

# What should be shown on electricity bills?

Dr Martin Gill

Electricity bills should help consumers manage their electricity costs. The AEMC recognises this important role and specifies the information shown on electricity bills. Unfortunately they then allow retailers to choose how they display the information. The result is most bills are virtually unreadable.

## Summary of Article

When consumers receive their electricity bill there are a number of certainties:

- It will be too high
- It has been (deliberately) designed to confuse
- It probably hides yet another price increase

The Australian Energy Market Commission (AEMC) chooses not to address any of these consumer concerns. Instead they intend to add more meaningless numbers to already confusing consumer electricity bills. They could, and should, do so much more.

## Introduction

Less than 10 years ago most consumers had no choice of electricity retailer. Electricity prices were regulated and the local utility employed a small number of staff to send electricity bills every 3 months.

Price regulation meant the only important figure on the electricity bill was the total amount owing. Consumer law required the bill to show the amount of electricity used and the price (even though it was regulated).

Since then the AEMC has worked tirelessly to deregulate virtually all aspects of the electricity supply chain. Two changes have had a huge impact on consumers, the introduction of retail competition and deregulation of electricity prices. Both changes mean the humble electricity bill has become an increasing important tool for consumers to manage their electricity costs.

Unfortunately while the AEMC regulates what is shown on electricity bills they have failed to understand the new role the electricity bill now plays in their contestable market.

## Summary of the rule change

The rule change [Ref 1] proposes adding a requirement electricity bills show the electricity meter reading at the start and end of the billing period. This is currently not a requirement for smart meters.

### *Why make this change?*

The idea is when a consumer receives their electricity bill they can go to their electricity meter to check the value shown on their electricity meter matches the reading shown on the bill. If the figures match the consumer is confident they are being billed correctly.

### *Why this doesn't work?*

This rule change is irrelevant for the vast majority of consumers. While an extremely small minority of consumers do try to compare meter readings shown on their electricity bill against values shown on the bill this is more difficult than it appears. When figures cannot be matched this change is likely to result in more complaints.

It is appropriate to discuss the difficulty in reading modern smart meters. The AEMC itself acknowledges the problem. In its recent rule change allowing meter self-reads [Ref 2] they found modern (electronic) electricity meters typically display 10 or more different values. Finding the right value requires specialist knowledge. This is made even more complex because the AEMC fails to define a common meter display format. The result is each electricity meter displays the same values differently!

So the AEMC is proposing to add more figures to electricity bills which they themselves acknowledge most consumers would be unable to compare to a value shown on the consumer's electricity meter.

Assuming the consumer has the specialist knowledge to correctly identify the required figure on the meter, then it still can't be compared to the figure on the bill. It takes time to prepare the electricity bill and send it to the customer. In the meantime the consumer

continues to use electricity. Hence when the bill finally arrives the value shown on the meter will never match the one shown on the bill.

Many of the minority of consumers who try to reconcile meter readings against their electricity bills have also invested in a solar system. This exacerbates the problems since there are now several values which must be read from the meter and shown on the electricity bill.

The overwhelming conclusion is this rule change is irrelevant and confusing for the majority of consumers. It should not proceed.

#### *A far simpler solution*

Smart meters are read remotely. There is a very small chance the wrong meter could be assigned to a customer. All meters are required to show a unique identifier on a label attached to the front of the meter. Concerned consumers can compare the meter number on the label to the number shown on the bill. This simple check will confirm they have received the correct bill.

#### **What is the reason for the rule change request?**

The rule change proposes a solution, but it fails to ask “What is the problem?”

Consumers are requesting this change because they fundamentally do not trust retailers. This is hardly surprising given the pain retailers have inflicted as they continuously raise electricity prices while news stories highlight the obscene profits they continue to make. Showing two useless values on the bill does not address this lack of trust!

The ACCC retail price inquiry highlighted far too many consumers are paying much more than they should. Those still on standing offers are paying around 40% more than they should. Other studies have shown even consumers on market offers are on average paying 20% more than they should. None of these issues are addressed by adding a start and end value to the bill.

In the AEMC’s deregulated electricity market consumers must continuously compare various electricity tariffs. Failing to do so results in consumers paying far more than they should. Bills should make it easy for consumers to use tariff comparison sites. This is not achieved by showing meaningless meter readings.

#### **Simplify the use of tariff comparison sites**

The AEMC, and other groups, are actively encouraging the introduction of increasingly complex tariffs [Ref 3]. These include Time of Use and Demand Tariffs. On these tariffs the value shown on the electricity meter bears (virtually) no relationship to electricity costs.

One of the issues with these new tariffs is they are so complex it is no longer possible to manually compare tariffs. Consumers must rely on tariff comparison sites like Energy Made Easy to try to find better energy deals.

Consumers who try to use Energy Made Easy immediately run into problems. Current electricity bills appear to deliberately hide the values needed to compare tariffs. This is hardly surprising. It is another example of poor retailer behaviour. The AEMC allows retailers to format the bills and retailers do not want consumers to compare tariffs. So retailers hide the values required to use tariff comparison sites.

Forcing retailers to add more meaningless numbers to bills only provides retailers with more opportunities to hide the information required to compare tariffs.

If the AEMC genuinely wants to help consumers then they should instead require retailers to include a summary of values needed to use tariff comparison sites. Importantly the AEMC should also specify the format of information, so it is virtually identical to the values requested by Energy Made Easy.

#### **“Meters are tested for accuracy”**

There is a very large assumption underlying this rule change. The assumption is the meter has accurately measured the consumer’s electricity use. The National Measurement Act ensures all electricity meters are tested for accuracy. The problem is the testing is inadequate.

The vast majority of electricity meter accuracy testing involves applying a constant voltage and current and checking the metal disk rotates at the correct rate. The only change for smart meters is the testing uses a light on the front of the meter.

Electricity use by household appliances has changed dramatically in the 50 years since the accuracy tests were devised. Quite simply the specified testing is unsuitable for most modern appliances.

Take the humble light bulb: Edison's incandescent light bulb drew a constant current. Today's energy efficient Compact Florescent Lights (CFLs) and Light Emitting Diodes (LEDs) do not draw constant current. In fact virtually no modern domestic appliances draw constant current. "Inverter technology" is used to improve the energy efficiency of air-conditioners, washing machines, pool pumps, fridges, etc. None of these "inverter" appliances draw constant current.

The potential scope of the problem is revealed by a journal article [Ref 4] which connected multiple domestic electricity meters to an incandescent light fitted with a light dimmer. Despite all the meters measuring exactly the same load some of the tests revealed a 500% difference between the meter readings. In the face of such alarming differences the AEMC should focus on restoring consumer confidence in the measurements, rather than showing the questionable values on electricity bills.

#### **Start and End values are not used to calculate bills**

The AEMC's mandated rollout of smart meters ensures in a couple of years' time all electricity meters will support 5 minute measurements of electricity use. Consumer electricity bills will then be calculated using these 5 minute measurements, not the total amount of electricity. Surely the values are the same? Not necessarily.

The National Measurement Act suggests since these 5 minute measurements are used to bill customers they should be tested. Unfortunately no testing is currently undertaken of the accuracy of these 5 minute measurements.

When German utilities introduced Time of Use billing the Government regulator ensured the accuracy of Time of Use measurements was tested [Ref 5]. Germany introduced this testing over 30 years ago. There has been ample time for Australia to introduce similar testing for the new billing quantities. It raises a question: Why is the AEMC promoting the use of untested quantities to bill consumers?

#### **Costs to make the change**

Even minor changes to consumer bills can be expensive. The changes must be specified, carefully implemented and then thoroughly checked before the modified billing system can be used to send bills to customers. These costs are recovered from consumers through higher electricity prices.

If changes are going to be made then they should be in the long term interest of the majority consumers. Adding start and end values does not pass this test. Adding a summary table to simplify the use of tariff comparison sites does have the potential to benefit the majority of consumers.

#### **Conclusion**

In the AEMC's contestable electricity market the humble electricity bill plays a pivotal role in assisting consumers to manage their electricity costs. Unfortunately electricity retailers do not want consumers to manage electricity costs. It is in their interests to make it virtually impossible to find the information required to lower energy costs.

Rather than address this major failure the AEMC instead proposes forcing retailers to add more meaningless numbers to bills. Retailers will undoubtedly capitalise on the opportunity to redesign their bills to make them even more incomprehensible.

If the AEMC wants to add more information to electricity bills then they should start by insisting every bill clearly shows the information required to use tariff comparison sites. They should also specify the format, so it appears in the same order required by Energy Made Easy.

Consumers bills are no longer calculated using the start and end values. Rather than adding these irrelevant, useless and confusing values to consumer bills, the AEMC should be investigating why untested interval values are now regularly used to bill consumers.

## **Citation**

Please accurately attribute all quotes and references to this article including the title “What should be shown on electricity bills”. It would be appreciated if references included the author’s website [drmartingill.com.au](http://drmartingill.com.au).

## **Comments or Questions?**

The author is happy to receive comments or questions about this article. He can be contacted at [martin@drmartingill.com.au](mailto:martin@drmartingill.com.au)

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## **About Dr Martin Gill**

Dr Martin Gill is an independent consultant specialising in the provision of consumer advice. This advice is based on a deep understanding of the Australian energy industry and strong analytical skills. As a consultant he has prepared advice for consumer advocates, government regulators, electricity distributors, electricity retailers, asset operators and equipment vendors.

Dr Gill is a metering expert. During the National Smart Metering Program he facilitated the development of a specification for Australian smart meters. Innovative metering products developed by his teams have been externally recognised with the Green Globe Award, NSW Government’s Premier’s Award and Best New Product by the Australian Electrical and Electronics Manufacturers Association.

He currently represents the interests of consumers on a range of Standards Australia working groups including metering, renewable power systems, battery storage and demand management.