

# Privacy issues with Smart Meters (Part 1)

Dr Martin Gill

All smart meter rollouts lead to questions about consumer privacy. When the AEMC changed how and who provides domestic smart meters they failed to address the consumer privacy concerns they created.

## Introduction

The Australian Energy Market Commission's (AEMC's) smart meter rollout commenced on 1<sup>st</sup> Dec 2017. The reforms fundamentally change who provides and reads domestic electricity meters. The changes also raise the question:

*Who owns the meter data?*

The AEMC has made it clear it is not consumers.

## What has changed?

The AEMC smart meter rollout ensures every Australian household will eventually receive a smart meter.

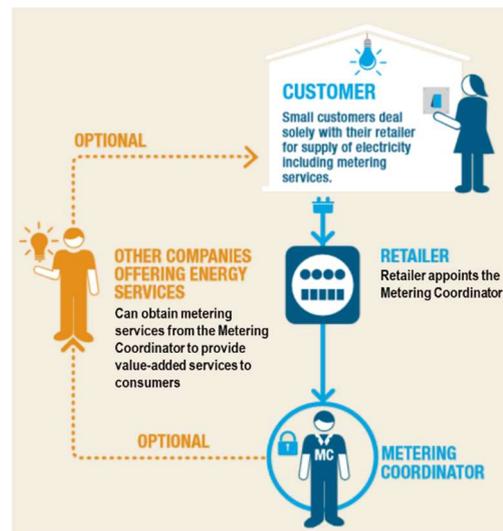
The AEMC smart meters store consumer energy use every 5 minutes. It is important to put this into perspective. Historically domestic electricity meters were read four times a year. Increasing the reading frequency to every 5 minutes reveals 26,000 times more information about how consumers use electricity. The meter data provides unprecedented insights into how consumers use electricity.

Consumers have been given no right to refuse the installation of an AEMC smart meter or the collection of the 5 minute data once it is installed.

## New businesses are installing the smart meters

The AEMC smart meter rollout is being managed by retailers. When customers change retailer there is a risk the meter will be replaced. To reduce this risk the AEMC allows new businesses to install and read consumer smart meters. These new businesses are referred to as Metering Coordinators.

The AEMC hopes Metering Coordinators will unlock the hidden value of smart meter data, by offering value added energy services. The AEMC's vision is depicted in a figure shown on their information sheet:



## Consumer concerns with smart meters

Consumer concerns with smart meters fall broadly into two categories:

- Concerns about the adverse health effects from the mobile phones used to read the meters
- Privacy concerns

The AEMC has (partially) addressed the first concern by allowing consumers (under very limited conditions) to request the smart meter not be fitted with remote communications.

The AEMC has chosen not to address consumer concerns about privacy. Specifically consumers cannot request their smart meter not make 5 minute measurements of their energy use.

Even if a consumer requests a smart meter without remote communications, the meter still measures consumer electricity use every 5 minutes. The only difference is the meter data is manually downloaded when the meter reader visits the property.

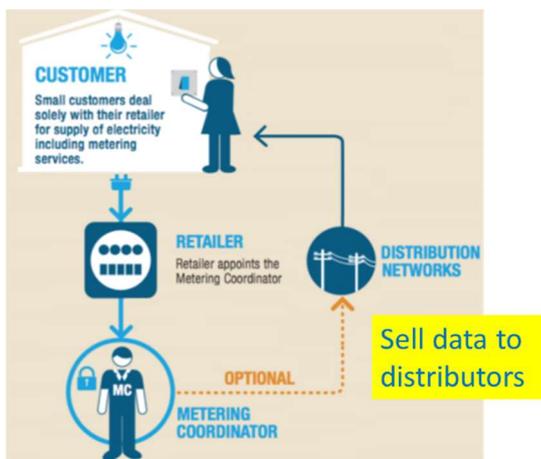
Privacy concerns with smart meters are not unique to Australia. What is unique is the requirement the meters make 5 minute measurements. Internationally smart meters only collect 30 minute data. Analysis of 30 minute data cannot reliably reveal individual appliance use. The 5 minute measurements mandated

by the AEMC provides significantly greater insights into consumer behaviour.

### Implicit Consent to share data

Buried deep in the fine print of the typical lengthy retail contract are clauses giving the retailer (and their appointed Metering Coordinator) the right to share consumer meter data. While the clauses allow the retailer/Metering Coordinator to offer value added services to their customers, they also provide the retailer with an additional revenue stream. After selling consumer meter data the retailer is under no obligation to reward the consumer.

For example the information collected by smart meters is very useful to the local distribution business. The AEMC allows Metering Coordinators to sell smart meter data to distributors.



### Clarifying Third Party access to consumer data

The Facebook and Cambridge Analytica scandal have highlighted the potential consequences of third party access to consumer data. The well reported incident raises significant concerns about control of, and access to, consumer data.

The AEMC suggest their smart meter rollout does not change who can access consumer data. This remains restricted to the market operator, the consumer's retailer and their local distributor. Factually this is incorrect since the Metering Coordinator also has unrestricted access to consumer smart meter data.

More concerning is the failure to require retailers to remove the hidden (implicit) consent allowing them to share the highly invasive data with third parties. Globally questions are being asked about implicit consent.

For example in Europe the introduction of the General Data Protection Regulation (GDPR) gives consumers control of their data. The GDPR clarifies companies must obtain explicit consumer consent to share their data. The AEMC decision to encourage the sale of consumer data without explicit consent may have consequences if Australia adopts similar legislation.

The AEMC claims 5 minute data will allow retailers to lower their costs. These claims are explored in the following sections.

### "Smart meter data is only used to buy insurance"

In the National Energy Market (NEM) the wholesale price of electricity can vary from -10c/kWh to 14,000c/kWh. The AEMC forces retailers to buy at the highly variable price and sell to consumers at a fixed price, around 30c/kWh. Retailers manage the risk of buying electricity at 14,000c and selling at 30c using hedging, a form of insurance. This 'insurance' minimises losses when the price of electricity surges.

The AEMC suggest retailers can use the smart meter data to improve how they predict when they need to buy this 'insurance' and how much 'insurance' they need to purchase. Successful retailers can reduce their costs, further increasing their indecently large profits.

### Other insurers

Most Australian consumers purchase insurance from a range of companies, including car and health insurers. All insurers are trying to manage risk. Health insurers want customers who take care of their health and car insurers want customers who drive safely. The key difference is the Government does not allow health insurers to demand access to health records and car insurers cannot demand access to data showing driver habits (e.g. GPS logs or data from car computers) without explicit consumer consent.

### Does the end justify the means?

One (US) health insurer offered to give its customers a US\$300 smart watch for free. The smart watch directly measures the health and fitness of the wearer, including constant heart rate measurements and the level and intensity of all activity. While never confirmed concerns were raised the insurer was able to access the customer's health data. Questions about the potential breach of consumer privacy ultimately forced the health insurer to withdraw the special offer.

Now imagine the Department of Health introducing legislation requiring every Australian consumer wear a smart watch and give the measured health data to their health insurer. It would not be allowed to happen! Yet that is exactly what the AEMC is doing with its smart meter rollout. Consumers are given no option other than to accept highly invasive technology and provide the data it collects to their retailer.

### **Smart meters allow retailers to profile consumers**

Retailers will use smart meter data to profile consumers. The data allows them to identify profitable and unprofitable consumers.

The recent ACCC investigation into the retail energy market found evidence retailers are using scripts to encourage unprofitable consumers to change to other retailers. The AEMC smart meter rollout has the potential to increase the use of this practice.

Who are these unprofitable consumers? Broadly they are consumers with peak electricity use between 4pm and 7pm. So families, especially those with children. Also households with solar systems who purchase very little electricity during daylight hours but increases in the early evening.

A related Government program intends to give all retailers fast and simple access to consumer smart meter data. Unless consumer privacy issues are addressed the Consumer Data Right ensures unprofitable consumers will soon find they are unable to access cheap electricity deals.

It is concluded the AEMC's claim 5 minute data allows retailers to lower their costs is correct. Unfortunately the AEMC has failed to consider the cost to consumers.

### **Do we NEED 5 minute data?**

Could consumers be given the option to choose if their electricity use every 5 minutes be collected?

**Absolutely!**

The AEMC created the NEM in the mid-1990's. At that time meters able to make 5 minute measurements were unavailable. For over 20 years the NEM has used estimated data to calculate retailer energy costs.

Now meters able to make 5 minute measurements are available the AEMC has decided to mandate their installation. The meter data replaces the estimated

values originally used to bill retailers for the electricity use of their customers.

Existing market settlements prove the AEMC could give consumers the right to control the collection of their 5 minute data. Consumers choosing not to share 105,000 readings a year would continue to use the four readings a year (remotely collected) with retailer energy costs continuing to use estimated values.

The decision to mandate the rollout of this invasive technology 'just because it is available' fails to consider if it should or if other options are available.

### **Do electricity retailers deserve special treatment?**

Energy Consumers Australia's latest Consumer Sentiment Survey reports only 21% of consumers are confident the energy market is working in their interests. More significantly this is a 10% drop from last year's result. It would be interesting to hear consumer sentiment around smart meters and their privacy.

### **Conclusion**

The AEMC smart meter rollout appears to have taken the attitude because technology is available it should be deployed. The AEMC has failed to consider if it should be deployed or if consumers should be given ownership of their smart meter data.

The AEMC smart meter rollout does not allow consumers to refuse the installation of a smart meter. Once installed consumers are not allowed to refuse the collection of 5 minute measurements.

Worryingly the AEMC promotes the use of implicit consumer consent. While this unlocks the hidden value in meter data it increases the likelihood consumer smart meter data will be shared with third parties not selected or authorised by the consumer.

### **Citation**

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### **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)

### **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.