



INTELLIHUB GROUP SUBMISSION TO PRODUCTIVITY COMMISSION GREEN PAPER: CONTINUING THE PRODUCTIVITY CONVERSATION

The need for an accelerated
deployment of smart meters as an
enabler of improved energy
productivity



The Productivity Commission's Green Paper identifies the potential for improvements in the productivity of the energy sector to deliver lower prices for consumers while maintaining reliability and security. In particular, demand management, cost-reflective pricing, improved access to data and increased adoption of new technologies including distributed energy resources have the potential to drive significant improvements in productivity and reductions in costs.

However, these productivity gains cannot occur without increased uptake of smart meters.

At present Australia is on track for one of the slowest roll outs of smart meter technology in the developed world. At our present rate, NSW will not reach full deployment of smart meters until the middle of the century. Without reforms, NSW will be stuck with a fleet of ageing and unresponsive accumulation meters that cannot support new services and tariffs and become an impediment to a low cost modern electricity grid.

Intellihub supports the Commission's draft recommendation 5.11 that the NSW government "Evaluate options for rolling out smart meters to all consumers and for time-of-use, cost-reflective electricity pricing".

With appropriate government support and regulatory reforms, smart meters can be immediately deployed to help improve energy productivity and deliver better outcomes for consumers.

This submission provides background on the extent of the current barriers to the deployment of smart meters and recommendations on actions that could be taken to accelerate their deployment to implement the Commission's draft recommendation.

Adrian Clark
Group Chief Executive Officer
Intellihub

M +61405334195
E adrian.clark@intellihub.com.au



Who we are

The Intellihub Group (Intellihub) is an Australian and New Zealand based utility services company focused on electricity, gas and water metering services. We are a leading provider of electricity smart meter services in Australia and are currently deploying advanced digital meters to residential and business customers in most states and territories in Australia.

We partner with electricity retailers, distributors and other energy sector participants to utilise smart metering technology to deliver data and services that improve the affordability, reliability and security of the electricity sector.

Smart meters are an essential enabler of improved energy productivity

Intellihub supports the Green Paper's conclusions that energy is an essential input into production and consumption and that the energy sector must evolve to remain cost-effective. Intellihub also agrees with the Commission that improved productivity and reduced costs can be achieved by demand management and new technologies that enable consumers to move some of their energy consumption away from peak times.

As noted by the Commission, smart meters are a prerequisite for these productivity improvements.

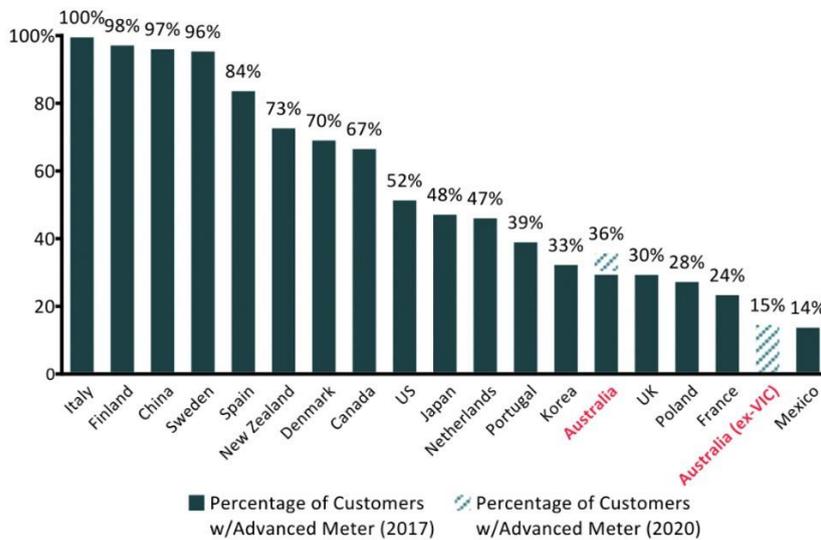
Without smart meters, consumers cannot engage in demand response or receive time-of-use prices. They cannot be rewarded for reducing their consumption at peak times or using their batteries or electric vehicle to support the grid, install solar panels, access potential future services such as peer-to-peer trading, or access information about their energy consumption and ways to reduce their usage and costs. Similarly, smart meters can provide valuable data and services for AEMO and network businesses to help them manage a grid more efficiently while maintaining security and reliability.

Intellihub is collaborating with a number of electricity network businesses and retailers on its own trials, exploring ways to harness services data from advanced digital meters to improve productivity.

Australia currently has one of the slowest smart meter deployment programs in the world

Smart meters are an established and cost-effective technology. However, the current level of penetration of smart meters and current deployment rates in Australia are extremely low. Outside of Victoria, Australia has one of the lowest levels of smart meter adoption in the OECD and one of the slowest deployment programs in the world.

Figure 1: Advanced meter penetration by country

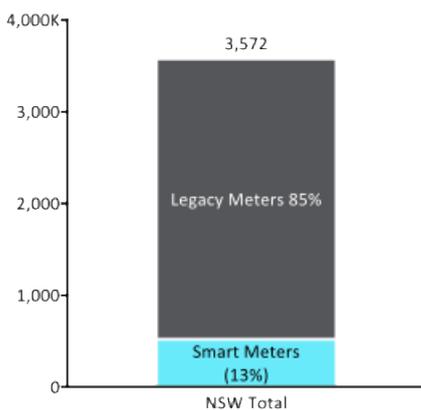


The vast majority of NSW customers currently have old manually-read mechanical meters that can only record the customer’s total consumption and are only read once every three months.

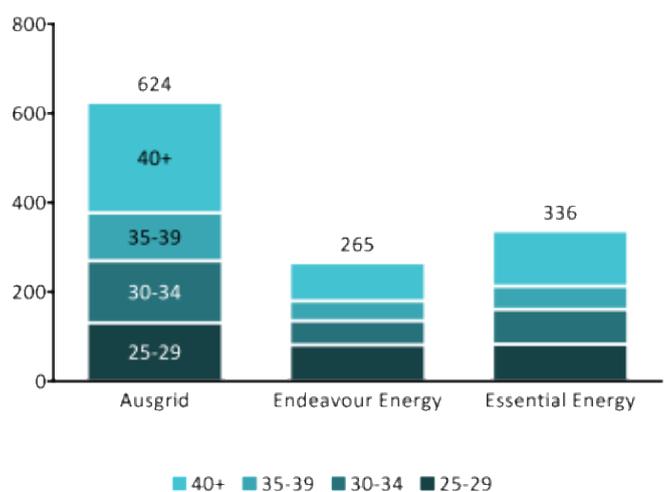
Around 1.2 million meters in NSW are older than their 25 year standard asset life but are still in use and being paid for by customers. This is one of the last major legacies of the analogue era remaining in the electricity system.

Figures 2 and 3: Total meter market penetration (NSW, 2000); Accumulation Meters over 25 years old (NSW, 2020)

Total Meter Market, NSW (2020)
smart meters equivalent (000s)

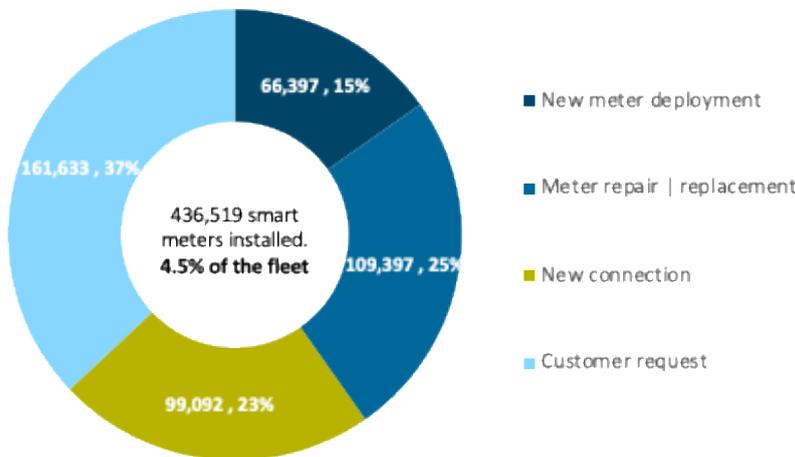


Est. Legacy meters >25 years old, NSW
smart meters equivalent (000s)



As the Commission notes, from December 2017 all new and replacement meters in NSW must be smart meters. However, the pace of the deployment of smart meters has been extremely slow. Only around 5% of meters are being replaced with these meters each year, mainly for new houses or for customers who need them to install solar PV.

Figure 4: Meters installed in 2019 by reason and jurisdiction (NEM ex-Victoria)



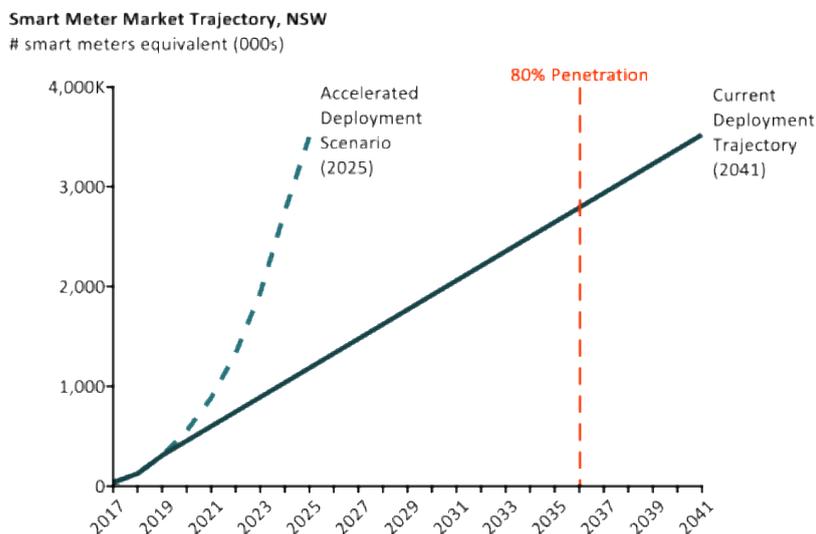
Source: AER retailer performance data 2019-20. Note: “New meter deployments” are proactive retailer meter upgrades. “Customer request” are almost all meter upgrades required to support a new solar PV installation.

The Commission states that “Consumers can request a meter upgrade – which may be free of charge”. However, while in theory retailers can offer advanced digital meters to customers on request or on an “opt-out” basis, very few are doing so. In 2019, NSW retailers only installed about 30,000 smart meters across their entire customer base under these types of proactive upgrades, or about 0.5% of their existing meters. One large retailer refuses all requests from customers who want to upgrade their meter to a smart meter.

The rates of replacement of faulty manually-read meters have also fallen, despite increasingly old meter fleets, with some NSW network businesses having reduced their accuracy testing rates for existing manually-read meters to as low as 40 for every 100,000 meters.

At this rate, it is likely to be 2040-2050 before a full deployment of smart meters is achieved in Australia. In comparison, most other countries completed smart meter deployments in five to seven years.

Figure 5: NSW smart meter market trajectory



The role for governments in accelerating smart meter deployment

Intellihub supports the Commission's comments that there would be significant benefits in State governments collaborating with energy businesses to expediate the rollout of smart meters.

As the Commission notes, any accelerated deployment should learn lessons from the Victorian mandatory rollout. The competitive metering rules that commenced in NSW in December 2017 contain many protections that were designed to avoid the problems that occurred in Victoria, including consumer "opt out" provisions, comprehensive consumer protections and rules protecting access to metering data. Metering businesses must also be registered and accredited by AEMO and meters can only be installed by licensed electricians, so governments can be assured that safety issues would be managed appropriately.

Intellihub supports the Commission's draft recommendation 5.11 that the NSW government "Evaluate options for rolling out smart meters to all consumers and for time-of-use, cost-reflective electricity pricing".

This recommendation should be bolstered by a recommendation for government funding to kick-start the accelerated deployment.

Government funding could be structured as an incentive for installing smart meters, with a payment of a specified amount for each installation of a smart meter to replace an existing manually-read meter. This payment would be made to electricity retailers, as they are the party responsible for the decision to install a smart meter. The objective of the incentive payment would be to remove the current cost differential to retailers between charges for continuing to use an old manually-read meter until it fails and charges for a new smart meter.

The payment could be weighted to encourage smart meter deployments in regional areas, where there are additional benefits such as remote reading of meters and increase of competitive retail products.

Government would only need to contribute a small part of the cost of a smart meter, with the majority of the costs of installation and ongoing operation and maintenance of the meters continuing to be funded by retailers and metering businesses, enabling government to leverage private sector investment. This funding would only need to be temporary to kick-start the market over an initial 1-2 years.

Retailers would engage a metering business in the competitive metering market to undertake the installation of the new smart meter. Metering businesses can then make smart meter data and services available to other energy sector participants, in compliance with the current rules on access to data and privacy. Consumers and energy businesses can then use the capability of smart meters to boost energy productivity, enable increased uptake of DER such as solar PV and batteries, and enable distributors and AEMO to maintain security and reliability.

Such a program would also help reduce energy costs across the sector, delivering flow-on benefits for consumers and the productivity of the broader economy by:

- enabling consumers to better understand their consumption, access time-of-use or other forms of cost-reflective pricing and take actions to manage their costs

- enabling consumers to invest in and install new technologies such as solar PV, batteries and electric vehicles and participate in demand response programs that can help reduce peak demand
- improving energy productivity and affordability across the sector, including by:
 - reducing network costs as distributors can access smart meter data, load control and other services to better manage demand and avoid costly network augmentations; and
 - reducing wholesale costs as more zero marginal cost renewable energy from DER can be used instead of higher-cost centralised generation as distributors and AEMO use smart meter data to better manage the grid and reduce constraints on the installation of DER or the export of energy from DER.

Related regulatory reforms

A series of regulatory and policy reforms should also be made to accelerate the roll-out of smart meters. The current rules create barriers to an efficient large-scale deployment of smart meters through a lack of transparent data, inadequate incentives for the deployment of smart meters and the use of their data and services, and inefficient transaction costs and barriers to commercial arrangements for the use of smart meter data and services.

IntelliHub would be happy to provide further details on reforms that could enable smart meters to be rolled out to all NSW customers on an accelerated timeframe. Key reform options would include:

- requiring all manually read accumulation meters over a certain age (eg 25 years) to be replaced with a smart meter within a specified timeframe
- strengthening accuracy and testing requirements for manually read accumulation meters
- making it easier for metering businesses to share smart meter data with distributors where that data is used to help them manage their networks more efficiently
- enhancing incentives on distribution businesses to use smart meter data and services to improve the efficient operation of their networks
- requiring retailers to offer customers a smart meter on request
- improving the transparency of data to understand and improve the efficiency of the metering market.