in 2025-26

Our final decision is that the flat minimum feed-in tariff for 2025–26 will be 0.04 cents per kWh. This is lower than the flat minimum feed-in tariff for 2024–25 of 3.3 cents per kWh.

Our final decision on the time-varying minimum feed-in tariffs is also lower than last year. These tariffs are set out in Table 1.

Table 1: Minimum feed-in tariffs to apply from 1 July 2025, excluding GST¹⁴

Flat minimum rate (cents/kWh)		
At all times		
0.04		
Time-varying minimum rates (cents/kWh)		
Option one		
Overnight	Day	Early evening
Weekdays: 10 pm – 7 am	Weekdays: 7 am – 3 pm, 9 pm – 10 pm	Weekdays: 3 pm – 9 pm
Weekends: 10 pm – 7 am	Weekends: 7 am – 10 pm	Weekends: n/a
7.55	0.00	5.91
Option two		
Shoulder	Off-peak	Peak
Every day: 9 pm – 10 am, 2 pm – 4 pm	Every day: 10 am – 2 pm	Every day: 4 pm – 9 pm
1.42	0.00	6.57

Note: The Electricity Industry Act 2000 does not allow minimum feed-in tariffs to be less than zero cents/kWh. Therefore, where our forecast is less than zero, the minimum feed-in tariff is set to zero cents/kWh.

Wholesale electricity prices drive changes in the feed-in tariffs

Table 2 shows the main drivers of the decrease in the flat minimum feed-in tariff.

¹⁴ The Option one tariff periods reflect arrangements in older time-varying network tariffs. The periods were set in an Order in Council: *Victoria Government Gazette, No. S 216 Wednesday 19 June 2013, 'Advanced metering infrastructure (AMI tariffs) order', Schedule: Common form distribution tariff structure*, p. 9, accessed 11 February 2025.

We developed the time periods for Option two after consultation with stakeholders in our minimum feed-in tariff 2023-24 determination. See [p. 2](#), 20 January 2023.

Feed-in tariffs for solar customers registered for GST are subject to GST. Most residential solar owners are not registered for GST. [Australian Tax Office, Electricity and Gas Industry Partnerships](#), accessed 3 December 2024.

Wholesale electricity costs are responsible for about 93 per cent of the decrease and other avoided costs faced by electricity retailers are responsible for the rest.

Table 2: Drivers of the change in the flat feed-in tariff (excluding GST)

Feed-in tariff (c/kWh)			
Avoided costs	2024–25	2025–26	Change (c/kWh)
Wholesale electricity costs	0.64	-2.38	-3.02
Other energy costs	0.13	-0.07	-0.20
Social cost of carbon	2.49	2.49	0.00
Feed-in tariff	3.3¹⁵	0.04	-3.26

Notes: 2024–25 tariff and cost components were taken from Table A.1 of our final decision: Essential Services Commission, *Final decision – Minimum Electricity Feed-in Tariff from 1 July 2024*, 27 February 2024. The 2025–26 cost components can be found in Table A.1 in the appendix. Differences in the ‘Change’ column are calculated by subtracting 2025–26 rates from 2024–25 rates and are not meant to add up by column. Also see footnote 15.

Solar-weighted wholesale prices are forecast to decrease

We have estimated the wholesale electricity costs for the flat minimum feed-in tariff to be negative 2.38 c/kWh (–2.38), which is 3.02 c/kWh lower than last year when the forecast was 0.64 c/kWh. This reflects lower daytime wholesale electricity prices.

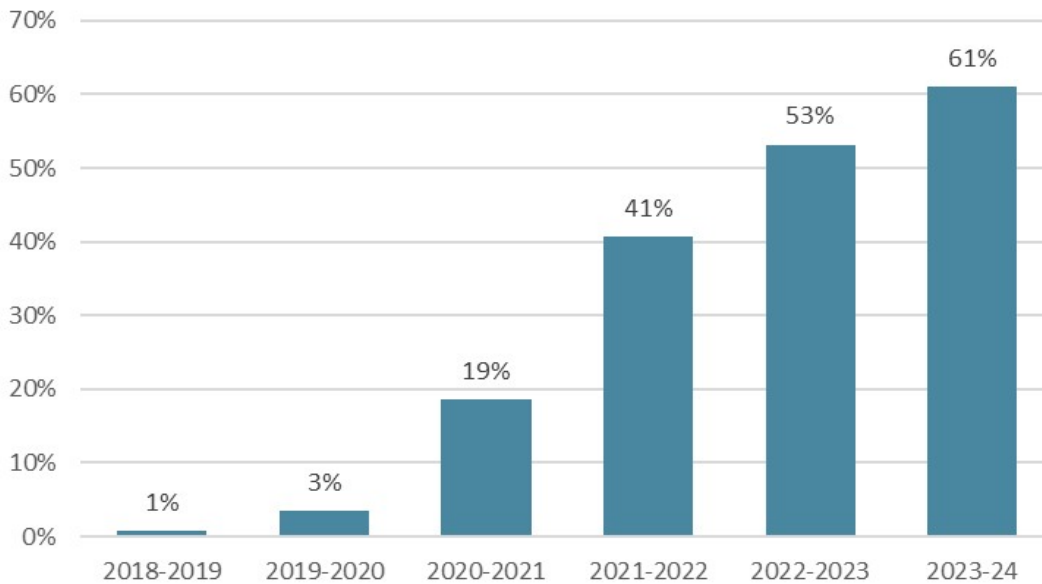
The widespread installation of solar panels continues to impact grid consumption, with demand—and consequently prices—being lowest during the middle of the day. As a result, the wholesale spot price typically drops during daylight hours, coinciding with the peak period for solar exports.

This has led to such a significant reduction in daytime prices that, in many cases, solar exports occur when the wholesale spot price turns negative. In 2023–24, 61 per cent of solar exports happened when wholesale prices were negative, compared to only 3 per cent of solar exports in 2019-20 (see Figure 1).

¹⁵ In our final decision for 2024-25 minimum feed-in tariffs, we rounded the final tariff number to 3.3 c/kWh. The cost components would have added up to 3.26 c/kWh from the table.

Minimum feed-in tariffs will decrease in 2025-26

Figure 1: Share of solar exports occurring when wholesale prices are negative



Sources: Australian Energy Market Operator (wholesale spot price); Victorian distribution businesses (solar export); Essential Services Commission analysis.

Figure 2 shows how the wholesale electricity price varied throughout the day in 2022-23 and 2023-24, while Figure 3 emphasises that peak solar exports occur between 11 am and 1 pm. This period is exactly when the wholesale electricity price is at its lowest.

Given most solar exports take place between 11 am and 1 pm¹⁶, our solar weighted forecast gives the wholesale electricity prices during this time greater weight, with less weight placed on wholesale electricity prices at times when solar exports are low(er), for example, early evening.¹⁷

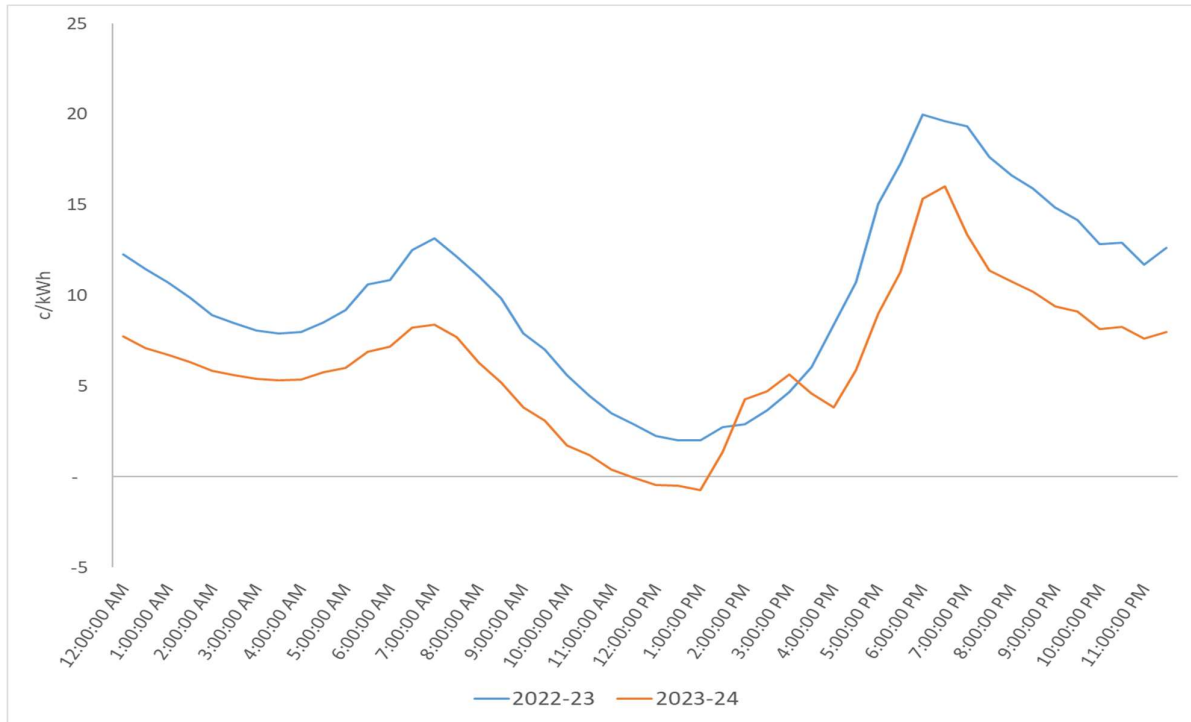
Given the low and negative prices when peak solar exports occur, the solar weighted wholesale price in 2025-26 is forecast to be negative. As the solar weighted wholesale price is a major component of the minimum feed-in tariffs, this drop is reflected in the lower minimum feed-in tariffs set for 2025-26.

¹⁶ See in Figure 3 for example: Over 2023–24, exports between 11 am and 1 pm account for 28 per cent of the total exports. This is the highest proportion of exports across any two-hour period in a 24-hour day, highlighting when most solar exports occur.

¹⁷ A very small number of exports from small-scale renewable generators happen at night (for example from small wind turbines or batteries). For this reason, a very small weight is placed on overnight prices.

Minimum feed-in tariffs will decrease in 2025-26

Figure 2: Average actual solar-weighted prices

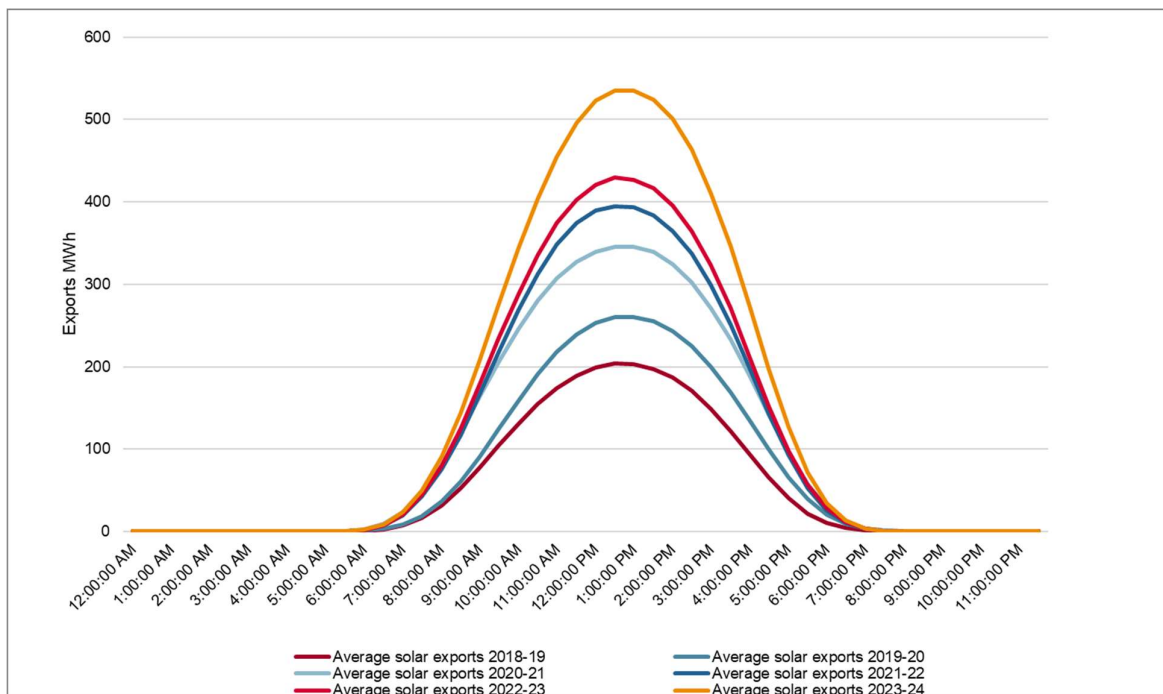


Source: Australian Energy Market Operator (actual price); Victorian distribution businesses (solar export); Essential Services Commission analysis.

The movements in Figures 2 and 3 illustrate the relationship between increasing solar exports and reduced wholesale electricity prices in the middle of the day. They also illustrate that wholesale electricity prices are much higher in the early morning, and from early evening into the night when solar exports are low.

Given retailers must supply electricity 24 hours a day to meet customer demand, retailers purchase high volumes of high-cost electricity during peak times when solar exports are low (about 20 hours a day) and only small volumes of lower-priced daytime electricity when solar exports are high (about four hours). This is one of reasons why retail electricity prices will always be higher than feed-in tariffs.

Figure 3: Average solar exports across the day



Source: Victorian distribution businesses; Essential Services Commission analysis.

Other avoided energy costs

We have estimated the other avoided energy costs to be negative 0.07 c/kWh (−0.07), which is 0.20 c/kWh lower than last year.

In setting the minimum feed-in tariff for 2025-26, we have also had regard to other avoided costs, including:

- avoided transmission and distribution losses (line losses)
- avoided market fees and ancillary charges, which form part of our consideration of prices in the wholesale market.

These components are usually positive, but for this final decision, the negative value of the line losses outweighs the positive value of the market fees and ancillary service charges.

The value of the line losses is negative because we calculate it by multiplying our forecast wholesale electricity price by the line losses factor. Because our forecast wholesale electricity price

is negative, this means the value of line losses are also negative. See our 2024 final decision for more information about how we set these cost components.¹⁸

Carbon and human health costs

We have used a value of 2.49 cents per kWh for the avoided social cost of carbon, in accordance with the methodology and factors set out in the February 2017 Order in Council. This is consistent with the approach in past reviews. We maintain the standalone avoided human health costs at 0 cents per kWh.¹⁹

Social cost of carbon

Emissions released during gas or coal-fired generation impose an economic cost on society by contributing to the greenhouse effect. We refer to this cost as the 'cost of carbon'.

Along with carbon, fossil fuel generation is associated with air pollution (such as particulate matter) which can have a negative impact on human health. It follows that solar customers help avoid some of this air pollution when their solar electricity enters the grid instead of fossil fuel sourced electricity.

The Victorian Government issued an Order in Council in February 2017 specifying the methodology for determining the social cost of carbon, including applicable volume and cost factors. The commission is therefore required to apply the avoided social cost of carbon value of 2.49 cents/kWh, consistent with the Order in Council issued in 2017.

Avoided human health costs

The human health costs are the estimated health costs of air pollution (such as particulate matter) associated with fossil fuel powered electricity generation. Consistent with our previous decisions, we have not given a standalone valuation of the avoided human health costs.

This reflects the fact that there is potential overlap between the social cost of carbon and avoided human health costs.

¹⁸ Please Refer to page 45-47 of this decision paper or see Essential Services Commission 2024, [Minimum Electricity Feed-in Tariffs from 1 July 2024: Final Decision](#), 27 February 2024, pp.39-40.

¹⁹ Order specifying a Methodology and Factors for the Determination of the Avoided Social Cost of Carbon 2017 (Vic) made under section 40FBB(3B) of the *Electricity Industry Act 2000*.

Households can save more by using the solar electricity they generate

Although minimum feed-in tariffs are declining, solar customers continue to benefit from their solar systems by using the electricity that they generate. When customers use this electricity, they avoid buying electricity from their retailer and therefore paying retail rates. Depending on their electricity distributor, a solar customer on the Victorian Default Offer could avoid retail tariffs of between approximately 26 cents and 35 cents per kWh through solar self-consumption.⁴

St Vincent de Paul Society's Victorian Energy Prices July 2024 (Victorian Tariff-Tracking Project update report²⁰) illustrates the potential financial benefits to households: solar versus non-solar.

This report finds that new solar customers with a 3kW system installed will have an annual bill that is between \$655 and \$895 less (depending on network area) than non-solar customers with the same consumption level.

Solar customers can achieve additional savings on their electricity bills by shifting their electricity usage to daylight hours when their solar system is generating energy (for example, shifting hot water heating to the day).

Shopping for a better offer

If your electricity retailer is currently paying you the minimum feed-in tariff, use the [Victorian Energy Compare](#) website to see if there is a better feed-in tariff deal. Some market offers with higher feed-in tariffs may also have higher retail electricity prices. Take your electricity consumption/usage and solar electricity generation into account when considering which electricity plan is best for you.

Use the [Victorian Energy Compare Solar Savings Calculator](#) to find out how much you can save.

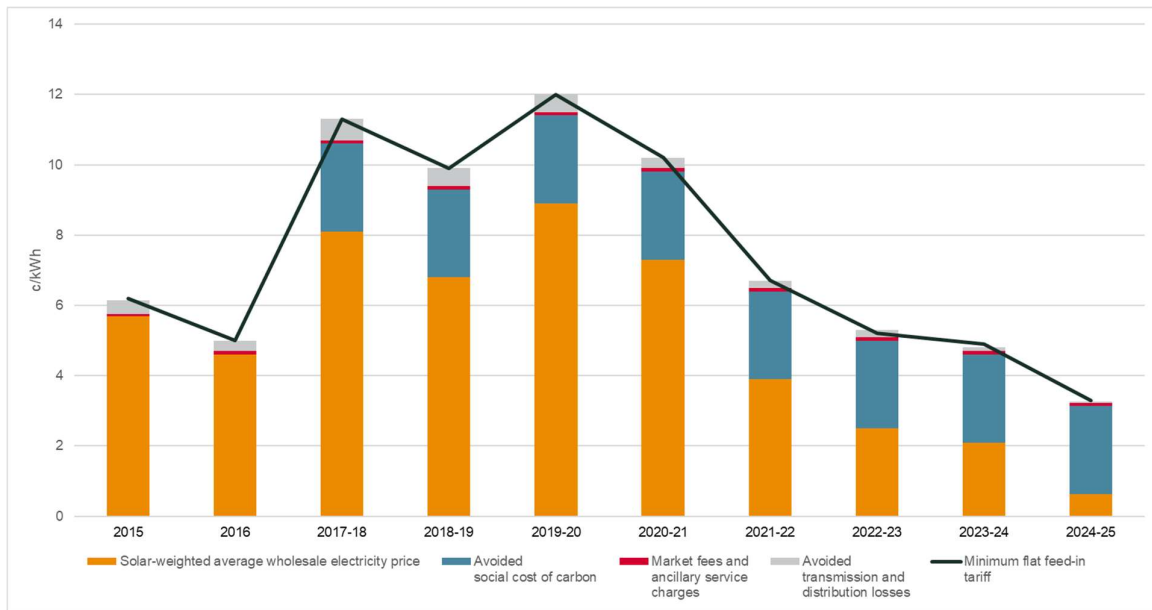
²⁰ St Vincent de Paul Society, '[Victoria Energy Prices July 2024](#)', *An update report on the Victorian Tariff-Tracking Project*, Alviss Consulting, November 2024, accessed 11 February 2025.

What is the future of the minimum feed-in tariff?

The declining trend in Victorian minimum feed-in tariffs is unlikely to change due to the increased uptake of solar systems. There were approximately 446,000 household solar systems installed in Victoria in 2019.²¹ This has increased substantially to 793,000 systems installed in December 2024.²²

Since 2019–20, the flat minimum feed-in tariff has been falling (see Figure 4). This pattern will continue in 2025–26.

Figure 4: Historical flat minimum feed-in tariffs over time



Source: ESC past decisions on minimum feed-in tariffs

The feed-in tariff is unlikely to increase

The increase in solar exports has reduced wholesale electricity prices in the middle of the day (see Figures 2 and 3). This trend means that wholesale electricity prices in the middle of the day will

²¹ Clean Energy Regulator, [Postcode data for small scale installations](#) – accessed 28 January 2025, and Essential Services Commission analysis.

²² Clean Energy Regulator, [Postcode data for small scale installations](#) – accessed 28 January 2025, and Essential Services Commission analysis.

What is the future of the minimum feed-in tariff?

keep falling and therefore the minimum feed-in tariffs, set using the avoided cost methodology, will also keep falling.

Notably, the minimum feed-in tariffs continued to decline despite upheaval in the wholesale electricity market in 2022. While there were significant overall increases in wholesale electricity prices that year, daytime wholesale electricity prices continued to fall.

The minimum feed-in tariff cannot be negative

The Essential Services Commission determines the minimum rates to apply from 1 July 2025 for the electricity solar customers export to the grid in accordance with the *Electricity Industry Act 2000*.²³

As provided for in the *Electricity Industry Act 2000*, we may determine one or more minimum rates that a retailer must credit against the charges payable for the electricity that solar customers export to the grid.²⁴ This minimum rate cannot be set at a negative amount (that is, an amount less than zero). A negative feed-in tariff would mean that solar customers may have to pay their retailer to export to the grid.

²³ *Electricity Industry Act 2000*, s. 40FBB(2)(a).

²⁴ *Electricity Industry Act 2000*, s. FBB(1).

What is the future of the minimum feed-in tariff?

We have had regard to stakeholders' feedback

This chapter addresses the key themes raised by stakeholders in response to our draft decision.

We received 324 submissions, including written submissions made through Engage Victoria and our feed-in tariff mailbox. We received submissions from:

- 319 solar customers
- 3 solar system providers²⁵
- 2 solar customer representative groups.²⁶

Details about the submissions we received can be found in Appendix B.

Most customers did not support our proposed decision to reduce the flat minimum feed-in tariff to 0.04 cents per kWh. They did support retailers offering time-varying tariffs to solar customers.²⁷

Key submission themes and our consideration of the matters they raise are set out below. We have made clarifying amendments in this decision paper in response to matters raised in submissions.

Key submission theme 1: Methodology

Numerous submissions raised concerns and commented on our methodology for setting minimum feed-in tariffs. One submission acknowledged that our approach reflects legislation, but required change:

I recognise that the Essential Services Commission – the regulator in the state of Victoria – must follow specified methodologies – but these are wrong. Government and energy market policy makers must act to fix this.²⁸

²⁵ All Points Energy Solutions, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, Click Control Systems, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, Pure Electric Solutions, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

²⁶ Australian Dairy farmers, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, Uniting Church in Australia, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

²⁷ Anonymous 14, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

²⁸ Alan Pears, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

We have had regard to stakeholders' feedback

Several submissions proposed alternative methodologies, such as basing feed-in tariffs on retail prices (see key submission theme 5), the capital costs of rooftop solar (see comments in key submission theme 7), or other forms of grid-scale solar (see comments in key submission theme 3).

One submission requested we consider actual cost and actual prices in our methodology:

What the Essential Services Commission should focus on are actual costs and actual prices. Generators sell most of their generation at contracted prices. Some may have exposure to spot prices which can at times reap great reward but can also be very risky.²⁹

Another submission requested to include “fair compensation” as a criterion to our existing methodology by considering the electricity prices that generators are being paid for their power:

These are reasonable criteria, although, I would add fair compensation to this list. I think “commercial interests” are being unreasonably placed ahead of household electricity producers, as if home solar producers don’t deserve fair compensation and that potential new solar households don’t need an additional financial incentive.³⁰

Other submissions considered seasonal factors should also inform our minimum feed in tariffs. For instance, one submission said:

Failure to provide simple seasonal pricing signals for renewable electricity exports means that energy consuming activities that increase daytime electricity demand in winter when solar output is low, such as inefficient electric space and water heating, are being sent perverse price signals.³¹

Our methodology sets an efficient price based on legislative requirements

Legislation controls how we regulate the minimum feed-in tariffs, including the specific factors that we must consider and avoided costs that we must include in setting the minimum feed-in tariffs. Notably, the Electricity Industry Act 2000 requires that we have regard to wholesale electricity prices, not retail prices.³² The commission also has regard to its objective as provided for in the

²⁹ Jon Sestokas, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

³⁰ Chris Thomson, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

³¹ Alan Pears, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

³² *Electricity Industry Act 2000*, s. 40FBB(2)(a); *Electricity Industry Act 2000*, s. 40FBB(3)(a)(b), and (c).

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Essential Services Commission Act 2001, to promote the long-term interests of Victorian consumers.

In setting the minimum feed-in tariff, the commission must also comply with an Order in Council made by the Victorian Government pursuant to the Electricity Industry Act 2000. The Order in Council requires the commission to set an efficient price that mirrors the true value of solar to maximise the well-being of all Victorian consumers. The commercial interest of retailers is not a factor we consider is setting maximum feed-in tariffs.

As with previous decisions, we have used a futures market approach to forecast solar weighted wholesale electricity prices in 2025–26, using the most reliable and transparent information and data currently available. This includes actual half-hourly solar export data for the 2023–24 financial year from Victoria’s five electricity distribution businesses, wholesale electricity spot prices for the 2023-24 financial year from the Australian Energy Market Operator (which are the actual prices retailers paid) and wholesale electricity futures prices for the 2025–26 financial year from ASX Energy.

Given our methodology includes historic prices and exports across the entire 2023-24 financial year, our forecasts account for seasonal variations. We considered the value of setting seasonal tariffs, and were of the view that this would disproportionately increase complexity, noting differing minimum feed-in tariffs would equalise across the year.

We carefully considered all submissions proposing alternative methodologies and approaches. However, we were of the view that these alternative proposals either:

- did not comply with our legislative obligations, including the specific factors we must consider in setting minimum feed in tariffs
- were not directly applicable to, or would not achieve, an efficient price reflecting the true value of solar exports
- were not in the long-term interests of all Victorian consumers, because of their impact on higher retail prices (see comments in key submission theme 2)
- proposed methodologies that were less transparent or disproportionately more complex than our existing methodology.

Key submission theme 2: Dis-incentivisation and environmental policy

Many solar customers submitted that our proposed minimum feed-in tariffs were too low. Some solar customers suggested they may reduce their solar exports since they will barely receive any credits for those exports. Submissions also expressed concern that low feed-in tariffs would deter future solar installation, as there is less economic incentive for installing solar. One solar customer’s view typified those of many:

We have had regard to stakeholders’ feedback

The proposed feed-in tariff is set too low. It will discourage new customers.³³

Others noted that reducing incentives for solar installation was contrary to Victorian Government renewable energy commitments and failed to account for the environmental value of solar.

As one solar customer wrote:

Reducing the feed-in tariff to a token value contradicts government commitments to supporting renewable energy and combating climate change. Many households invested in solar systems based on earlier assurances of fair compensation, and this decision undermines confidence in the stability of government policy.

Another submission considered that a fair and reasonable feed-in tariff was needed to meet government renewable energy targets.

The current level of electricity production from renewables is approximately 35% and the Government target is 95% by 2035. I would suggest that household solar must be a large part of achieving that target and every possible incentive to get there should be utilised – including what the Essential Services Commission can contribute through a fair & reasonable feed-in tariff.

There was also concern that our decision impacts cost recovery for existing owners. As one solar customer wrote:

I do not support the proposed methodology in any way as it is based on such a minimal feed-in tariff to render the cost of installing solar panels for households to be totally uneconomical and a disabling disincentive for future action. Households investing in solar panels have reasonably relied upon feed-in tariffs being maintained at levels that provide some scope for a payback period commensurate with other conservative investment products.³⁴

Our minimum feed-in tariffs reflect the true value of solar exports

We acknowledge that low feed-in tariffs somewhat reduce economic incentives to instal solar and affect solar customers' speed of cost recovery. As noted above, our minimum feed-in tariffs must reflect the true value of solar exports to electricity retailers.

³³ Chandra Shah, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

³⁴ Anonymous ID 1293947, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

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If we were to set a feed-in tariffs above the true value of solar exports to incentivise solar investment or expedite cost recovery, retailers would incur higher costs. Retailers would pass these costs on to all customers through increased retail electricity prices, including customers without solar. We consider this outcome contrary to our legislative obligation to promote the long-term interests of all Victorian consumers.³⁵ In our view, efforts to incentivise solar installations can be achieved through policies and initiatives other than feed-in tariffs.

It is also critical to include the value of avoided grid imports (and associated retail electricity costs) when assessing economic incentives and calculating cost recovery periods. St Vincent de Paul Society's Victoria Energy Prices July 2024 illustrates potential financial benefits to households with solar versus non-solar. This report finds that new solar customers with a 3kW system installed will have an annual bill that is between \$655 and \$895 less (depending on network area) than non-solar customers with the same consumption level, even when the minimum feed-in tariff is low or zero.³⁶ There therefore remains strong economic incentives for installing a solar system and self-consuming the solar electricity it generates.

The environmental benefits of renewable energy are also factored into our methodology in setting the minimum feed in tariffs. The avoided social cost of carbon (see page 16) calculates the value associated with reducing greenhouse gas emissions when energy is produced by solar customers. In 2025-26, as in previous reviews, this is set at 2.49 cents per kilowatt hour.

Key submission theme 3: Information, Incentives, Investment

Some submissions made suggestions to maximise the usage and value of solar exports. These included requiring energy providers to store excess solar power in batteries (both community and grid-scale), noting this would help stabilise the grid and reduce reliance on fossil fuels. A solar customer suggested:

A more appropriate system-wide response to the identified problem of excess rooftop solar generation is to enable, and actively support, changes to regulations and rules that would encourage the system distributors such as United Energy, CitiPower, Powercor etc., to install a network of neighbourhood batteries.³⁷

³⁵ *Essential Services Commission Act 2001*, s. 8(1), (2).

³⁶ St Vincent de Paul Society and Alviss Consulting, *Victoria Energy Prices July 2024 - An update report on the Victorian Tariff-Tracking Project*.

³⁷ Robert Brown, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

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Other submissions requested further support for solar customers to acquire batteries:

Help consumers with storing their excess solar so that it reduces grid feed in during the middle of the day and allow them to supplement the grid when it's needed. And for this service, pay them fair and reasonable rates, tiny fractions of a cent.³⁸

Without more widespread use of community batteries, it is difficult to use all the power generated from rooftop solar for self-consumption.³⁹

Submissions from solar system providers also noted the need for improved information and investment to ensure solar customers understand and can maximise self-consumption and reduce reliance on grid electricity. One submission stated that:

There is a need for [More public consultation and explanations; there is too much misinformation and not enough public advertisement.]

and went on to add:

I support the idea of trying to encourage people to minimise the amount of solar they send to the grid.⁴⁰

A submission by the Australian Dairy Farmers also echoes the same sentiment:

Greater investment is needed to upskill and educate farmers on load management, battery storage options, and energy-efficient practices to better adapt to these changes. Additionally, farmers need access to resources and training that focus on optimising existing systems, including strategies for self-consumption and reducing reliance on grid electricity.⁴¹

Broader policy and program responses are beyond our remit

As an independent economic regulator, the commission has a specific regulatory role, which is to consult on and determine minimum feed-in tariffs based on clear legislative factors and the related Order in Council.

³⁸ Michael Mason, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

³⁹ Chandra Shah, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

⁴⁰ Click Control Systems, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

⁴¹ Australian Dairy Farmers, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, p. 2.

We have had regard to stakeholders' feedback

Broader public information, consultation, policy reform, capability-building and investment to incentivise solar installation, improve solar self-consumption and storage, and reduce reliance on grid electricity, is beyond the commission’s remit. However, we acknowledge the work of government departments and agencies – including the Department of Energy, Environment and Climate Change and Solar Victoria – to progress work in these areas.⁴²

As is our standard practice, we will share this final decision with all relevant government stakeholders and publish all submissions received to ensure (among other matters) that stakeholder feedback is well understood – including in relation to information, incentivisation and investment activities beyond our remit.

We have also updated educational materials on our website and this final decision (from our previous draft decision) to improve the clarity of our information about minimum feed-in tariffs and the impact of this decision.

Key submission theme 4: Support for time-varying feed-in tariffs

In our Engage Victoria survey, we asked stakeholders which part of our proposed methodology for setting the flat and time-varying minimum feed-in tariffs they support. A good proportion of responses support the time-varying feed-in tariffs that are offered by selected electricity retailers. A solar customer explains the benefits of time-varying tariffs as follows:

The inclusion of time-varying tariffs acknowledges the variability in energy demand and supply throughout the day. This approach aligns with the broader principles of encouraging energy use and export at optimal times, promoting grid stability. Additionally, the transparency in the methodology and public consultation process is appreciated, as it allows stakeholders to provide feedback.⁴³

Another solar customer recognised the incentive provided by time-varying feed-in tariffs in influencing energy consumption behaviour:

Time-varying tariffs are a smart way to incentivise users and the market to monitor their usage, generation at peak and promote storage options in the grid. It supports moving to

⁴² See, for example, Solar Victoria, [‘How to get the most out of solar’](#), accessed 5 February 2025, Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW), [‘How solar pays for itself and batteries reduce bills’](#), accessed 5 February 2025.

⁴³ Anonymous 1, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

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time of use tariffs for load. It also supports solar export being curtailed/ramped down rather than being switched off.⁴⁴

We also note that some consumers queried why there is a night-time feed-in tariff that offers a higher rate.⁴⁵ The minimum feed-in tariffs apply to all small-scale distributed electricity generation. While most of this is rooftop solar, some consumers have other technologies that can export at night. These include wind turbines and batteries.

Key Submission theme 5: Feed-in tariffs too low relative to retail rates

Some solar customers submitted that our proposed feed-in tariffs were unfair and favoured electricity retailers, noting retailers appear to get solar exports for almost nothing and sell it back to customers at higher retail rates

Others suggested minimum feed-in tariffs should be equal to, or be a percentage of, retail electricity rates. For example, one solar customer said the minimum feed-in tariffs:

Should be a % of the price households pay to purchase electricity. Say 30–50%. That way retailers are encouraged to keep prices down.⁴⁶

It is appropriate to consider wholesale electricity prices in setting feed-in tariffs

There are a number of reasons why the commission does not have regard to retail electricity prices in setting minimum feed-in tariffs. Firstly, the commission is required by legislation to consider wholesale electricity prices in determining minimum feed-in tariffs.

Secondly, calculating minimum feed-in tariffs by reference to wholesale electricity prices is consistent with how other generators – renewable or fossil fuel derived – operate in the National Electricity Market. Generators sell electricity to retailers in a wholesale market, where prices fluctuate based on supply and demand. Our approach estimates what retailers would pay for customers' solar exports if this electricity were sold in the wholesale spot market in 2025–26 in the same way as other generators' output.

⁴⁴ Marcus Keam, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

⁴⁵ Peter Ryan, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, Mark Breyley, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

⁴⁶ Lea Cassai, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

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Thirdly, wholesale costs represent only one component of total retail electricity prices (roughly 30 per cent for the average domestic customer electricity bill in Victoria).⁴⁷ When retailers supply electricity to their customers, they must cover costs including:

- transporting electricity (the poles and wires connecting customers to electricity generators)
- operating a retail business (for example, billing and revenue collection systems, information technology systems, call centre costs, human resources, finance, legal services, regulatory compliance costs, licence costs and marketing)
- hedging costs to provide a guaranteed price to their customers
- complying with environmental programs.
- GST

These additional costs mean the minimum feed-in tariff will always be lower than the retail electricity tariff.

In addition, the retail price of electricity covers the cost of supplying energy at all times of the day. Because retailers must supply electricity 24 hours a day, they must also pay for high-cost electricity at peak times such as in the early morning and evening (when wholesale electricity prices are higher because of increased demand). On the other hand, solar exports happen during the day, when demand is low and wholesale electricity prices are at their lowest. This is part of the reason why feed-in tariffs are lower than retail prices.

While solar customers do not receive retail rates for their exports, they can avoid paying retail rates by consuming the solar electricity they generate and minimising consumption of electricity from the grid.

Key submission theme 6: Social cost of carbon

A submission stated that the commission's methodology for determining the social cost of carbon is outdated, overstated, and needs to be reviewed:

*The Feed-in Tariff (Fit) component Value of avoided social cost of carbon has not been updated for eight long years, inconsistent with the requirements and intent of the Electricity Act 2000.*⁴⁸

⁴⁷ Essential Services Commission 2024, *Victorian Default Offer 2024–25: Final Decision Paper*, 20 May, p. 12.

⁴⁸ Phillip Anstis, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, p 13.

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The submission argued that if the commission used an up-to-date price factor, the estimated social cost of carbon would be 11.66 cents/kWh instead of 2.49 cents/kWh.

The social cost of carbon is set out in the Order in Council

Victoria is the only jurisdiction that includes a social cost of carbon in setting its minimum feed-in tariff. The *Electricity Industry Act 2000* requires the commission to have regard to the avoided social cost of carbon as determined in accordance with the methodology or factor specified in an Order in Council for the relevant avoided costs.⁴⁹ The Victorian Government issued an Order in Council in February 2017 specifying the methodology for determining the social cost of carbon, including applicable volume and cost factors. The commission is therefore required to apply the avoided social cost of carbon value of 2.49 cents/kWh, consistent with the Order in Council issued in 2017.

We acknowledge that an updated cost factor would be higher than in 2017. However, the volume factor would be lower, as solar exports are displacing less fossil fuel generation, thereby partially offsetting any higher cost factor.

Key submission theme 7: Drivers of wholesale electricity prices and differential treatment

Some submissions did not agree with our assessment of the drivers of wholesale electricity prices and objected to perceived priority treatment and/or benefits afforded to large-scale generators.

One submission stated that the commission showed unconscious bias and unfairly blamed households for excess solar electricity generation driving down wholesale electricity prices during the day. The submission argued that unlike small residential solar users, large-scale solar generators were able to sell their electricity through Power Purchase Agreements and better negotiate and manage their exposure to negative wholesale prices.⁵⁰

Another submission said:

PV generation pushes wholesale prices down because large coal-fired generators ‘must run’ and have priority.⁵¹

⁴⁹ *Electricity Industry Act 2000*, s.40FBB(3)(c), 3A.

⁵⁰ Phillip Anstis, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, p. 10.

⁵¹ Alan Pears, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

We have had regard to stakeholders’ feedback

A further submission disagreed with the commission's use of the increase in small-scale solar installations for explaining the recent decrease in wholesale prices, citing declining installation growth since 2022.⁵²

Large-scale solar generators are exposed to greater complexity and risk

We acknowledge that Victorian solar customers are price takers – they cannot individually negotiate the feed-in tariff rate given their export volumes. However, there exists virtual power plant schemes in designated regions where eligible customers can achieve more generous rates for their solar exports if they have a battery.⁵³

We also acknowledge that while solar customers incur the upfront costs of installing and then maintaining their solar system, the minimum feed-in tariffs are calculated based on wholesale electricity prices as well as other costs avoided by retailers. As noted in key submission theme 1, this methodology is consistent with the legislative factors we are required to consider. By contrast, large-scale electricity generators take all their costs (including both capital and operating expenses) into account when bidding into the wholesale electricity market.

While large scale generators may benefit from purchase agreements and capital recovery, they are also exposed to greater complexity and risk than small-scale generators. This is because they must for apply and register to participate in the wholesale electricity market. This brings an additional set of regulatory and financial obligations. Large scale generators must also be active in the wholesale electricity market to get their electricity dispatched to the grid. This requires them to submit bids for five-minute intervals across the entire day. The Australian Energy Market Operator then accepts the bids that meet their forecast demand at the lowest price. In the wholesale electricity market, there is a risk that a generator's bid is not accepted and therefore their electricity is not dispatched.

By contrast, household solar consumers do not have these risks, and their electricity is generally exported to the grid automatically without the customer needing to do anything. Small-scale generators also benefit from using the electricity they produce thereby avoiding grid imports (and retail rates) and offsetting their capital and maintenance costs.

⁵² Anonymous 9, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, p. 5.

⁵³ Solar Victoria, '[Virtual power plant \(VPP\) pilot program](#)', accessed 10 February 2025, Australian Energy Market Commission (AEMC), *Retail energy competition review 2020*, '[VPP offers available](#)', accessed 10 February 2025.

We have had regard to stakeholders' feedback

Solar uptake is the primary driver of lower daytime wholesale electricity prices

Consistent with the data and analysis set out in this final decision, we remain of the view that solar uptake is the primary driver of low and negative daytime electricity prices. While the annual rate of installations may have slowed, it remains that solar installations have increased, and more households are adding solar each year. These existing and new systems continue to decrease the demand in the wholesale electricity markets during the day. It also indicates that Victorian households continue to see value in installing solar.

We acknowledge that this lower demand means coal-fired generators will submit lower bids in the daytime to get their electricity dispatched. These generators do this as they prefer to take a low or negative price, so they can keep operating and be ready for the higher prices in the evening. This also means higher priced generators (including renewable generators) are less likely to supply electricity at these times.

Key submission theme 8: Inadequate consultation

One stakeholder considered that we did not consult widely or provide adequate time for submissions:

And given that the feedback period is just three weeks, and in the middle of the traditional holiday period in January, it is open to conclude that the ESC fulfils many of the definitions of unconscionable conduct according to the ACCC's definition.⁵⁴

We have consulted via various channels, aligned with legislative decision timeframes

We have sought stakeholder feedback via various channels including social media, our website, Engage Victoria, and emails. Our draft decision was also covered by local newspapers and other energy websites. The consultation process commenced on 11 January 2025, when we published our draft decision on both our website and the Engage Victoria website. Consultation closed on 31 January 2025. We received more than 300 submissions and phone call enquiries from solar customers and interest groups.

The January timing for publishing our draft decision and undertaking consultation is necessary to ensure that submissions can be meaningfully considered and our final decision updated in advance of our legislative obligation to determine minimum feed-in tariffs by 28 February each year.

⁵⁴ Phillip Anstis, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025, p. 2.

We have had regard to stakeholders' feedback

Key submission theme 9: Impact on vulnerable solar consumers

The Uniting Church in Australia and some solar customers are concerned about how our proposed decision will negatively impact vulnerable customers:

While we acknowledge potential benefits of reducing the minimum feed-in tariff close to zero – such as encouraging higher-income households to adopt heat pump hot water systems or electric vehicles – we are deeply concerned about the disproportionate impact on lower-income households.⁵⁵

Another noted:⁵⁶

Vulnerable groups, such as aged pensioners and low-income households, are disproportionately affected by such reductions, as they rely heavily on feed-in tariffs to offset rising energy costs. The methodology should also include a safeguard to ensure these groups receive a higher rate to mitigate financial stress.

Our approach is in the long-term interests of Victorian consumers, noting supports available for vulnerable solar consumers

The commission acknowledges the equity impact of the proposed minimum feed-in tariffs but notes it would not be in the long-term interests of all customers if solar customers receive more than the true value of solar exports. If retailers were to pay solar customers more than the true value of solar exports, they would incur higher costs and pass on the difference to all customers. We do not consider it is in Victorian customers' long-term interests for this to occur.

Further, and as outlined above, the greatest benefit customers receive from their solar system is through self-consumption of the solar electricity they generate.

There are also other measures to protect vulnerable consumers provided via government initiatives such as rebates, Utility Relief Grants, and targeted financial support to hardship customers. All are available through retailers or directly from government.

⁵⁵ Uniting Church in Australia, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

⁵⁶ Anonymous 1, submission to the *2025–26 Minimum electricity feed-in tariffs: Draft decision paper*, January 2025.

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Appendix A – Technical methodology

Our approach to determining the minimum feed-in tariffs for 2025–26 is consistent with the approach used to set the minimum feed-in tariffs for 2024–25. The methodology is made up of the following steps:

1. **Forecast solar weighted wholesale costs:** the value of electricity sourced from small-scale renewable generators, based on the avoided cost of purchasing an equal amount of electricity from the wholesale market, accounting for price changes throughout the day and seasonally, including:
 - a. both flat rate and time-varying rate solar weighted wholesale electricity price forecasts.
 - b. avoided market fees and ancillary service charges.
2. **Account for electricity lost in transport:** increase the costs from components above to account for avoided transmission and distribution losses.
3. **Account for social benefits:** add the avoided social cost of carbon and avoided human health costs.

Table A.1 shows how the minimum feed-in tariff is calculated from these components.

Table A.1: Calculating the minimum feed-in tariff

Component	Calculation	Flat rate	Time-varying rate Option 1			Time-varying rate Option 2		
			Overnight	Day	Early evening	Shoulder	Off peak	Peak
A: Solar weighted wholesale electricity prices	Solar export-weighted average price forecast (cents per kWh)	-2.38	4.71	-3.08	3.16	-1.08	-3.94	3.78
B: Avoided AEMO market fees and ancillary service charges	Budget National Electricity Market fees for 2023–24 for 2024–25 + Average of the ancillary service charges recovered from customers over 52 weeks in 2024, latest available at time of decision. (cents per kWh)	0.07	0.07	0.07	0.07	0.07	0.07	0.07
C: Transmission and distribution loss adjustment	Customer weighted average losses across all distribution zones	5.97%	5.97%	5.97%	5.97%	5.97%	5.97%	5.97%
D: Value of avoided transmission and distribution losses	Multiply (A + B) by C	(0.14)	0.29	(0.18)	0.19	(0.06)	(0.23)	0.23
E: Value of avoided social cost of carbon	Based on the amount specified in the Order in Council specifying the avoided social cost of carbon. (cents per kWh)	2.49	2.49	2.49	2.49	2.49	2.49	2.49
F: Value of avoided human health costs	Not accounted for separately for a number of reasons including overlap with social cost of carbon and installation subsidies.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (rounded to one decimal place)	A + B + D + E + F	0.04	7.55	0.00	5.91	1.42	0.00	6.57

Note: Components for Time-varying rate option 1-Overnight are not meant to add up to the total minimum rate because our tariff calculation uses un-rounded inputs while the displayed figures in table are rounded.

Source: Essential Services Commission 2025-26 decision.

Forecasting solar weighted wholesale electricity prices

Consistent with previous feed-in tariff decisions, we have used a futures market approach to forecast solar weighted wholesale electricity prices in 2025–26. The benefits of using a futures market approach include:

- Ensuring our decision matches the view of ‘the market’ as represented by contract prices.
- Providing more transparency to stakeholders than other modelling approaches.

- It is in the long-term interests of Victorian consumers to have the benefit of a price that reflects efficient market outcomes. It also promotes competition in the energy industry by creating the right investment incentives.

Transparency of the inputs for analysis is consistent with our objectives to promote protections for customers⁵⁷ and to promote the long-term interests of Victorian consumers.⁵⁸ Increased transparency gives stakeholders greater opportunities to understand and provide meaningful feedback on our decisions.

Solar weighted wholesale price forecasts for 2025–26

Forecasting the solar weighted wholesale electricity price for the flat minimum feed-in tariff involves five steps. The purpose of this is to estimate what retailers would pay for customers' solar exports if this electricity were sold in the wholesale spot market in 2025–26 in the same way as other generators' output. The steps we take to calculate the flat feed-in tariff are as follows:

1. **Calculating the price level for 2025–26.** We use the average price of 2025–26 quarterly baseload future swaps from the Australian Stock Exchange (after adjusting for an assumed contract premium of five per cent) weighted by traded volume across the most recent 12 months up to a particular date (for this decision this was the 12 months to 15 January 2025).⁵⁹

Frontier Economics updates these estimates between our draft and final decisions to reflect the most up to date market expectations available. These updates resulted in a very small difference between the solar weighted wholesale prices contained in our draft and final decisions.

2. **Selecting the appropriate historical prices and export profile.** The commission collected half-hourly actual export data for customers from each Victorian electricity distribution network for the period from 1 July 2023 to 30 June 2024. This is the most recent financial year for which data is available. Corresponding spot price data for the same period is available from the Australian Energy Market Operator.

⁵⁷ *Electricity Industry Act 2000*, s. 10(c).

⁵⁸ *Essential Services Commission Act 2001*, s. 8.

⁵⁹ Frontier Economics, *Wholesale price forecasts for calculating minimum feed-in tariff 2025–26*, final report for the Essential Services Commission, February 2025, p. 5.

3. **Calculating the scaling factor 2025–26.** After averaging prices for each quarter for the relevant historical year, they are compared to the quarterly futures prices in step 1 to determine a scaling factor for each quarter.
4. **Apply the scaling factor to the historical prices.** Each half-hourly price in the base year 2023–24 is scaled by the relevant factor calculated in step 3 to forecast the half-hourly prices expected in 2025–26.
5. **Calculate the solar weighted wholesale price.** The solar weighted wholesale electricity component of the flat feed-in tariff is calculated by averaging the half-hourly prices from step 4, weighted by the volume of solar exports from step 2. The formula for this is:

$$\begin{array}{l} \text{Flat feed-in tariff solar} \\ \text{weighted wholesale} \\ \text{electricity price} \end{array} = \frac{\sum_{t=1}^{17,472} (\text{expected price 2025-26}_t \times \text{solar exports}_t)}{\text{Total solar exports}}$$

Note that:

expected price 2025–26_t = expected spot prices for trading interval t in 2025–26.

solar exports = the expected half-hourly solar exports for trading interval t in 2025–26.

Total solar = the sum of all **solar exports** for 2025–26.

Solar weighted wholesale price forecast for the time-varying minimum feed-in tariffs

Steps 1 to 4 of forecasting the time-varying feed-in tariffs are identical to forecasting the flat feed-in tariff.

The time-varying feed-in tariffs are also weighted by solar export profiles. For step 5, the weighting is done three times; once for each time-block, using only the expected prices and solar exports from the relevant time-block.

Estimate of market fees and ancillary service charges

When retailers purchase energy from the wholesale market, they must pay market fees and ancillary service charges to the Australian Energy Market Operator (**market operator or AEMO**).

The market operator charges these fees based on the amount of electricity that retailers purchase from the wholesale market. Retailers avoid these if they get electricity from solar customers.

We have regard to these fees and charges as part of our consideration of prices in the wholesale market and have included them in our calculation of other avoided costs (shown in Table A.2). The total value of market fees and ancillary services are 0.07 cents per kWh.

Table A.2: Avoided market fees and ancillary service charges

Item	Fee dollar per MWh	Fee cents per kWh
National Electricity Market fees	0.50	0.05
Ancillary service charges	0.16	0.02
Total	0.66	0.07

Source: AEMO 2024–25 Budget and Fees report for market fees; AEMO ancillary services recovery summaries for 2024.

Market fees

The National Electricity Market (NEM) fees levied by the market operator are set in advance each year through its annual budgeting process.

We have used the market fees published in the 2024–25 AEMO Budget and Fees paper as the best estimate for fees in 2025–2026.^{60, 61} This leads to an estimate of the total market fees avoided in the 2025–26 minimum feed-in tariffs of 0.05 cents per kWh.

In our decision for minimum feed-in tariffs 2024–25, we discussed the market operators’ rebalancing of cost recovery between variable fees and fixed ones. Because avoided costs in minimum feed-in tariffs are variable costs, we have included the variable fees in market operator’s latest decision.

The NEM fees in our 2024–25 decision were 0.04 cents per kWh.⁶² The market fee component increased by 0.01 cents per kWh this year.

⁶⁰ Australian Energy Market Operator, '[2024–25 AEMO Budget and Fees](#)', published in June 2024, accessed 10 February 2025

⁶¹ The 2025FY fee for NEM2025 Reform Program for market customers has been included for the first time in this year’s market fees calculation.

⁶² Essential Services Commission, Final decision: Minimum Feed-in Tariff to apply from 1 July 2024, Table A.2, p. 37.

Ancillary service charges

The market operator recovers the cost of providing ancillary services from market participants (retailers). It publishes ancillary service charges weekly on its website.

We have used this data to estimate ancillary services avoided costs of 0.02 cents per kWh. We based this estimate on data from 1 Jan 2024 to 29 Dec 2024.⁶³ This is the same approach we used last year.

Estimating avoided transmission and distribution losses

Electricity supplied to the wholesale market is often produced by large generators located a considerable distance from the point of consumption. Electricity is transported to households and businesses via a transmission and distribution network (also known as the 'grid').

During this process, a small portion of grid electricity is lost as heat and sound. This is referred to as network or line losses.

Small-scale renewable generation reduces network losses because the generated electricity is transported a short distance, so line losses are minimal. The extent of the associated cost savings varies depending on the location of the generation facility (among other factors such as the quality of the line and the amount of electricity flowing through it). These cost savings are incorporated into the feed-in tariffs by applying a 'loss factor' to the avoided cost of purchasing electricity in the wholesale market (including market fees and ancillary service charges so avoided).

Using the market operator's estimates of distribution and marginal loss factors for 2024–25, we estimated a flat customer share-weighted loss factor of 1.0597 for Victoria. We have then applied this loss factor to derive the value of avoided network losses used in the minimum feed-in tariff calculations. Table A.3 sets out the inputs to the loss factor calculation which are publicly available on the market operator's website.

For this review, we have used the same approach to network losses as we use for the Victorian Default Offer. This is the same approach we took in the 2024–25 feed-in tariff review.

To calculate the distribution loss factors (**DLF**) for urban distribution areas we have used the short sub-transmission factor.⁶⁴ For the Powercor and AusNet distribution zones, however, we took the

⁶³ Australian Energy Market Operator, '[AS Recovery Summary File 2024 \(spreadsheet downloadable\)](#)', 'RECOVERY_RATE_CUSTOMER'/ACE' data series. accessed on 27 January 2025.

⁶⁴ Australian Energy Market Operator, '[Distribution loss factors for the 2024-25 Financial Year](#)', version no. 4.0, 02 Dec 2025, accessed on 12 February 2025.

load weighted average of the short and long sub-transmission distribution loss factors using data provided by Powercor and AusNet.

We then calculated the marginal transmission loss factors (**MLF**) using the simple average of the marginal loss factors across each distribution area (removing some nodes that did not have any small business or residential load).⁶⁵ We multiply the DLFs and MLFs to derive the total loss factors. The result is then weighted by the number of low voltage customers in each distribution zone, to give a Victoria-wide loss factor. See Table A.3 for details.

Table A.3: Inputs for calculating loss factors

Distribution business	Distribution loss factor	Average marginal loss factor	Total loss factor	Number of customers
AusNet Services	1.0768	1.0025	1.0795	817,625
CitiPower	1.0434	0.9998	1.0432	345,351
Jemena	1.0468	1.0010	1.0478	380,382
Powercor	1.0757	0.9901	1.0650	928,190
United Energy	1.0463	0.9983	1.0445	709,861
Customer share-weighted average			1.0597	

Sources: Distribution loss factor & Marginal transmission loss factor: AEMO, published factors for 2024-25 financial year; Load volume as averaging weights over short sub-transmission lines and long sub-transmission lines: data request AusNet Services and Powercor, over financial year 2023-24; Number of customers - AER, RIN response, electricity networks proposals, dated 31 October 2024, accessed on 12 December 2024.

Estimate of the avoided social cost of carbon and human health costs

The Victorian Government in February 2017, issued an Order in Council ('Order') specifying a methodology for determining the social cost of carbon and the factors we must consider when applying this methodology.⁶⁶

It defines the avoided social cost of carbon as the avoided 'cost per kilowatt-hour (kWh) of small renewable energy generation electricity purchased by a relevant licensee' (e.g., retailer), determined in accordance with the following methodology and factors:

$$\text{Avoided social cost of carbon} = \text{Volume factor} \times \text{Price factor}$$

⁶⁵ Australian Energy Market Operator, '[Marginal loss factors for the 2024-25 Financial Year](#)', Table 10, p. 26-28, published on 15 November 2024, accessed on 20 February 2025.

⁶⁶ Victorian Government 2017, *Victoria Government Gazette* No. S 36, Tuesday 21 February 2017, Order specifying a methodology and factors for the determination of the avoided social cost of carbon (Order in Council).

The volume factor, in the Order is an emissions intensity coefficient factor of 1.27 kilograms (kg) of carbon dioxide equivalent (CO₂e) per kWh of electricity exported by a small renewable energy generator. This means that 1.27 kg (or 0.00127 tonne) of CO₂e is assumed to be avoided for each kWh of electricity exported by a small renewable energy generator.

For the price factor, we have used the method specified in the Order to determine the value of a tonne of CO₂e. It results in a value of \$19.63 per tonne of CO₂e. The resulting avoided social cost of carbon is 2.49 cents per kWh.

Human health costs

The Victorian Government has not made a separate Order in Council that specifies a factor or method for determining avoided human health costs attributable to a reduction in air pollution.

We reviewed the associated health benefits as part of our inquiry into the value of distributed generation in 2016.⁶⁷ We have re-examined this matter several times since. However, due to a lack of sufficient evidence and data, we have not been able to reliably place a separate monetary value on the avoided human health costs.

We note that there is evidence that the avoided human health costs are already accounted for through the avoided social cost of carbon and/or subsidies provided for solar installations. We have adopted this view. As a result, our decision is to set the stand-alone avoided human health costs at 0 cents per kWh.

There is a variety of methodologies to price the avoided human health costs attributable to the reduction in air pollution, with no approach widely accepted. These methodologies fall into two broad categories:

- Damages costs: damages caused by the pollution.
- Abatement costs: costs of avoiding the pollution.

Damages costs

Under the damages cost approach, the avoided human health costs are calculated using estimated health costs of pollution from electricity generation. The costs of the damages vary significantly according to where the generation, and therefore pollution, occurs. The dispersion of pollutants depends heavily on local conditions.

⁶⁷ Essential Services Commission 2016, ['The energy value of distributed generation'](#), August 2016, pp. 62-63.

If generators are in a densely populated area, the pollution will affect more people and the human health costs will be higher. In contrast, if the generation occurs in a low population area, there will be lower health costs.

There is no detailed research on the dispersion of pollutants in Victoria. The state's coal-fired generation is in the Latrobe Valley. This is a relatively long distance from Victoria's larger population centres. In many other parts of the world, the distance between generation and consumption is not as large. While there is some gas generation within Melbourne, it accounts for only a small share of total generation.

To calculate damages and total avoided human health costs, it is necessary to establish the unit health costs of fossil fuel generation. It is then necessary to assess how solar exports displaces this generation.

Abatement costs

An alternative is to use the cost of avoiding pollution. This involves measuring the cost of preventing pollution to get the value of avoided human health costs. This approach can be especially helpful when abatement costs are known but damages costs are not.

Some jurisdictions have adopted abatement costs as a possible way of measuring environmental externalities (such as the cost of carbon) when damages costs are unknown or uncertain. The Order in Council uses an abatement cost approach for determining the avoided cost of carbon.

When using an abatement cost approach there may be an overlap between the avoided health costs and the social cost of carbon.

The social cost of carbon represents the value of abating fossil fuel generation. Carbon emissions and other harmful contaminants (e.g. nitrous oxides) are avoided if fossil fuel generation is reduced. It follows that avoiding carbon pollution also avoids other types of pollutants.

The potential overlap between the avoided human health costs attributable to a reduction in air pollution and the avoided social cost of carbon was explicitly noted at the time these avoided costs were introduced into the minimum feed-in tariff.⁶⁸

⁶⁸ Victorian Government 2016, *Energy Legislation Amendment (Feed-in Tariffs and Improving Safety and Markets) Bill 2016*, ['Explanatory Memorandum'](#), subclause 5, p. 4.

Solar panel installation subsidies

To encourage solar installations, and acknowledging the associated social benefits, customers receive government subsidies when they install solar systems. These include both state (Victorian solar panel rebate scheme) and federal programs (small scale renewable energy scheme).

As the main social benefits of solar installation are reductions in carbon emissions and noxious pollutants, there may be some overlap between these subsidies and the avoided cost of carbon and avoided health costs.

Appendix B – Submissions we received during the consultation

Consultation on our draft decision was open from 11 to 31 January 2025. We received 324 submissions from consumers, solar system providers and consumer representative groups. We collected submissions both from the Engage Victoria consultation web page and from our feed-in-tariff review email inbox.

We have published all the non-confidential submissions [on our website](#). We summarised 236 non-confidential submissions received via Engage Victoria survey form in a table. Among them, 20 submissions attached a document to their survey response, which we published as standalone documents. We have listed these submissions, along with the 19 non-confidential submissions we collected from feed-in-tariff review inbox, in the table below.

Table B.1: Public and anonymous submissions published as standalone documents on our website

Submission name	Submission date	Received from
Anonymous 1	11 January 2025	Engage Victoria
Anonymous 2	12 January 2025	Inbox
Timothy Adams	13 January 2025	Engage Victoria
Perry Dwyer	13 January 2025	Inbox
Ulysses de Vincentis	13 January 2025	Inbox
Anonymous 3	15 January 2025	Engage Victoria
Christopher Menezes	15 January 2025	Inbox
Anonymous 4	16 January 2025	Engage Victoria
Anonymous 5	16 January 2025	Inbox
Anonymous 6	20 January 2025	Engage Victoria
Anonymous 7	20 January 2025	Inbox
Ian Farr	22 January 2025	Engage Victoria
Angela Snow	23 January 2025	Engage Victoria
Pure Electric Solutions	23 January 2025	Engage Victoria
Anonymous 8	23 January 2025	Engage Victoria

Anonymous 9	24 January 2025	Engage Victoria
Anonymous 10	25 January 2025	Inbox
Anonymous 11	26 January 2025	Engage Victoria
David Witham	26 January 2025	Inbox
Phillip Anstis	27 January 2025	Engage Victoria
Keith Wein	28 January 2025	Engage Victoria
Matthew Corney	28 January 2025	Engage Victoria
Anonymous 12	28 January 2025	Inbox
Anonymous 13	29 January 2025	Engage Victoria
Jon Sestokas	29 January 2025	Engage Victoria
Peter Ryan	29 January 2025	Engage Victoria
Robert Brown	29 January 2025	Engage Victoria
Andrew O'Brien	29 January 2025	Inbox
Chris Thomson	29 January 2025	Inbox
Tony Barry	29 January 2025	Inbox
Anonymous 14	30 January 2025	Inbox
Alan Pears	30 January 2025	Inbox
Australian Dairy Farmers	30 January 2025	Inbox
Anonymous 15	31 January 2025	Engage Victoria
Anonymous 16	31 January 2025	Engage Victoria
Compton Harry	31 January 2025	Inbox
Anonymous 17	31 January 2025	Inbox
Peter Eros	31 January 2025	Inbox
Uniting Church in Australia	31 January 2025	Inbox

We publish these submissions along with other views provided by Engage Victoria survey form, [on our website](#).