energy networks association

ENA

AEMC Public forum, competition in metering

Minimum services specification – DNSP perspective

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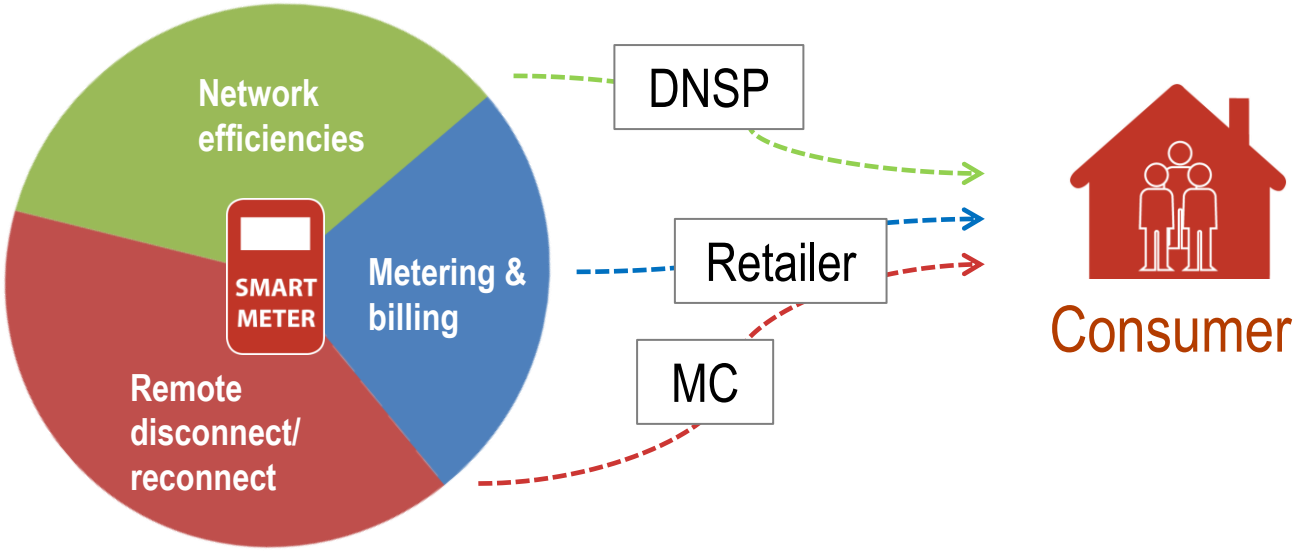
Why a minimum specification?

The NEO: "…to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system."



Available smart meter benefits (not inc. DSP)

Source: Deloitte 2011

Advanced meter functions used by DNSPs

- **Controlled load**
  - Around 3 million customers in the NEM
  - More than 8 GW of load under control

- **Power quality data**
  - Enabling ongoing integration of renewable energy into the grid
  - Compliance, optimisation, fault detection

- **Remote service check / Loss of supply / supply restoration**
  - Better customer experience
  - Reduced cost to maintain reliable supply through more efficient use of field crews and other resources

AEMC proposed minimum services

Minimum services
Remote disconnection
Remote reconnection
On-demand meter read
Scheduled meter read
Meter installation enquiry
Meter reconfiguration

Secondary services	Value added services
Re-energisation with safety provisions	Home Area Network
Load limiting	Supply failure and restoration notifications
Load management	Meter installation asset management
Local access to connect device to meter	Customer safety monitoring

Victorian AMI, NSMP National Spec., UK SMETS, etc

AEMC proposed minimum services

Minimum services
Remote disconnection
Remote reconnection
On-demand meter read
Scheduled meter read
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Meter reconfiguration

- Service should include provisions for the safe reconnection of supply
  - Victorian AMI spec (load sense, arm)
  - NSMP (load sense, arm)
  - UK SMETS 2 (arm)
- Rationale for excluding from minimum spec:

  "provides no additional benefits"

  "could be mandated under a regulated rollout, but not a competitive rollout"
- ENA considers that customer safety benefits are real, and independent of rollout model

AEMC proposed minimum services

Minimum services
Remote disconnection
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On-demand meter read
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Meter reconfiguration

- Service definitions should include performance requirements
- Scheduled read service should be based on '*remote acquisition*' as defined in NSMP / Vic AMI
- Include scheduled read of meter event logs, e.g.
  - Voltage threshold alarms
  - Remote disconnect / reconnect events
  - Supply loss / restoration events
  - Tamper alerts, …

"AEMO recognises that one of the most important features of an advanced metering system is the rich source of data that can be made available to authorised parties on a frequent basis. The currently available standard file formats, known as Meter Data File Format Specification (NEM 12 and NEM 13), have been founded on traditional metering data sets ... There is a potential for the number of service request transactions to be reduced significantly if the standard formats are updated to consider advanced metering information."

AEMC proposed minimum services

Minimum services
Remote disconnection
Remote reconnection
On-demand meter read
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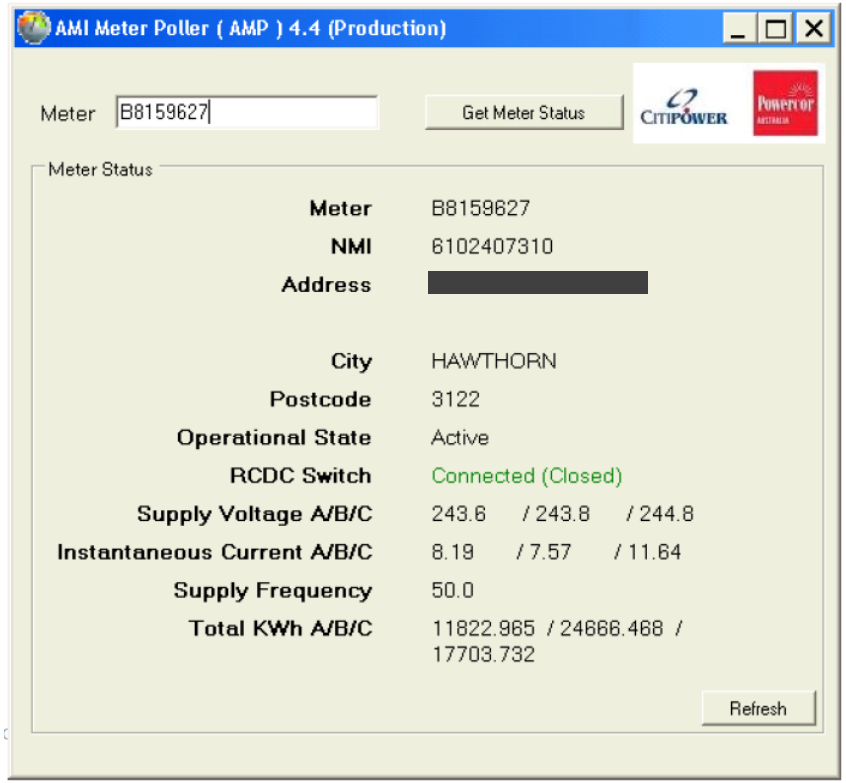
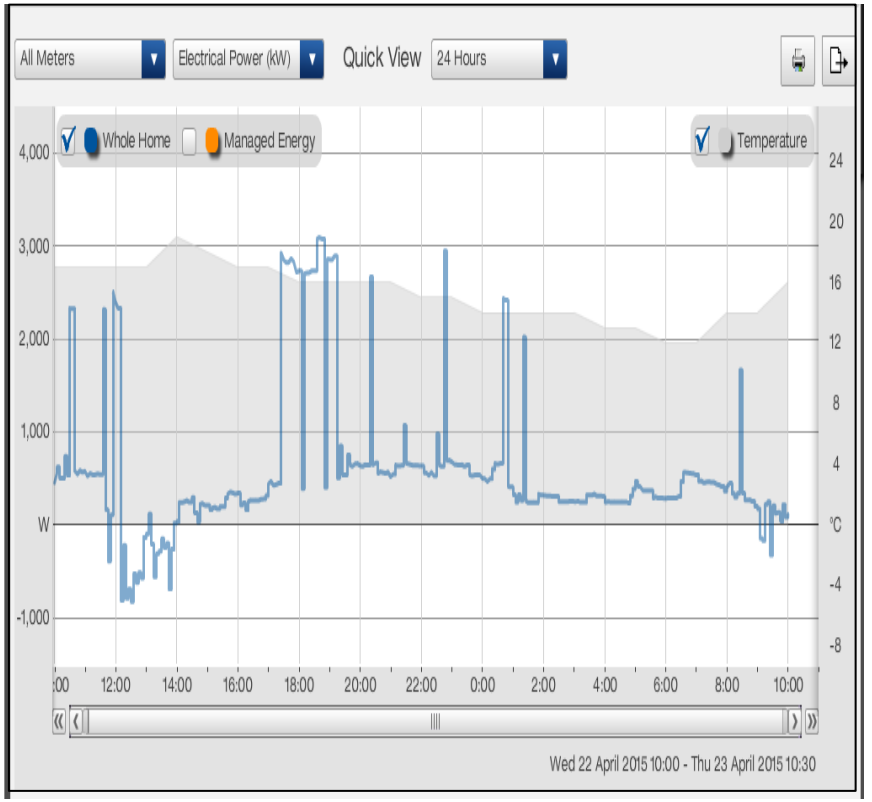
Meter reconfiguration

- This is a key service
- ENA welcomes the additional detail in the AEMC draft rule on the data that this is to include
- Performance level is fundamental to service definition
- Service needs to be available both on request and scheduled

Meter installation enquiry use cases





The proposed minimum services

Minimum services
Remote disconnection
Remote reconnection
On-demand meter read
Scheduled meter read
Meter installation enquiry
Meter reconfiguration

- This is a key service
- Definition needs to include more than just reconfiguration for tariff changes:
  - Thresholds for event alarms
  - Load control configuration, e.g. on/off times, randomisation
  - Parameters for services such as emergency supply limiting

Other services

Minimum services
Remote disconnection
Remote reconnection
On-demand meter read
Scheduled meter read
Meter installation enquiry
Meter reconfiguration

Secondary services	Value added services
Re-energisation with safety provisions	Home Area Network
Load limiting	Supply failure and restoration notifications
Load management	Meter installation asset management
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Victorian AMI, NSMP National Spec., UK SMETS, etc

Other services

- Supported by 2.5 million meters in Victoria today

  (1/4 of the NEM)

- Some services require critical mass to enable benefits

Secondary services	Value added services
Re-energisation with safety provisions	Home Area Network
Load limiting	Supply failure and restoration notifications
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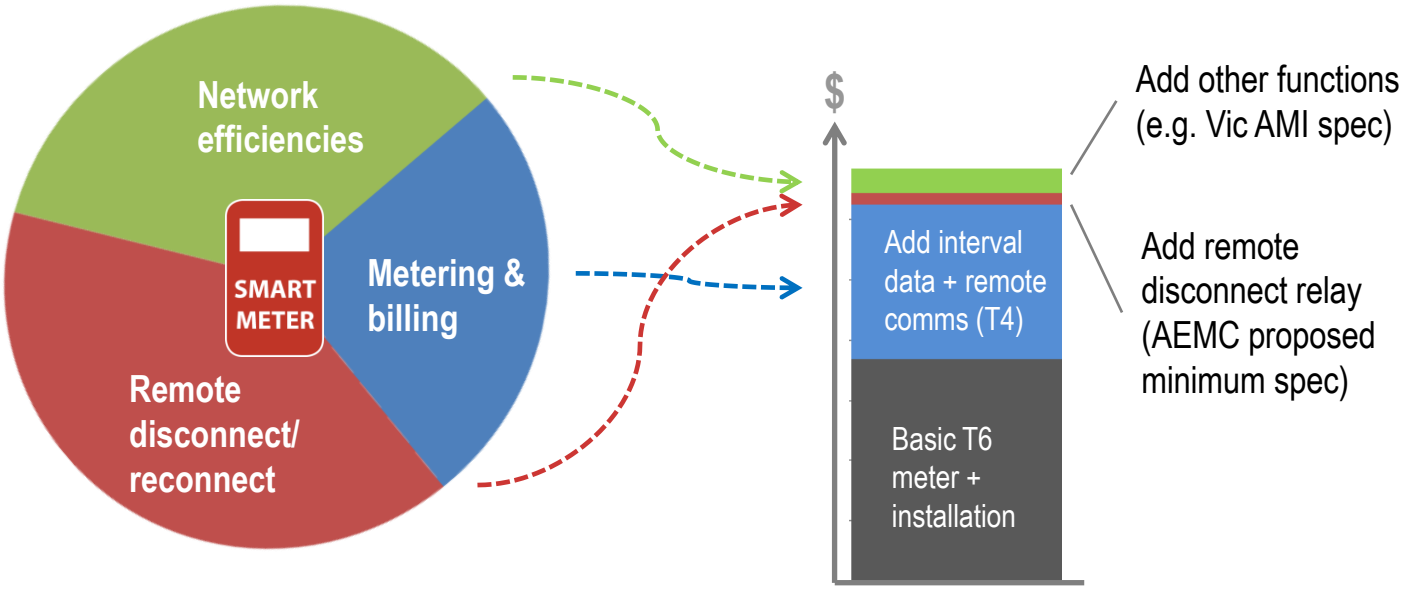
- *Technical* pre-requisites for achieving benefits from non-minimum services are:
  - Meters installed from day 1 must be capable of supporting them
  - Service definitions must be standardised

Cost implications of advanced services

- AEMC draft rule requires meters to be *capable* of minimum services, but does not require services to be enabled
- This largely mitigates risk of over-specification: customer exposure is limited to incremental meter CAPEX
- Risk of under-specification is premature meter replacement or lost benefit



Available smart meter benefits (not inc. DSP)

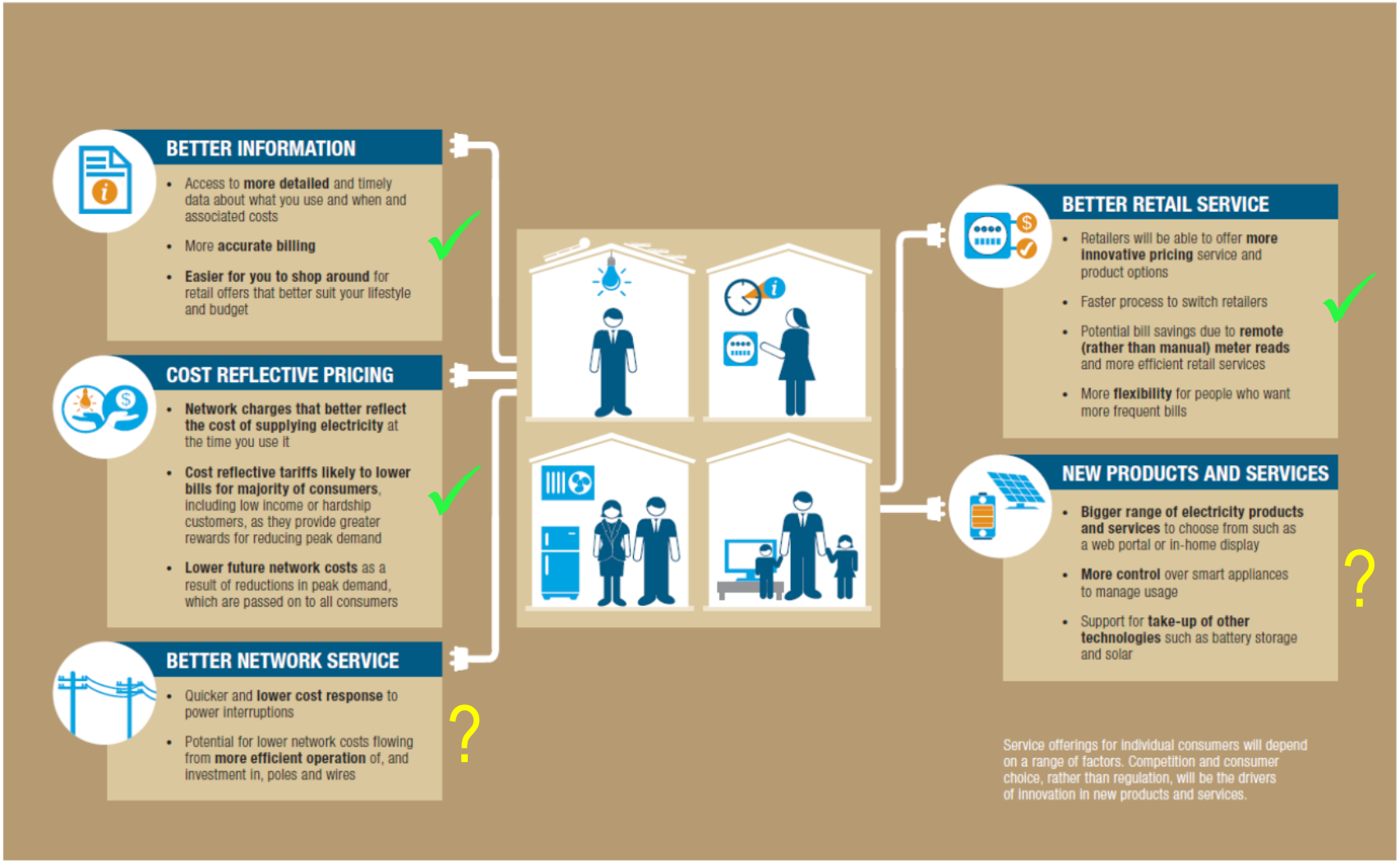
Smart meter cost stack

(meter + installation CAPEX)

Source: Deloitte 2011

CONSUMER BENEFITS

The draft rules enable the competitive deployment of advanced metering – allowing people to find new ways to monitor, manage and adjust their use of electricity to suit their budget.



AEMC infographic

Summary

- The importance of an adequate minimum specification in achieving the full range of smart meter benefits is well understood

> *"Recommendation: The COAG Energy Council should ensure that the minimum guidelines for smart meter functionality currently being developed by AEMO is sufficiently contemporised to enable network operators, retailers and third-party providers of smart metering services to cost effectively access relevant data in order to derive the full benefits of smart meters." (Smart Grid, Smart City final report)*

- AEMC's proposed minimum services can potentially enable a range of benefits, if sufficiently well defined

- Exclusion of network services from the minimum makes network efficiency outcomes uncertain, but unlikely to materially reduce meter cost

Questions ?

Supplementary material

The following slides are supplementary to the main presentation.

Opt out – practical considerations

- The draft rules provide for customers to be able to opt out up to 3 days before the scheduled date for work
- If a retailer or LNSP is funding a roll-out of advanced meters, the benefits are likely to rely on critical mass and certainty of coverage.
- Consequently, if a significant number of customers opt out at the last minute it may no longer be worthwhile proceeding with the new meter deployment.
- May be more appropriate for the opt out date to be something like 14 business days before commencement of the proposed deployment program, not individual meter installation dates.