SUBMISSION: AER DRAFT BETTER BILLS GUIDELINE

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Submitted by: Wattwatchers Pty Ltd (trading as Wattwatchers Digital Energy)

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Submitted to: Australian Energy Regulator (AER), Consumer Policy team

INTRODUCTION

Wattwatchers welcomes this opportunity to respond to the AER's public consultation process for the development and release of the Better Bills Guideline (currently in Draft form for this consultation stage).

In particular, we welcome the proposal in the Draft Guideline to include 'solar usage' in addition to 'solar exports' in the required Tier 2 information to be included on small customer energy bills for sites with solar generation.

This proposal reveals a major omission in current billing information that affects small customer sites, homes and enterprises, which have their own solar systems installed, mainly on rooftops.

For these small customers—of which there are now about 3 million sites in Australia representing about a quarter of all households across the nation—their official electricity bills are inherently inaccurate; and many also lack any independent monitoring of their solar.

The bill inaccuracy is because the digital energy metering currently being used for small customer sites with solar (i.e. 'smart meters') only meters solar generation that is exported to the grid (i.e. 'solar exports').

Total solar production (i.e. 'solar generation') and the proportion of this which is self-consumed on the site (i.e. 'solar usage') are not visible to the utility meter, and therefore cannot be and are not included in information on retailer bills.

This leads to current energy bills being highly-misleading when it comes to small customers with solar, because 'solar usage' on site is arguably the most important information for these households (see below for a case study example).

As the AER says itself as part of this consultation process: *Energy bills help small customers to understand and pay for their energy usage. Better bills can build customer trust and confidence in their retailer and the energy market.*

In our submission, the current situation with energy bills means that small customers with solar *prima facie* cannot have the 'trust and confidence' that is intended.

CASE STUDY

The following case study is drawn from a real small customers' recent energy bill (retailer and 'smart meter') and smart energy monitoring data (made available by a Wattwatchers device and MyEnergy app solutions).

For privacy reasons we are not naming the relevant small customer in this submission, but full details of the case study site including the NMI identifier for the relevant utility meter, and the bill itself, can be provided to the AER to verify the details.

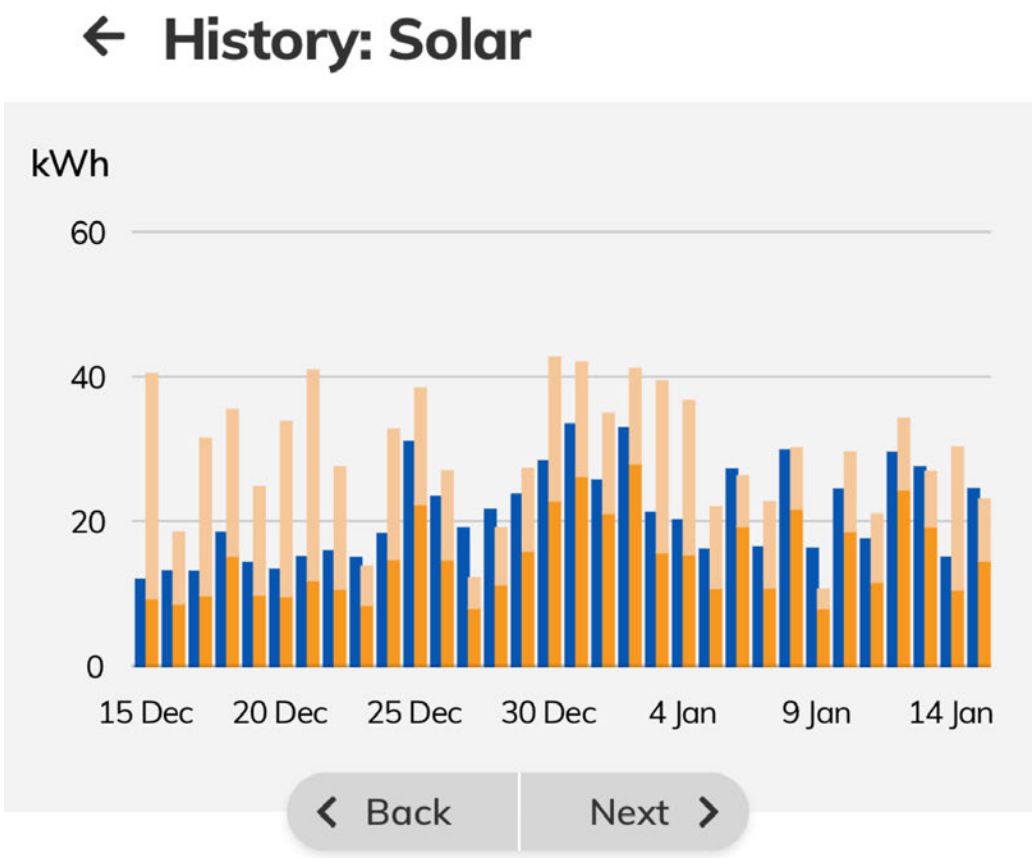
The case study site is located in Greater Sydney, and the free-standing home has a 6.6kW rooftop solar system, and also an electric vehicle (EV) which is charged mainly from the solar system using a standard 240V power point.

The latest retailer bill for this site covers a 32-day period between 15 December 2021 and 15 January 2022, inclusive of both dates. The meter read for this period is an 'actual read' (i.e. not estimated). The tariff is 'flat' (i.e. no peak/off-peak charges), with a per kWh charge of 24.82 cents; a network charge of 80.91 cents per day; and solar feed-in rates of 7 cents per kWh for the first 5kWh per day, and then 4 cents per kWh for any balance on a per day basis.

The total bill for the period was $73.06 excl, GST, which on the surface would lead to the conclusion that the site has well below-average electricity usage (estimates vary, as do different regions, but the national average is commonly put at 18–19kWh per day). Indeed, the Tier 2 information on this bill says that average daily usage is only 5.94kWh, down from average daily usage of 7.50kWh for the same time in the previous year.

In fact, average daily usage is much higher because of the hidden amount of total usage that exists, and is being met by self-consumption of the site's solar generation.

According to Wattwatchers monitoring[1] covering the same 32-day period, total usage on the site was actually 676.93kWh, or an average of 21.154kWh per day, which is over 3.5-times as much as the bill says (5.94kWh per day average).



From 15 Dec to 15 Jan	kWh
Total Usage	676.93
Total Solar	940.17
Solar used on site	486.12
Solar sent to grid (Exports)	454.05

SOURCE: Wattwatchers MyEnergy app for case study site shows the real picture.

[1] Wattwatchers Energy IoT devices are Class 1 accurate (+/-1%) meters, which is equivalent to the accuracy of NMI pattern-approved utility billing meters. Also see footnote #2.

Total solar generation was 940.17kWh, with solar exports of 454.05kWh being slightly exceeded by solar usage on-site of 486.12kWh.

If, for example, there was no solar installed, and the solar usage component had been supplied from the electricity grid—and was billed at the same per kWh retailer rate of 24.82 cents—the total bill would have been higher by about $120.66 for usage, and a solar export credit totalling $22.86 would no longer apply. As a result, instead of the bill being $73.06 excl. GST, it would have been $216.58 excl. GST, which is a difference of about two-thirds more.

This is very useful information for the small customer with solar. It directly supports them with proof of the value of their private investment in a solar system, and also with information to manage it even better. Wattwatchers can provide similar 'full picture' datasets for thousands of sites.

As far as we understand, the energy retailer in this case is meeting the current requirements for constructing its bills and including relevant information. But, as this case study shows, this will always be inaccurate and misleading for Australia's roughly 3 million small customer sites with solar systems.

Other information on this customer's bill also is misleading, although we are not suggesting this is a deliberate falsehood but rather proof of the inadequacy of the current requirements when it comes to customer billing information. In particular, for the 'compare your usage' chart, it says: *Your average usage is compared to a household in your area with no gas mains connected and no pool.*

In fact, the relevant site has mains gas connected (for cooktop, hot water and space heating) and has a swimming pool. But it is in no way clear how the retailer could know this, although it does know about the solar because it has offered a 'solar premium' tariff plan for the site.

We recognise that including comparison information is an attempt to help customers with more information, but it can't achieve this objective unless it is accurate, relevant and useful.

CORE SUBMISSIONS

Wattwatchers submits that the AER should proceed to incorporate solar usage into the Tier 2 Information requirements when it publishes the final version of the Better Bills Guideline.

Further, in our submission it is untenable for energy retailers to be knowingly issuing bills with core content that contains such materially-inaccurate information for small consumers with solar, and for the AER to continue to require this (i.e. in the absence of the proposed inclusion of solar usage data in future bills).

We note the very extensive market research—covering approximately 14,000 customers, of which 32% had solar panels—conducted for the Better Bills process by the Australian Government's Behavioural Economics Team (BETA), part of the Department of Prime Minister and Cabinet.

This has highlighted the high level of interest that solar households have expressed in solar information, although it is not clear that interest in 'solar usage' *per se* was tested. But the BETA final report to the AER does say: *Communication of solar power in bills should be tested to help consumers more accurately evaluate the value of their solar system and optimize their consumption.*

BETA found that a total of 89% of solar consumers agreed they would value solar export information on their bill, and 73% strongly (43%) or moderately (30%) agreed.

There are a number of metering and monitoring technologies commercially available, in Australia and internationally, that are capable of accurately measuring[2] solar generation and solar usage, and also verifying grid consumption and solar exports. (Our homegrown Australian energy technology company Wattwatchers is one such solution suite.)

We further submit that solar usage information does not need to be sourced from NMI pattern-approved (and AEMC minimum specification compliant) utility 'market meters' for billing. This is because small customers are not being billed by the energy retailer in $ per kWh for their own solar generation, which is self-consumed on-site. This is because the purpose of providing this particular information is not trade in electricity (i.e. bill for usage), or reconciliation with the energy market, but rather to support the small customers themselves in managing an optimal blend of grid-supplied and home-generated electrons.

While the solar export data is part of the trade in electricity, requiring a fully-approved market meter, this information is already being captured by the utility billing meter.

[2] In terms of establishing the accuracy of a Wattwatchers device versus an approved utility billing meter, with both being plus or minus one percent accurate (i.e. margin for error), we note that the retailer's bill measured solar exports at 454.05KWh, and Wattwatchers was very close at 454.102kWh. So both meters are either very similarly accurate, which is most likely, or very similarly inaccurate.

As the case study in this submission illustrates, solar usage (self-consumption) is likely to be the most important financial and consumer information of all for small customer sites with solar, because it relates strongly to both the size of the monthly or quarterly bill and the return on investment for the solar system. And it helps the customer to both minimize the bill and maximize the solar investment value.

If small customers with solar fully understand the solar usage and solar export components, side by side, they can clearly see the value of every kWh of self-consumption versus export to the grid. In Wattwatchers' extensive solar site experience, with tens of thousands of our devices deployed for small-site solar performance monitoring and management, we know that frequently this is not intuitive for customers, and they lack data to learn it.

In the case study above, solar exports only earned between 4 cents and 7 cents per kWh as a solar feed-in tariff, while electricity supplied to their households from their own solar usage instead of grid import saved them 24.82 cents per kWh used.

Retailer bills—as a vital part of customer education about managing and saving electricity, and reducing greenhouse gas emissions—should support small consumers with solar to understand this equation, and to manage their electricity accordingly.

CONCLUSION

With solar feed-in tariff rates falling, and most of the very generous early gross feed-in tariff rates supported by various government programs now closed or being phased out, solar usage on site is the most important factor for return on investment from small-scale solar systems.

It is, thus, vital information for small customers with solar and should be accurately accounted for on their electricity bills, which continue to be one of the most important sources of targeted consumer information for electricity customers.

Promoting self-consumption of solar, and the active management and reduction of solar exports, also is a key policy opportunity for managing the integration of a high penetration of distributed energy resources (DER) into the electricity system.

The same data which can help small consumers with solar to optimize their own electricity use can also be harnessed to provide energy networks and market operators with vital data they need to manage system stability and resilience, including voltage fluctuations.

Wattwatchers is a leader in making such datasets available from small customer-owned energy assets via our major project, My Energy Marketplace (MEM), which is supported by a $2.7 million grant from the Australian Renewable Energy Agency (ARENA). The case study site referenced above is a MEM site.

With the inevitable uptake of EVs in the years and decades ahead, overall small-site electricity consumption will rise substantially. EVs on average use about 10kWh per day—much of which could be met cost-effectively from well-managed solar usage on relevant sites, also contributing to Net Zero strategies—and Australian homes on average have 1.8 vehicles.

Bill accuracy and completeness will become even more important than it is now as the 'New Energy' system becomes a reality, enabled by Grid 2.0 technologies and data, and with the accelerating trend towards the electrification of everything including mobility.

Beyond the Better Bills process, Wattwatchers contends that Australia needs a complete overhaul of energy metering objectives and requirements, in order to meet the need for much greater speed, flexibility and diversity in the rapidly-evolving electricity system.

Thus we urge the AER to proceed with adding solar usage into the required Tier 2 Information, and, as per AER's regulatory remit, to enforce it as a binding obligation on energy retailers in regard to the many small customers with solar.

To do otherwise will perpetuate an inadequate customer information model and metering technology approach that already is well past its use-by-date.

We thank the AER for recognising the need for solar usage data to be included on bills for small customers with solar, as a result of this Better Bills process, and for framing the solution in its Draft Better Bills Guideline.

WATTWATCHERS CONTACT DETAILS

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Websites: www.wattwatchers.com.au and www.mydata.energy