Recommendations for consumers at the end of NSW Solar Bonus Scheme

Dr Martin Gill

The subsidised NSW Solar Bonus Scheme ends on 31st December 2016. What should those consumers currently receiving this bonus do at the end of the scheme?

The NSW Solar Bonus Scheme

In early 2010 the NSW Government offered a generous subsidised solar credit to NSW consumers able to afford the cost of a solar system. The Solar Bonus Scheme offered NSW consumers a credit of 60 cents for every kWh generated by the solar system. The scheme was fully subscribed by Oct 2010.

A second less generous scheme offered a credit of 20 cents/kWh. This scheme was fully subscribed by Apr 2011.

The subsidised solar credits paid on both schemes ends at midnight 31st Dec 2016. The following describes options most of the 150,000 consumers on the NSW Solar Bonus Scheme should consider.

Confusion for solar customers

Some solar customers have been led to believe they must install a smart meter to continue receiving credits for their solar system. This is incorrect.

Consumers continue to receive solar credits even if they do not install a smart meter

Some retailers intend to offer solar credits to affected consumers even if they do not install a smart meter.

Solar consumers not on the NSW Solar Bonus Scheme are unaffected by the end of the scheme. They will continue to receive credits for their solar system.

Summary of findings

Consumers on the 60 cent Solar Bonus Scheme

- Should retain separate metering of their solar system output until the end of 2016
- Should consider changing to Net Metering early in 2017
- If accepting a smart meter should confirm it continues to make separate measurements of solar system output with a credit of 60c/kWh to the end of 2016

Consumers on the 20 cent Solar Bonus Scheme

- Can change to Net Metering immediately, especially if they are paying more than 20 cents/kWh for their electricity use
- If accepting a smart meter should confirm it will make Net Measurements immediately with a credit of 20c/kWh for excess solar output

Solar Consumers not on the Solar Bonus Scheme

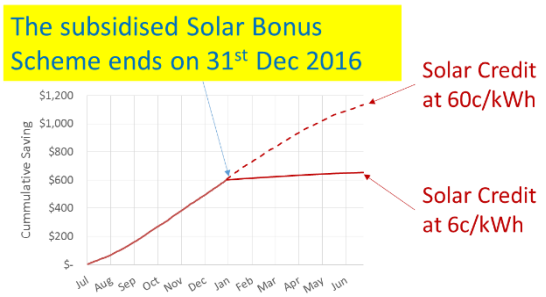
- Are unaffected by the changes

All consumers choosing to install a smart meter

- Carefully check ***all*** terms, conditions and fees associated with the smart meter. The true cost of the meter may hidden in other charges.

Describing the problem

At the end of the NSW Solar Bonus Scheme the credit for electricity generated by the solar system decreases from a subsidised 60 cents to the wholesale price of electricity or around 6 cents. The effect is dramatic:



Solar consumers will earn less from their solar system

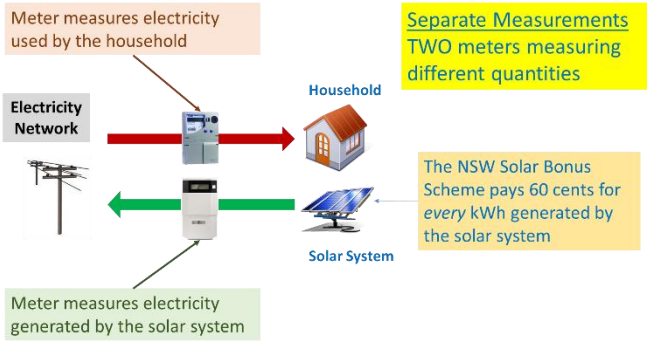
The above shows the effect of changing from 60cents to 6cents at the end of 2016. The calculations assume an average 1.5kW solar system installed in Sydney.

At 60c/kWh the 1.5kW solar system earns the consumer an annual credit of $1100. Assuming at the end of the Solar Bonus Scheme the consumer chooses a tariff paying 6c/kWh the annual credit reduces to $110 (with no other changes).

Changing how the output of the solar system is measured can increase solar credits once the Solar Bonus Scheme ends

Measurements in the Solar Bonus Scheme

The Solar Bonus Scheme offered to pay 60 cents for *EVERY* kWh generated by the solar system. Consumers wishing to maximise the credit they received were encouraged measure the output of the solar system separately from household electricity use.



Solar Bonus Scheme used separate measurement of solar output

The above figure shows the output of the solar system is measured separately from household use. This arrangement requires the installation of two meters (it is also referred to as Gross Metering).

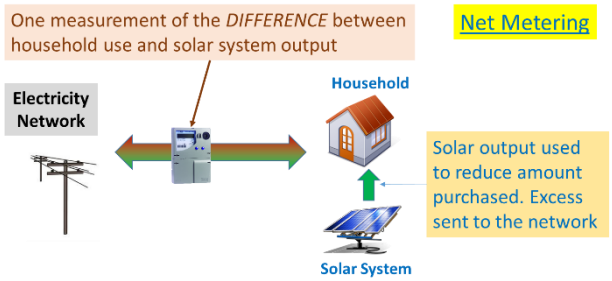
Recommended Measurements at end of scheme

Affected NSW consumers can increase the value of their solar system by changing how the output of their solar system is measured.

At the end of the subsidised Solar Bonus Scheme electricity used by the consumer is worth more than the credit they receive for selling it to the network

Consumers should attempt to use the electricity generated by their solar system, only selling excess solar electricity to the network.

A different measurement is required for consumers wishing to use the output of their solar system:

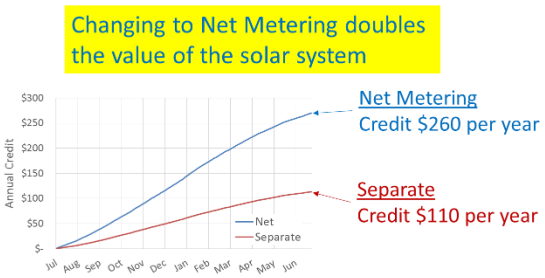


Net Metering is recommended from 2017 on

The above figure shows the recommended measurements at the end of the Solar Bonus Scheme. The difference is the output of the solar system is no longer measured separately. Only one meter is required measuring electricity flowing to and from the network. This arrangement is referred to as Net Metering.

The benefit of changing to Net Metering

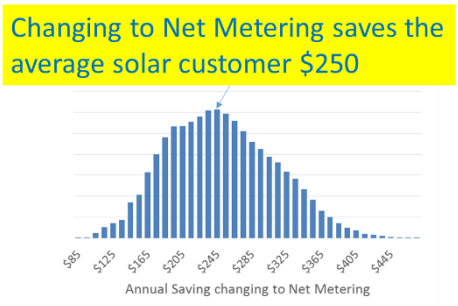
For this comparison we assume an average Sydney household using a daily average of 15.9kWh with a 1.5kW solar system. The following figure compares solar credits at the end of the Solar Bonus Scheme using separate measurement and Net Metering.



Showing benefit of changing to Net Metering

The calculation shows changing to Net Metering at the end of the Solar Bonus Scheme increases the credit the consumer receives from $110 to $260. The calculation assumes the household chooses a fixed tariff averaging 20 cents/kWh and receives a credit of 6 cents/kWh for solar electricity flowing to the network.

The above calculation should be used as a guide. Actual savings will vary depending on household electricity use during daylight hours and the installed size and performance of their solar system. The following figure plots the savings for 300 Sydney households with a 1.5kW solar system:



Annual saving switching to Net Metering

Annual savings across the 300 households varies from roughly $100 to $450. The important point is ***all*** households benefit by changing to Net Metering at the end of the NSW Solar Bonus Scheme.

Smart meters on the 60 cent Solar Bonus Scheme

A 'smart meter' is a generic term used to describe an electronic meter. Consumers on the 60 cent Solar Bonus Scheme choosing a new meter should confirm the smart meter they are considering supports remote reconfiguration.

Consumers installing the meter before the end of 2016 should:

Ensure the new meter continues to make separate measurements to the end of 2016.

The smart meter should only be remotely reconfigured to make Net Measurements on (or shortly after) the 1st Jan 2017. Importantly: Avoid any smart meter which does not make separate measurements until the end of 2016.

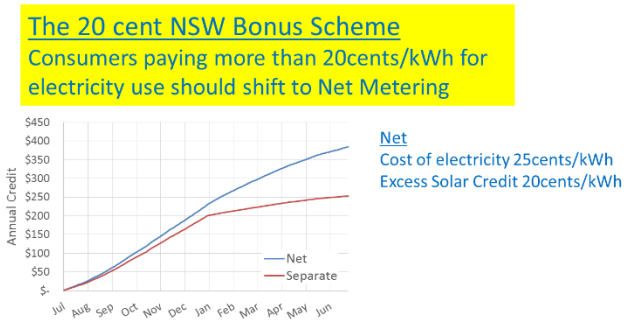
Consumers on the 20cent NSW Solar Bonus Scheme

Consumer on the 20 cent Solar Bonus Scheme can also increase the value of their solar system by installing a Net Meter. There are differences, the most important being they should consider install a Net Meter immediately.

A Net Meter values some of the output of a solar system at the average price paid for electricity. When the Solar Bonus Scheme was introduced in 2010 the average price was less than 20 cents. Several years of (rapidly) escalating electricity prices have resulted in many consumers paying more than 20 cents for their electricity use this affects the recommendations.

The following shows the value of a Net Metered 1.5kW solar system for a consumer using 15.9 kWh/day at an average price of 25 cents/kWh.

For comparison the credit for the same system on the 20 cent Solar Bonus Scheme is also shown:



Consumers on the 20cent NSW Solar Bonus Scheme

The above figure shows any consumers on the 20 cent Solar Bonus Scheme paying more than 20 cents/kWh for electricity use will be financially better off immediately installing a Net Meter. Note: The calculation assumes they continue to receive the Solar Bonus of 20 cents/kWh for excess solar output until the end of 2016.

Consumers on Time of Use Tariffs

A Net Meter effectively values some of the output of a solar system at the average price during daylight hours. On a Time of Use tariff consumers pay more during daylight hours and less overnight. On a Time of Use tariff the value of electricity during daylight hours will almost always be more than 20 cents/kWh.

Smart meters for the 20 cent Solar Bonus Scheme

Consumers on the 20 cent Solar Bonus Scheme can choose their smart meter more freely. They should confirm the new meter is installed as a Net Meter. There is no requirement to support remote reconfiguration of its measurements.

Retailer offered smart meters

Recent changes require all Australian retailers to offer their customers a smart meter. The NSW Energy Minister has suggested these smart meters will be provided "free of charge". A quick check revealed this was only partially true.

One retailer tariff offered:

- an above average credit for excess solar output
- a sizeable discount on the per kWh usage charge
- a daily charge almost 50% higher than the market rate!

Consumers with above average daily electricity consumption would benefit from this tariff, but it is more expensive for the majority of consumers. For this reason consumers should closely examine all terms, conditions and fees associated with the installation of the smart meter and not be distracted by a "headline" figure.

Distributor offered solutions

Local electricity distributors can still offer electricity meters to their customers until 1st Dec 2017. One disadvantage of choosing a distributor offered meter is the Australian Energy Regulator (AER) requires consumers to pay up-front for distributor meters. The up-front fee 'provides transparency of meter costs'.

The cost of a distributor offered meter comes in two parts, the cost to buy the meter from the distributor (around $120) and the cost to have the meter installed by a suitably licenced electrician, typically around $150. So consumers must pay $250 to $300 up-front for a distributor meter.

The earlier calculations revealed changing to Net Metering only increases annual solar credits from $110 to $260 (1.5kW solar system) so it takes roughly 2 years just to recover the cost of the new distributor meter. The transparent upfront fees reveal why this option is not recommended.

It is noted the AER does not require retailers to charge up-front fees for their meters. This lack of regulation allows the true cost of retailer meters to be hidden in other terms, conditions and fees.

Ausgrid Customers Only

The NSW distributor Ausgrid has proposed an alternative low cost solution. This solution uses the existing meters to ***Calculate*** the Net Metered value. The Ausgrid solution is ideal since consumers continue to receive the Solar Bonus to the end of 2016 with Ausgrid only starting to Calculate Net values from Jan 2017.

Ausgrid have offered the solution to all Australian retailers. The author contacted numerous retailers but was unable to find any prepared to use this solution.

A personal note

The author is affected by the end of the Solar Bonus Scheme and is in the Ausgrid area. He remains hopeful some retailers will offer the use of the Ausgrid option of Calculated Net.

Check the installed metering

Some NSW solar consumers eligible for the NSW Solar Bonus Scheme chose to install Net Metering. While these customers did not maximise the financial benefit of their solar system they also do not have to make meter changes now the scheme is coming to an end! This information should be clearly visible on recent electricity bills.

Conclusion

This analysis reveals there is a difference depending on whether the consumers is on the 60 cent or 20 cent Solar Bonus Scheme.

Consumers on the 60 cent Solar Bonus Scheme

- Should retain separate metering of their solar system output until the end of 2016
- Any new meter must continue to make separate measurements until the end of 2016, only switching to Net measurements on 1st Jan 2017.

Consumers on the 20 cent Solar Bonus Scheme

- Should consider installing a Net Meter immediately
- The new meter should make Net measurements from the date it is installed.

All consumers choosing to install a smart meter

- Carefully check ***all*** terms, conditions and fees associated with the meter with the true cost potentially hidden in the terms, conditions and fees.

Citation

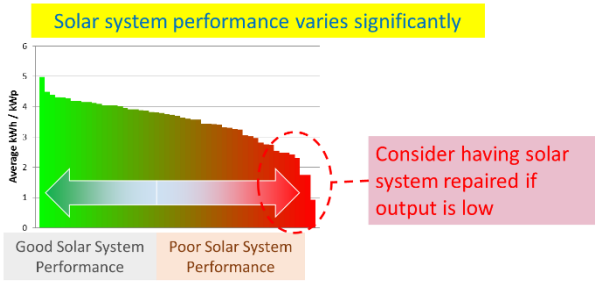
Final Thoughts

Presented Cost/benefit calculations

Three years of separate measurements of solar system output and household use obtained from 300 Sydney households were used in the calculation of costs and benefits. Across the 300 households typical daily consumption is 15.9kWh/day. The solar output has been adjusted to a system of 1.5kW (the average solar system size on the Solar Bonus Scheme). The calculations have assumed at the end of the Solar Bonus Scheme the consumer selects a retail tariff offering a feed-in credit of 6 cents/kWh.

Check the performance of the solar system

It is important to remember most solar systems eligible for the Solar Bonus Scheme are more than half way through their useful life. Most solar inverters are well out of warranty and some will certainly have failed.



Check solar system performance

Before rushing to install a Net Meter it is suggested consumers check their solar system is continuing to work correctly. Consumers with separate measurements of solar system output can use a recent electricity bill since this will show the amount of electricity being generated by the solar system. If the solar system is no longer working correctly consider having it repaired before installing a Net Meter.

References

Source of Interval Data : ausgrid.com.au

Energy Made Easy (energymadeeasy.gov.au)

About Dr Martin Gill

Dr Gill is an independent consultant specialising in the provision of advice and data analysis to the energy industry. He has provided this advice to government regulators, distributors, retailers, consumers, asset operators and equipment vendors.

Dr Gill has a broad technical background having personally developed advanced communication modems, burglar alarms, electricity meters, high voltage fault monitors and power quality analysers.

Dr Gill is a metering expert. His innovative products have been recognised with the Green Globe Award, NSW Government's Premier's Award and Best New Product by the Australian Electrical and Electronics Manufacturers Association.

Comments or Questions?

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