# Meter data access – an evolving issue

In the previous edition of QSI, we discussed the challenges and potential for Demand Side Management (DSM) and the roles that network businesses, retailers, regulators and customers must play in order for DSM to prove effective in combating the spiralling cost of infrastructure driven by peak load growth. In this article, we examine how meter data contributes to demand side solutions, who need access to this data, when and why.

## Customer metering data is becoming more complex

Traditional accumulation meters have not posed many problems when it comes to data ownership. The distributor reads the meter once every few months and provides the meter reading to the retailer. The retailer generates a customer bill which includes the meter read information. The customer can then compare the itemised meter reading to their actual meter reading. Simple.

However the advent of smart metering, and in particular time-of-use metering data, has introduced two issues around customer data ownership and management. Firstly, there is too much data to sensibly present on a customer bill – accumulation meters have one meter reading per billing period, compared to time-of-use meters which have about 3,000 readings on a two-monthly billing cycle (one reading for every half hour). Secondly, access to real-time consumption information may pose a security threat to customers – low or zero consumption could indicate a property is vacant, possibly making it an easy target for IT-savvy thieves.

## Customer metering data ownership is probably not the issue

*"The real question is not "who should own the data?" but rather "when should the data be made available?"*

In the past, the customer had full access to their metering data – this is no longer the case. Some jurisdictions have mandated that accumulation reads are included on bills, but this does not provide the full picture of a customer's electricity usage. To enable customers to have full access to their metering data, retailers need to make available historical time-of-use metering data to a customer on request. While this allows a customer to compare the bill with the meter reading, it does not provide the anticipated benefit of real-time consumption feedback.

National and jurisdictional smart meter functionality specifications allow the customer to access metering data in real time by using a Home Area Network (HAN). While smart meters must provide this functionality, there is currently no mandate within any jurisdiction to make this functionality available to customers.

Real time access to metering data has raised concerns over data ownership. Does the distributor own the data given they read the meter and correct readings if required?

MHC perspective

Does the retailer own the data given they provide the customer their bill? Does the customer own the data given they consume the energy being billed? Does "ownership" mean "the right to use" or does it also mean "the right to sell"? If the latter, issues around privacy and security need to be considered from a legal and socio-political perspective. For the purpose of this discussion, we will focus on "the right to use" data and, since all parties have some rights to access data for their own use, MHC asserts that the real question is not "who should own the data?" but rather "when should the data be made available?".

### Timing of metering data access is critical for load control

One of the major advantages of smart meters is that distributors and retailers can carry out demand side management using load control of customer appliance. This is achieved by using the controlled load contactor in the meter (where available) or through additional load control devices as shown in the figure below.
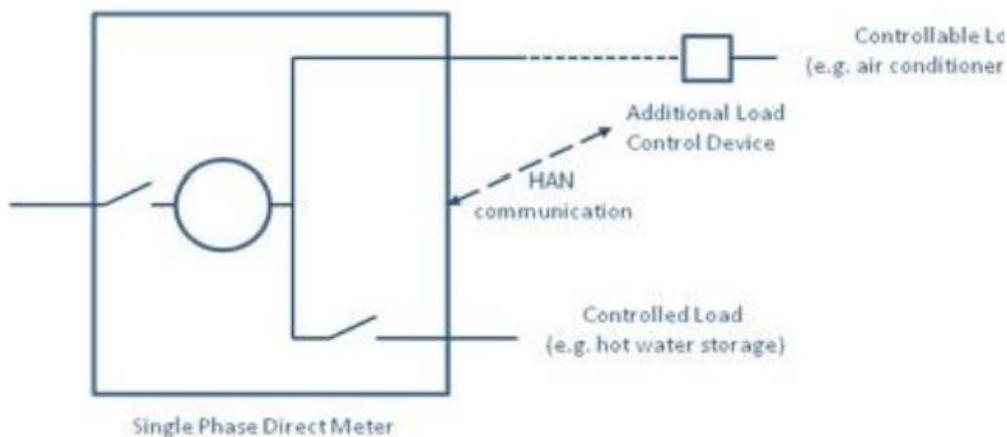


**Figure 1:** Available load control methods

Distributors are likely to enable load control in response to system-wide or localised supply constraints. This is primarily independent of real time access to metering data, although decisions concerning localised supply constraints may be enhanced though access to real time metering data. Localised information derived from metering data may provide greater granularity as to the extent or physical location where load control is required.

Retailers are likely to use load control in response to dynamic peak pricing on the purchase of energy. By controlling customer loads, retailers can limit exposure to dynamic peak pricing; resulting in savings to the customer in energy usage (assuming time-of-use tariffs are used) and savings to the retailer in hedging costs. Load control decisions based on dynamic peak pricing are independent of individual customer energy usage so do not require real time access to metering data. Yet using real time metering data may elicit a greater response from customers if individual messages are sent to those consuming large amounts of energy.

*"Smart meter roll out includes significant benefits from changing customer behaviour."*

MHC perspective

Cost benefit analyses for the roll out of smart meters invariably recognise customer-driven benefits, in addition to benefits for distributors and retailers. These benefits are typically a reduction in customer electricity bills by shifting electricity usage from peak to off-peak periods – a form of voluntary load control. This passive response is unlikely to engage the customer in electricity usage when their only exposure to it is via an infrequent bill.

High levels of customer engagement with their metering data may be achieved by access to real time metering data. In turn, this may result in additional levels of demand response than if it were solely initiated by the distributors or retailers. Customers may delegate this form of load control to retailers or third parties by granting them access to real time metering data within the customer's premises. Companies such as Green Box Group, are already positioning themselves to take advantage of access to customer metering data (1). Before customers gain access to real-time metering data, a number of issues need to be addressed, including primacy (priority) of receiving messages sent via the distributors' smart metering communications networks and appropriate management of messages sent to customers. Work is progressing at a national level to address these issues.

### The case for timely access to metering data via the Home Area Network

The argument for a smart meter roll out includes significant benefits from changing customer behaviour. To achieve these benefits, customers must be given a choice of when and how to use their consumption data. In Australia, metering programs to date have been distributor driven and benefits are primarily considered from an industry perspective, leading to benefits for customers in time. The question of timely access to meter data should also be answered in the context of the customer and overall community.

Customer-driven benefits are largely to be delivered through use of real time metering data enabling customer engagement with energy usage. Providing a HAN allows the customer to access real time metering data and make informed energy usage decisions – enhancing the benefits of smart metering. This cannot be achieved without timely access to metering data via the HAN. At present, information asymmetry favours industry players who prefer to make decisions on behalf of customers rather than respond to customer needs; but this same asymmetry contributes to an escalating peak demand level and increased network charges. This may be a short-term benefit for network owners, but is likely to assist the penetration of non-network solutions which would in turn erode the long-term value of networks.

It is MHC's view that governments should mandate network operators to enable HAN access (where HAN-enabled smart meters have been installed) upon request by customers. Smart retailers can then support customers in managing energy consumption to achieve cost and environmental benefits –and customercontrolled DSM can begin to take effect. This does not preclude network businesses from exploring direct load control solutions, and can only serve to increase our chances of reducing peak load, increasing asset utilisation and reigning in asset investment requirements.

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