Advice on load profile to use for the VDO

A note for the ESC | 12 February 2025

Introduction

The ESC must make a new determination for the Victorian Default Offer (VDO) to apply from 1 July 2025 to 30 June 2026 (2025-26 VDO).

To commence its determination process for 2025-26 VDO, and to streamline the VDO consultation processes, the ESC released a Request for Comment paper.[1]

As part of this Request for Comment paper, the ESC identified that, following its final decision for the 2024-25 VDO, the ESC has obtained customer usage split by consumption (customer imports of electricity) and customer exports (from sources like rooftop solar). For previous VDO decisions, the Wholesale Electricity Cost (WEC) component of retailers' costs was calculated based on the "balance" profile, which is the consumption profile less customer exports. As part of the Request for Comment paper, the ESC noted that it is considering whether to continue to use the balance profile or to change to using the "load only" profile, which is simply the consumption profile, with no adjustment made to account for customer exports.

The ESC has asked us for our advice on:

1. Which of the balance profile or load only profile is the appropriate profile to use for the purposes of estimating the WEC component of retailers' costs.

2. Whether changing the load profile used to estimate the WEC to the load only profile would necessitate changes to any other parts of the ESC's methodology for the VDO.

3. Whether, if there was no longer a mandated FiT in Victoria, this would change our advice on the appropriate profile to use for the purposes of estimating the WEC component of retailers' costs.

Our advice

Which is the appropriate load profile?

Our advice is that setting the WEC component of retailers' costs for the VDO using the load only profile will provide a better estimate of the cost to retailers of supplying customers under the VDO than using the balance profile. The VDO is a price for customers' imports of electricity so using a load profile that is based on customers' imports of electricity will provide the best estimate of retailers' costs for the VDO.

Using a load profile that nets off exports from imports (the balance profile) results in a mismatch between the profile used to estimate retailers' costs and the profile to which the VDO price applies. The result of this mismatch is that the WEC component of the VDO may not match retailers' costs; when electricity prices are lower than average during the day (as is currently the

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[1]   ESC, *2025-26 Victorian Default Offer: Request for Comment*, 28 November 2025.

case) this mismatch will result in a WEC component of the VDO that provides for over-recovery of retailers' costs.

We provide some simplified examples of the VDO to illustrate our view that using the load only profile is the most cost reflective approach to setting the WEC.

Would a change to the load only profile necessitate any other changes to the VDO?

Our advice is that changing the load profile used to estimate the WEC to the load only profile would not necessitate changes to any other parts of the ESC's methodology for the VDO.

Changing the load profile to the load only profile means that the settlement payments associated with the export profile would no longer be accounted for in estimating the WEC component of the VDO. However, these settlement payments do not need to be accounted for elsewhere in the VDO since those settlement payments are already accounted for in setting the WEC component of the FiT.

Similarly, the social cost of carbon (SCC) component[2] of the FiT, which is recovered through the SCC component of the VDO, need not change since these payments, and the recovery of these payments, is unrelated to the profile of imports or exports.

Does our advice change if there is no longer a mandated FiT?

Our advice on the appropriate profile to use for the purposes of estimating the WEC component of retailers' costs would not change if there were no longer a mandated FiT.

As discussed, changing the load profile to the load only profile means that the settlement payments associated with the export profile would no longer be accounted for in estimating the WEC component of the VDO. However, these settlement payments are already accounted for in setting the WEC component of the FiT. If there were no mandated FiT, retailers would still be exposed to these same settlement payments associated with the export profile and, in a competitive market, we would expect retailers to price the FiT to reflect the costs associated with these settlement payments. In other words, the way that the WEC component of the FiT is calculated is intended to reflect outcomes that would occur in a competitive market without a mandated FiT.

Similarly, if there is no longer a mandated FiT and retailers are no longer required to incorporate a SCC component in their FiT offers, then this can be accounted for by removing the SCC component from the VDO.

For these reasons, our advice is that the load only profile is appropriate even if there is no mandated FiT.

A potential issue related to the FiT does arise if retailers are unable to recover the costs associated with the settlement payments for the export profile because of a restriction on the FiT being negative. However. even in this case our advice is that this should be dealt with through other arrangements (potentially like the arrangements for recovering the SCC component of the FiT through the VDO) rather than by using a balance profile to determine the WEC component of the VDO. Alternative arrangements can be both:

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[2] The social cost of carbon (SCC) component of the feed-in tariff is a payment that retailers must make to customers who export electricity to the grid, with the value of the payment reflecting the value of carbon emissions that are avoided when energy is sourced from small scale renewable generators (like rooftop solar). This SCC component of the feed-in tariff (but not other components of the feed-in tariff) is included in the VDO cost stack. To estimate the amount to include in the VDO cost stack the ESC multiplies the SCC value by total renewable exports and divides this amount by total imports.

☐ more transparent about the cost to retailers of a restriction on a FiT being negative and who bears these costs, and

☐ more durable because the appropriateness of the arrangements would not depend on whether the WEC component of the FiT can be recovered without charging a negative FiT (which could change year to year).

Overview of examples

We have created a simplified example of the calculations used to determine the WEC component of the VDO, and the consequences for retailers.

The example is not intended to reflect the actual value of the WEC. The simplified example uses only a single day of half-hourly load and prices, rather than the full four year of data (generated from 3 historical years of data) that is used to estimate the WEC for the VDO. Nevertheless, the approach to calculating the WEC is generally aligned with the approach used for the VDO, including the calculations of AEMO settlement payments, contract difference payments and average WEC that are presented in the settling spreadsheets that we release with the VDO to demonstrate the method of calculating the WEC.

The example we present focuses on the WEC and the FiT, both of which are important for understanding the consequences for retailers of using the load only profile or the balance profile. Therefore, the example deals only with:

● The WEC component of the VDO (ignoring all other components of the VDO including network costs, environmental costs, retail operating costs and retail margin).

● The wholesale component and SCC component[3] of the feed-in tariff (FiT).

Despite these simplifications we think the example is useful for illustrating some important points.

Example 1 – WEC is determined on the basis of load only profile

Example 1 is based on a load only profile. This example reflects the approach that we consider provides the better estimate of the cost to retailers of supplying customers under the VDO.

Example 1 is based on a load only profile for the AusNet Residential load for a single day in 2025. The example uses the spot prices for the Victorian node for the same day.

For the contract position, we assume that the retailer buys:

● baseload swaps up to the average load on that day and

● $300 caps, in addition to this, up to the maximum load on that day.

In determining the contract cover we use the load only profile. This contracting approach is approximately the contract cover that has been an outcome of our WEC estimation.

A summary of outcomes for this example is provided in **Figure 1**.

Figure 1 provides the following summary of the key inputs for this case:

● In the example day, load only for residential customers in the AusNet area is 9,273 MWh, and the weighted average spot price when this load occurs is $85.44/MWh.

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[3]

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- Accounting for the additional costs of the swaps and caps used for this load only profile, the estimated WEC is $91.98/MWh.

- In the example day, total exports for residential customers in the AusNet area are 2,201 MWh, and the weighted average spot price when these exports occur is $38.52/MWh.

- Accounting for a social cost of carbon amount of $25.00/MWh (2.50 c/kWh), the FiT in total (weighted average spot price plus the social cost of carbon) is $63.52/MWh (6.35 c/kWh).

Figure 1 illustrates that the retailers' total wholesale costs are:

- **AEMO settlement payments of $707,475**. This consists of customer imports (9,273 MWh) multiplied by the import-weighted spot price ($85.44/MWh) less customer exports (2,201 MWh) multiplied by the export-weighted spot price ($38.52/MWh). It doesn't matter whether you think about this AEMO settlement payment as separate amounts for imports and exports or a single settlement payment for the balance, the amount is the same because in either case the relevant profiles are settled half-hourly against the relevant spot price.

- **Payments for the swaps and caps that amount to $60,631**. This amount includes the difference payments on the swap contracts and the payments for the cap premiums (the caps do not pay out in this example because the spot price on this day never exceeds $300).

The retailers' total tariff revenues are:

- **VDO tariff revenue for the WEC component of $852,884**. This consists of customer imports (9,273 MWh) multiplied by the WEC component of the VDO which reflects both AEMO settlement costs and contract difference payments ($91.98/MWh).

- **VDO tariff revenue for the SCC component of $55,028**. This consists of customer imports (9,273 MWh) multiplied by the SCC component that the ESC includes in VDO tariffs ($5.93/MWh). By design the SCC component that the ESC includes in VDO tariffs is set to enable recovery of the SCC component of the FiT payments that retailers make from import tariffs. In other words, the social cost of carbon is recovered across all customers through the import tariff.

- **FiT _payments_ for the WEC component of $84,778**. This consists of customers exports (2,201 MWh) multiplied by the WEC component of the VDO ($38.52/MWh).

- **FiT _payments_ for the SCC component of $55,028**. This consists of customer exports (2,201 MWh) multiplied by the social cost of carbon ($25.00/MWh).

The net result of all this is that the retailers' relevant tariff revenues are exactly the same as the retailers' wholesale costs. Note that this does not imply that the retailer is not able to recover its operating costs or earn an efficient margin – there are separate cost components for these in the VDO that have been excluded from this simple example.

The rationale for why the retailers' relevant tariff revenues are exactly the same as the retailers' wholesale costs is as follows:

- The WEC component of the **VDO** is calculated as the average cost to the retailer of serving the _load only profile_, and this is recovered through the VDO based on tariffs that reflect this average cost and apply to _load only_.

- The WEC component of the **FiT** is calculated as the average cost to the retailer (which in this example is a negative cost, or a payment to the retailer) of serving the _export profile_, and this is recovered through the FiT based on tariffs that reflect this average cost and apply to _exports only_.

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● The SCC component of the FiT is based on a rate determined by policy. Unlike the WEC component of the FiT, which retailers recover through settlement payments from AEMO, there is no wholesale market payment that retailers receive to fund the payment of the SCC component on customer exports. Therefore, the ESC allows recovery of the cost of paying the SCC component on customer exports from import customers. Because the volume of imports is higher than the volume of exports, revenue neutrality is achieved with a lower rate on imports than exports (the SCC component of 2.50 c/kWh in the FiT is recovered in our example through an SCC component of 0.59 c/kWh in the VDO).

Figure 1: Summary of outcomes – Example 1 – Load only profile

		Load only profile is used
Key inputs		
Quantity of imports to supply to customers	MWh	9,273
Quantity of exports supplied by customers	MWh	2,201
Balance	MWh	
Average spot price of VDO profile	$/MWh	$85.44
WEC component of VDO profile	$/MWh	$91.98
Average spot price of FiT profile	$/MWh	$38.52
Social cost of carbon (SCC)	$/MWh	$25.00
WEC and SCC components of FiT	$/MWh	$63.52
Retailer wholesale costs		
Import settlement payments to AEMO	$	$792,253
Export settlement payments from AEMO	$	-$84,778
Total AEMO settlement payments	$	**$707,475**
ASX difference payments	$	$60,631
Total difference payments	$	**$60,631**
Total costs to be recovered	$	**$768,106**
Retailer tariff revenues		
VDO - WEC component from customers	$	$852,884
VDO - SCC component from customers	$	$55,028
FiT - WEC component to customers	$	-$84,778
FiT - SCC component to customers		-$55,028
Total cost recovery	$	**$768,106**
Outcome		
Revenue minus costs	$	**$0**

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Example 2 – WEC is determined on the basis of balance profile

Example 2 is based on the same inputs as Example 1, but is based on the balance profile.

With the balance profile we again assume that the retailer buys baseload swaps up to the average load and $300 caps in addition to this up to the maximum load, but the peakier balance profile results in a contract mix that has less swaps and more caps.

A summary of outcomes for this example is provided in **Figure 2**.

A summary of the key inputs for this case is as follows:

- In this example day, the balance quantity for residential customers in the AusNet area is 7,072 MWh (9,273 MWh of imports less 2,201 MWh of exports), and the weighted average spot price when these imports occur is $100.04/MWh.

- Accounting for the additional costs of the swaps and caps used for this balance profile, the estimated WEC is $108.93/MWh.

- In this example day, total exports for residential customers in the AusNet area are 2,201 MWh, and the weighted average spot price when these exports occur is $38.52/MWh.

- Accounting for a social cost of carbon amount of $25.00/MWh (2.50 c/kWh), the FiT in total (weighted average spot price plus the social cost of carbon) is $63.52/MWh (6.35 c/kWh).

The retailers' total wholesale costs are:

- **AEMO settlement payments of $707,475**. This consists of customer imports (9,273 MWh) multiplied by the import-weighted spot price ($85.44/MWh) less customer exports (2,201 MWh) multiplied by the export-weighted spot price ($38.52/MWh). It doesn't matter whether you think about this AEMO settlement payment as separate amounts for imports and exports or a single settlement payment for the balance, the amount is the same because in either case the relevant profiles are settled half-hourly against the relevant spot price.

- **Payments for the swaps and caps that amount to $62,867**. This amount includes the difference payments on the swap contracts and the payments for the cap premiums (the caps do not pay out in this example because the spot price on this day never exceeds $300).

The retailers' total tariff revenues are:

- **VDO tariff revenue for the WEC component of $1,010,111**. This consists of customer imports (9,273 MWh) multiplied by the WEC component of the VDO which reflects both AEMO settlement costs and contract difference payments ($108.93/MWh).

- **VDO tariff revenue for the SCC component of $55,028**. This consists of customer imports (9,273 MWh) multiplied by the SCC component that the ESC includes in VDO tariffs ($5.93/MWh). This enables the social cost of carbon to be recovered across all customers through the import tariff.

- **FiT *payments* for the WEC component of $84,778**. This consists of customers exports (2,201 MWh) multiplied by the WEC component of the VDO ($38.52/MWh).

- **FiT *payments* for the SCC component of $55,028**. This consists of customer exports (2,201 MWh) multiplied by the social cost of carbon ($25.00/MWh).

The net result of all this is that the retailers' tariff revenues are higher than the retailers' wholesale costs by $154,991.

Before explaining the rationale for this outcome, it is worth considering the differences in outcomes between Example 1 and Example 2:

- In Example 2, the WEC component of the VDO is significantly higher. The reason for this is that the quantity of exports has been excluded from the balance profile; these exports occur when costs are low, which means that excluding this low-cost load from the balance profile results in a higher average cost. This is seen most clearly by comparing the average spot price of the load only profile in Example 1 ($85.44/MWh) with the average spot price of the balance profile in Example 2 ($100,04/MWh). The average spot price in Example 2 is so much higher because export load, which occurs when prices are lowest is excluded, resulting in a higher average spot price. Importantly, though, this is the same export load that is accounted for in setting the WEC component of the FiT, where we can see its low average spot price ($38.52/MWh).

- In Example 2, retailers' wholesale costs in this example are slightly higher as a result of the contract position having less swaps and more caps, which in this example (ie on this day) is more expensive. Under the existing approach to determining the WEC component of the VDO, the contract position naturally adjusts to reflect the load profile that is used to calculate the WEC so that there is a consistent approach to determining the contract position and calculating the WEC. Note that the costs of settlement payments to AEMO are unchanged since customers' load (both imports and exports) is unchanged by decisions about how to calculate the WEC.

- In Example 2, the tariff revenue from the WEC component of the VDO is significantly higher because the rate in Example 2 is based on the higher rate for the balance profile, and that higher rate is applied to the same load (the import only load is the relevant load to determine revenues in both cases). In other words, a higher rate applied to imports results in higher revenue that a lower rate applied to the same volume of imports.

Given this, the rationale for why retailers over-recover their costs in Example 2 is as follows:

- The WEC component of the VDO is calculated as the average cost to the retailer of serving the *balance profile*, and this is recovered through the VDO based on tariffs that reflect this average cost but apply to *load only*. Because the balance profile is more expensive than the load only profile, this results in over-recovery. If the balance profile is used to determine the WEC component of the VDO the only way to avoid over-recovery would be if the VDO tariff also applied to customers' balance profile rather than load only.

- The WEC component of the FiT is unaffected. It remains calculated as the average cost to the retailer (which in this example is a negative cost, or a payment from AEMO to the retailer) of serving the *export profile*, and this is recovered through the FiT based on tariffs that reflect this average cost and apply to *exports only*.

- The SCC component of the FiT is also unaffected. It is based on a rate determined by policy. Unlike the WEC component of the FiT, which retailers recover through settlement payments from AEMO, there is no wholesale market payment that retailers receive to fund the payment of the SCC component to customers that export. Therefore, the ESC allows recovery of the cost of paying the SCC component on exports from import customers.

Figure 2: Summary of outcomes – Example 2 – Balance profile

		Load only profile is used	Balance profile is used
Key inputs			
Quantity of imports to supply to customers	MWh	9,273	9,273
Quantity of exports supplied by customers	MWh	2,201	2,201
Balance	MWh		7,072
Average spot price of VDO profile	$/MWh	$85.44	$100.04
WEC component of VDO profile	$/MWh	$91.98	$108.93
Average spot price of FiT profile	$/MWh	$38.52	$38.52
Social cost of carbon (SCC)	$/MWh	$25.00	$25.00
WEC and SCC components of FiT	$/MWh	$63.52	$63.52
Retailer wholesale costs			
Import settlement payments to AEMO	$	$792,253	$792,253
Export settlement payments from AEMO	$	-$84,778	-$84,778
Total AEMO settlement payments	$	$707,475	$707,475
ASX difference payments	$	$60,631	$62,867
Total difference payments	$	$60,631	$62,867
Total costs to be recovered	$	$768,106	$770,342
Retailer tariff revenues			
VDO - WEC component from customers	$	$852,884	$1,010,111
VDO - SCC component from customers	$	$55,028	$55,028
FiT - WEC component to customers	$	-$84,778	-$84,778
FiT - SCC component to customers		-$55,028	-$55,028
Total cost recovery	$	$768,106	$925,333
Outcome			
Revenue minus costs	$	$0	$154,991

What if the FiT price is negative?

The examples that we present above are examples in which the WEC component of the FiT is positive – 3.85 c/kWh. The key lessons from these examples are unchanged even if the WEC component of the FiT is negative. Our view – that setting the WEC component of retailers' costs for the VDO using the load only profile will provide a better estimate of the cost to retailers of supplying customers under the VDO than using the balance profile – is also unchanged even if the WEC component of the FiT is negative.

In the event that the FiT is negative, our example continues to see that the export settlement payments from AEMO and the WEC component of FiT revenues are the same:

- In Example 1 and Example 2 above – with a WEC component of the FiT that is *positive* 3.85 c/kWh, and a total FiT that is *positive* 6.35 c/kWh – we can see that the retailer receives a settlement payment of $84,778 from AEMO and makes payments to its customers to reflect the WEC component of the FiT that are also $84,778. The way that the FiT is calculated means that the retailer is effectively passing through to customers the settlement payments that it receives from AEMO for its customer' exports.

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- Our latest advice to the ESC on the WEC component of the FiT for 2025/26 is that the WEC component of the FiT is *negative* 2.38 c/kWh. With the addition of the SCC component of the FiT (and after accounting for other minor FiT components) this results in a total FiT that is slightly positive. In this case, and using the same export quantity as Example 1 and Example 2, the retailer would make a settlement payment to AEMO of $52,384 for the customers' exports (the payment being from the retailer to AEMO because the exports are occurring when prices are, on average, negative). With a FiT that is only slightly positive, it may appear as though the retailer is not recovering the cost of these settlement payments from its customers. In fact, however, the FiT is only slightly positive because the payments *from customers to the retailer* to account for these settlement payments to AEMO are almost exactly netted out by the payments *from the retailer to customers* for the SCC component of the FiT. The retailer then recovers the cost of these SCC payments through the SCC component of the VDO. In other words, the way that the FiT is calculated still means that AEMO settlement payments for exports are passed through to customers, it is just that when the WEC component of the FiT is negative this requires a payment from customers to the retailer and then from the retailer to AEMO.

- In future, if the WEC component of the WEC becomes more negative still, in principle the AEMO settlement payments would continue to be passed through to customers (requiring payment from customer to retailer to AEMO). For instance, returning to our simple example, if the WEC component of the FiT were *negative* 6.00 c/kWh in future, then with the SCC component the total FiT would be *negative* 3.50 c/kWh. The retailer would make a settlement payment to AEMO of $132,060, which would be exactly recovered from customers through a WEC component of the FiT set at *negative* 6.00 c/kWh. However, part of this payment would be netted off by the SCC payment from the retailer to the customer, which the retailer would recover through the SCC component of the VDO.

The caveat to the observation that AEMO settlement payments would be passed through to customers regardless of whether the WEC component of the FiT is positive or negative is that this will only be assured if the total FiT can also be negative. In the final example above, when the WEC component of the FiT is sufficiently negative that, even with the addition of the SCC component, the total FiT would be negative, cost recovery for the retailer requires that the total FiT can be negative. If the minimum FiT that retailers are able to pay customers can be no lower than 0, then in this last example the retailer will not be able to recover its costs: the retailer will be making settlement payments of 6.00 c/kWh to AEMO, will be neither making payments to nor receiving payments from customers (since the FiT is 0) and will be receiving an SCC component of the VDO that amounts to 2.50 c/kWh. In total, the retailer's costs will exceed its revenues by 3.50 c/kWh (which is the difference between the cost reflective total FiT of *negative* 3.50 c/kWh and the minimum possible FiT of 0).

In short, the export settlement payments from AEMO and the WEC component of the FiT can be assured of being the same with a negative WEC component of the FiT only if the FiT can be negative. If this is not the case then there will be circumstances in which retailers us unable to recover its costs because of the floor to the FiT rate. In this case, in order to avoid losses related to FiT payments, retailers would need to have some other avenue to recover these settlement payments to AEMO. These payments could be recovered from all retail customers through an additional component of the VDO (which would work in a similar way to the existing SCC component of the VDO) or could be recovered only from retail customers with solar panels through different import tariffs for solar and non-solar customers. In either case, our view is that this does not change the logic of calculating the WEC component of retailers' costs for the VDO using the load only profile.

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If the trend over recent years in the WEC component of the FiT continues, and if the minimum possible FiT is 0, then retailers would start facing losses related to FiT payments as soon as 2026/27.

Background

When the ESC commenced its determination of the VDO, data on customer usage split by consumption and customer exports was not available. The data that was available at the time was the balance profile, and it was this balance profile data that was used in setting the WEC component of retailers' costs.

Since that time, data on consumption and customer exports has become available, which means that there is now the option to use a load only profile or a balance profile in setting the WEC component of retailers' costs. The data on consumption and customer exports is only now available for an historical period of 3 years. This is important because the established approach to estimating the WEC component of retailers' costs for the VDO relies on 3 years of historical data.

Over time, the difference between the balance profile and the load only profile has increased, and the difference between the WEC calculated with the balance profile and the WEC calculated with the load only profile have also increased.

The difference between the balance profile and the load only profile has increased over time because of the increased uptake of rooftop solar by customers, the increase over time in size of the average system, and the consequent increase in solar exports. Deducting these solar imports from the import only profile to calculate the balance profile means that the balance profile has much lower consumption than the import profile during times of solar exports.

The difference between the WEC calculated with the balance profile and the WEC calculated with the load only profile has increased over time both because of the increase in the difference between the balance profile and the load only profile *and* because of changing patterns in prices over time. With the increased uptake of rooftop solar, and increased investment in utility-scale solar farms, electricity prices during the day are becoming much lower than average electricity prices. The load only profile is much more exposed to these lower electricity prices during the day, because the load only profile has much higher consumption than the balance profile during these times.

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