

Mr P. Thomas
Australian Energy Market Commission

Dear Mr Thomas

I am writing in my capacity as Secretary of the Australian Privacy Foundation (APF).

We have only in recent days been made aware that you have been running a consultation process in relation to smart meters on domestic premises.

As the world's longest-running specialist privacy advocacy organisation, we were surprised that your scan for relevant organisations to consult had not discovered us.

We first published a Policy Statement on Smart Grids and Smart Meters over a decade ago. We added a Public Information Paper over 2 years ago. We note that a standard web-search using <smart meters privacy> displays both pages high on page 1.

We request as follows:

- that, recognising the consultation process was defective in not reaching relevant advocacy organisations, you accept this as a late submission, and give appropriate consideration to it; and
- that you review the attached, revised APF Policy Statement, and the attached copy of the Public Information Paper.

We would appreciate an acknowledgement of receipt, and a substantive response in due course.

Yours sincerely ... Roger Clarke, as APF Secretary

--

Roger Clarke <mailto:Roger.Clarke@xamax.com.au>

T: +61 2 6288 6916 <http://www.xamax.com.au> <http://www.rogerclarke.com>

Xamax Consultancy Pty Ltd 78 Sidaway St, Chapman ACT 2611 AUSTRALIA

Visiting Professorial Fellow UNSW Law & Justice

Visiting Professor in Computer Science Australian National University

Australian Privacy Foundation
Revised Policy Statement on Smart Meters

9 June 2024

APF's Smart Grids and Smart Meters Policy Statement dates back to 2011:

<https://privacy.org.au/policies/smart-grids/>

In 2022, APF also published a Public Information Paper on Privacy, Smart Meters and Electricity Usage Data: <https://privacy.org.au/privacy-smart-meters-and-electricity-usage-data/>

An update to the Policy Statement is needed.

INDUSTRY PRACTICES RELATING TO HOUSEHOLD ENERGY DATA

1. Centralised data-holdings of fine-grained data about household energy usage threaten personal safety, because:

- Vacant and low-occupancy premises can be detected
- Patterns of household occupancy over daily and weekly periods are readily evident
- Inferences can be drawn with reasonable levels of confidence about the number, and even age and gender of the occupants, and about their power-usage patterns
- If very-short-interval data is collected, individual device-types are detectable
- The data is capable of disclosing information in close to real-time

This is a serious concern for various categories of people, particularly those at risk, including victims of domestic violence, female-only households, and families with young children. It is also a source of anxiety for many other people whether or not it represents a real threat to their safety.

2. Centralised data-holdings of fine-grained data about household energy usage are both consumer-hostile and privacy-invasive, because:

- The data provides the many organisations in the energy supply chain with the ability to exercise power over consumers
- The data is capable of being accessed by organisations beyond the energy supply chain, to the disadvantage of householders
- The data is capable of disclosing usage of particular devices where the data is collected at a sufficiently high level of intensity and granularity
- Data Breach Notification schemes have made very clear that all organisations are subject to ongoing attacks, that most organisations have inadequate data security safeguards in place, that a great many hacks are successful in extracting data, and that successful hacks create risks for individuals that are difficult to understand, and difficult, time-consuming and frustrating to mitigate, resulting in anxiety for many individuals

This is an abuse of consumers' economic and privacy interests, and a source of stress for many people, particularly those who try to live private lives.

3. The collection, retention, use and disclosure of data that is a threat to safety, and abusive of consumer and privacy interests requires very substantial justification.

4. The argument that consumers benefit individually from the transmission of intensive energy-usage data and its storage in an industry-accessible database has always been at best wishful thinking and at worst fraudulent. This is because:

- Few consumers are capable of time-shifting their energy usage
- Consumers buy replacement equipment infrequently, and factors other than energy-consumption commonly dominate their choices
- Few consumers have sufficient understanding of, and commitment to, monitoring their usage and taking actions that will reduce their usage and/or costs
- The net financial benefits were always small, and are already being rapidly reduced by an energy industry that is both strongly profit-oriented and faced by substantial demands for capital that exceed their willingness to invest

5. **Consumer benefit is already being eroded by means of financial penalties that it is proposed be applied to households that provide renewable energy at times inconvenient to existing operators.** This arises in turn because of the gross inadequacy of privatised energy industries' investment in the upgrading of distribution networks in order to cope with and effectively exploit renewable energy sources.
6. **The argument that fine-grained, household-level energy usage data is needed in order to manage the grid has always been seriously at odds with reality.**
Data for grid management is needed at a higher level of demand aggregation than the individual household. Metering is needed at points within the distribution network, no deeper than the level of the final step-down transformer, not at individual premises.
7. **There is considerable incentive for the industry to seek ways to monetise the data-holdings.** That inevitably involves re-purposing intensive personal data that has been extracted under duress, abuses privacy rights, and provides very limited benefits to householders.
8. **All that is needed in order to reduce the labour costs associated with manual meter-reading is a meter that aggregates energy usage data over time, and transmits the aggregated data, and only the aggregated data, from each household once per payment cycle.**

CONCLUSIONS

9. **None of the arguments that are advanced justify centralised data-holdings of fine-grained data about household energy usage.**
10. **The industry's approach to the gathering of energy usage data needs to be significantly adapted, by means of the following measures:**
 - **Address grid management by gathering data upstream, not at the level of individual households**
 - **Migrate the functionality of meters to transmission of aggregated data only, and only once per payment-cycle**
 - **In the meantime:**
 - **Continue the availability of Type 4A / non-transmitting meters**
 - **Stop suppressing information about the availability of Type 4A meters**
 - **Make information about the availability of Type 4A meters readily available**

[Home](#) [Privacy, Smart Meters and Electricity Usage Data](#)

Privacy, Smart Meters and Electricity Usage Data

Australian Privacy Foundation Public Information Paper Privacy, Smart Meters and Electricity Usage Data

Version of 9 February 2022, rev. 19 November 2022

The Short Version

During the 2010s, a cluster of organisations conspired to:

- gather detailed data about consumers' electricity usage, and
- make it available to a flotilla of organisations in, and possibly beyond, the electricity industry.

Organisations involved included government policy agencies, regulators, and the many kinds of corporations involved in the now broken-up and privatised electricity industry.

That manoeuvre was accompanied by a conspiracy of silence. The industry makes it very difficult for consumers to discover that consumers can create obstacles, and perhaps even prevent, intensive data about themselves being expropriated and exploited.

The elements that make up the scheme are:

- **A 'smart' meter**, which is compulsorily installed irrespective of the consumer's preference, and which has the capability to store data about power usage at short time-intervals, and transmit it frequently;
- **A database** operated by one of the many categories of service-provider that now make up the splintered electricity industry;
- **Access to the data** by various other categories of service-provider, most reasonably of course the retailer that the consumer has a contract with; but others as well.

The following section provides a brief explanation of what a consumer can do if

they have concerns about these data practices.

The last section provides a fuller explanation and access to a few key sources.

How To Reduce the Privacy-Invasiveness of Smart Meters

Ask your current electricity retailer to replace your current meter with:

A Type 4A / MRAM meter with disabled communications

This is a smart meter, which gathers intensive data just the same, but does not transmit it every hour or day, because the data-transmission component is disabled or removed.

Some retailers might refuse to supply power to premises with a Type 4A meter, so it's necessary to explain clearly when you get quotations that you have that kind of meter.

Some other retailers may have difficulty understanding the request. (The standards of customer support in the industry are not high). In the ACT, for example, it appeared in late 2021 that only 3 retailers were capable of offering a contract, of about 9 active in the jurisdiction.

Post Script 19 Nov 2022: **It turns out that there are quite a few Type 4As installed**, at least in Canberra. Some are for privacy reasons, but some may be because the site isn't compatible with transmission (e.g. no space for the antenna to be installed). So it seems that they then install the less expensive Type 4A.

Make sure that you **check whether any fee will be involved**. If there will be, ask how much, and under what circumstances the fee does not apply, or will be waived. There appear to be a number of such circumstances. (For example, it seems to be gratis if you need to have a meter replaced, e.g. due to its age, or solar is being installed, and you ask your current retailer).

Installing a Type 4A meter is best done sooner, not later. The edicts, and the practices of the industry, are shifting towards much more intensive data collection, transmission and retention. By installing a meter soon, you will get whatever the current setting is (e.g. 30 minutes). It appears that a change to the far more intrusive intensity of 5-minute intervals, and that this may be imposed, without your consent being sought or needed. After the meter is installed, it appears that the interval is less likely to be changed, at least until the organisation has a need to come out and modify the meter.

The Public Information Paper

Summary

This Public Information Paper provides guidance on how to reduce the privacy-invasiveness of smart meters. The situation varies across States and Territories, and to some extent depending on the distributor (the 'posts and wires' company) and the retailer (who you pay for your electricity). As a result, this document may contain some imprecise statements about your own particular situation.

Please [let us know of any experiences you have](#) that are different from what is described here, and of any additional useful sources of information you find on the topic.

Background

Each household that is connected to the electricity grid is charged for the electricity that it uses. This may be measured using an old 'analogue' meter or a more recent 'electronic' or 'digital' meter. In both cases, the data that is extracted is the total usage over a long period (usually a quarter or a month), possibly in several sub-totals based on the time-of-day. This data is necessary, relevant, and not very privacy-sensitive.

In recent years, edicts have been issued by governments declaring that:

- All new meters must be so-called 'smart meters';
- All households that install solar panels and connect them to the grid must have smart meters installed; and
- All meter-replacements must be smart-meters.

Smart meters have two key features:

- They **record much more finely-detailed data**, in some cases per half-hour, but increasingly commonly per 5-minute interval, and potentially even more fine-grained than that; and
- They **enable transmission of that data to a central database**, from which multiple organisations can gain access to it.

This creates new security risks, because:

- Vacant and low-occupancy premises can be detected; and
- Inferences can be drawn with reasonable levels of confidence about the number, and even age and gender of the occupants, and about their power-usage patterns;
- If very-short-interval data is collected, individual device-types may be

- In very short interval data is collected, individual device types may be detectable.

As a result, **some consumers are justifiably concerned about the privacy impacts of smart meters.**

Proponents of smart meters claim that smart meters are of benefit to consumers. For a small proportion of people, this may be true. However, it only applies to those consumers who have all of the following:

- Sufficient technical understanding;
- Spare time on their hands;
- The ability to choose when to use key appliances (which is commonly not the case); and
- The self-discipline needed to choose consistently as well as wisely.

For most consumers, on the other hand, smart meters are of no value.

The Real Purposes of Smart Meters

The primary purpose of smart meters is **savings for the electricity industry in relation to the labour costs associated with reading meters.** In principle, that's generally a good thing, although the extent to which some of the savings may be passed on to consumers depends on a few factors.

Other benefits to the industry might arise, such as the **detection of segments of the network that require repair or enhancement.** That, too, is clearly a good thing. It could be achieved far more efficiently, however, by installing far smaller numbers of meters further up the network, such as at suburban transformers.

There are also potential benefits for organisations if they can make **use of the data for additional purposes.** Those organisations may include a range of corporations in the power industry, corporations in other industries, particularly consumer marketing; and they may also include government agencies concerned variously with data collection (e.g. ABS), economics, public policy, and law enforcement. This is a further important reason why some people have privacy concerns about smart meters.

An indication of how many categories of organisations get access to the data is in the [Appendix](#) below.

Avoiding Smart Meters

Government edicts make it very challenging for consumers to protect their security and privacy. In particular, when a change in meter is required, there is no legal way

and privacy. In particular, when a change in meter is required, there is no legal way to avoid a smart meter being installed (apart from going off-grid).

However, there is a craftily-hidden - but possibly not cheap - way to reduce the negative impacts on your security and privacy. It is possible to have a neutered smart-meter installed. By this is meant **a Type 4A smart meter, which is one whose data transmission capability has been removed or disabled.**

A meter-reader needs to come around periodically (preferably annually, to reduce the cost, but many retailers seem insist on doing quarterly reads), and retailers may charge the householder for each meter-read. In the ACT, one experience was that only 3 / 9 retailers said they could provide power to premises with a Type 4A meter. Of those, 1 (Red) wanted to charge over \$600 p.a. for manual reads, whereas the other 2 were vague about whether they would charge or not. The old provider (Actew) did not charge for the one read that was done, and the new provider (Origin) did not charge at least for the first two reads.

For the means whereby a consumer can reduce the privacy-invasiveness of smart meters, [see above](#).

The Details

The details are difficult to discover. Electricity distributors (who run the network) pretend not to know anything about it. Most electricity retailers (who you pay for your electricity) pretend not to know anything about it (or fail to include the information in the training they provided to their call-centre staff). Most electricians, even including the ones who install solar panels, don't seem to know anything about it.

There's a mention halfway through [a long page on Smart Meters at the web-site of the Australian Energy Regulator \(AER\)](#):

What if I do not consent to having a smart meter installed at my property?

Retailers are required to install smart meters for new connections (eg. a new build house) and if your meter is faulty or has reached the end of its life and needs replacing. **If your meter needs replacing, you can ask your retailer to disable the communications functions. There may be additional costs** associated with the retailer having to do manual reads of your meter if you choose to have the telecommunications disabled.

A meter of this kind is called an MRAM or a Type 4A. We've been unable to find out what 'MRAM' stands for. However, a Type 5 meter is an MRIM, which stands 'Manually Read Interval Meter', so MRAM may mean 'Manually Read Automated

Meter'. You may be able to find more information by searching on relevant web-sites.

Here is some [information from the Australian Energy Market Commission \(AEMC\)](#):

"A type 4 meter is a two-way digital communication system that automatically sends a customer's usage data to the required parties through its remote communications function. This automated communication ends the need for manual meter reads *and gives customers greater control over their electricity usage and billing arrangements, and a choice of services.* [The claim in the italicised clause is contentious.]

"A type 4A meter is a meter that is capable of providing the services ... but has its communications deactivated and therefore cannot be remotely read and/or managed. ... a type 4A meter can be installed in place of a type 4 meter in certain circumstances.

"A metering coordinator can install a type 4A meter where ... :

- In the metering coordinator's reasonable opinion, the small customer has communicated their refusal to the installation of a type 4 meter (with the communications enabled)".

Similar information is on the web-site of the Australian Energy Market Operator (AEMO), in its '[Metering Exemption Guideline](#)'.

Some suppliers also include statements, e.g. [for regional Queensland](#):

"2. Can I opt out of a new Type 4 digital meter?

"A customer can refuse to have a Type 4 digital meter, in which case, the new digital meter will still be installed, but the communications capability is not installed. This meter is known as a Type 4A. *Type 4A meters are not recommended as many of the customer benefits of having a digital meter are lost*". [Again, the claim in the italicised clause is contentious, because for the large majority of consumers, the only 'benefit' is avoiding the risk of having to pay an additional amount for manual reads.]

It appears from [an article on a protest site](#) that the opportunity to install Type 4A meters was only won in early 2019.

Appendix: What Organisations Get Access to Consumers' Data?

It is far from easy to find out what categories of organisation exist, and what access each has to the data. A small glimpse of insight into the major categories is the

each has to the data. A small degree of insight into the many categories in the splintered electricity industry is provided by the (huge) [National Energy Regulations](#). Relevantly, in s.7.10 c. pp.1073-1085, mention is made of 'metering data providers' and of a 'metering data services database' that stores the massive amount of intensive household data for 7 years.

Categories of organisation that have access to the database, mentioned in s.7.15.5, include 'registered participants'. There are a great many of these, and they take 25 pp. to define (s.2, c. pp.10-35). Some organisations of relevance appear to be 'retailer', 'local retailer', 'market small generation aggregator', 'metering provider', 'metering coordinator', 'distribution network service provider', 'network provider', 'network manager', the regulator AEMO, and its agents and any regional regulators, and the energy ombudsman. So the number of points of data-exposure is very large.

CONTACT APF

APF's Board and Committee-members are available to [Campania](#) media with backgrounders on specific privacy issues, and with [Media](#) comment

SEARCH

SOCIAL LINKS



NAVIGATION

- [Campaigns](#)
- [Media](#)
- [Policy Statements](#)
- [Publications](#)
- [Additional Resources](#)
- [About the APF](#)
- [Privacy Policy](#)
- [Subscribe](#)

This web-site is periodically r
Pandora Archive, and by the

Web hosting provided by

