

REVIEW OF THE REGULATORY FRAMEWORK FOR METERING

METERING REFERENCE GROUP #7

20 JULY 2022

AEMC

Before we start, an important notice: Compliance with Competition Law

- The Reference Group must not discuss, or reach or give effect to any agreement or understanding which relates to:
 - Pricing
 - Targeting (or not targeting customers)
 - Tendering processes
 - Sharing competitively sensitive information
 - Breaching confidentiality obligations

Each entity must make an independent and unilateral decision about their commercial positions.

Today's meeting: provide an update and getting feedback on some options

- **Reference Group session:** provides an update on the progress, and issues that are being considered
- **Sub-reference group sessions:** workshops to further develop options:
 - Multi-occupancy installations
 - Site remediation, and
 - Utilising the right exchange architecture for basic power quality data



Providing an update on
the review and
discussing solutions

Agenda

1. Update on the Review's progress

2. Improving installation processes workstream update

- Multi-occupancy 'one-in-all-in' approach
- Resolving site remediation issues

3. Enabling services & data workstream update

- Basic power quality data service for DNSPs
- Consumer access to data

4. Closing remarks and next steps

PROGRESS OF THE REVIEW



A reminder: the objective of this review, and the problem we are trying to solve



Objective of the review

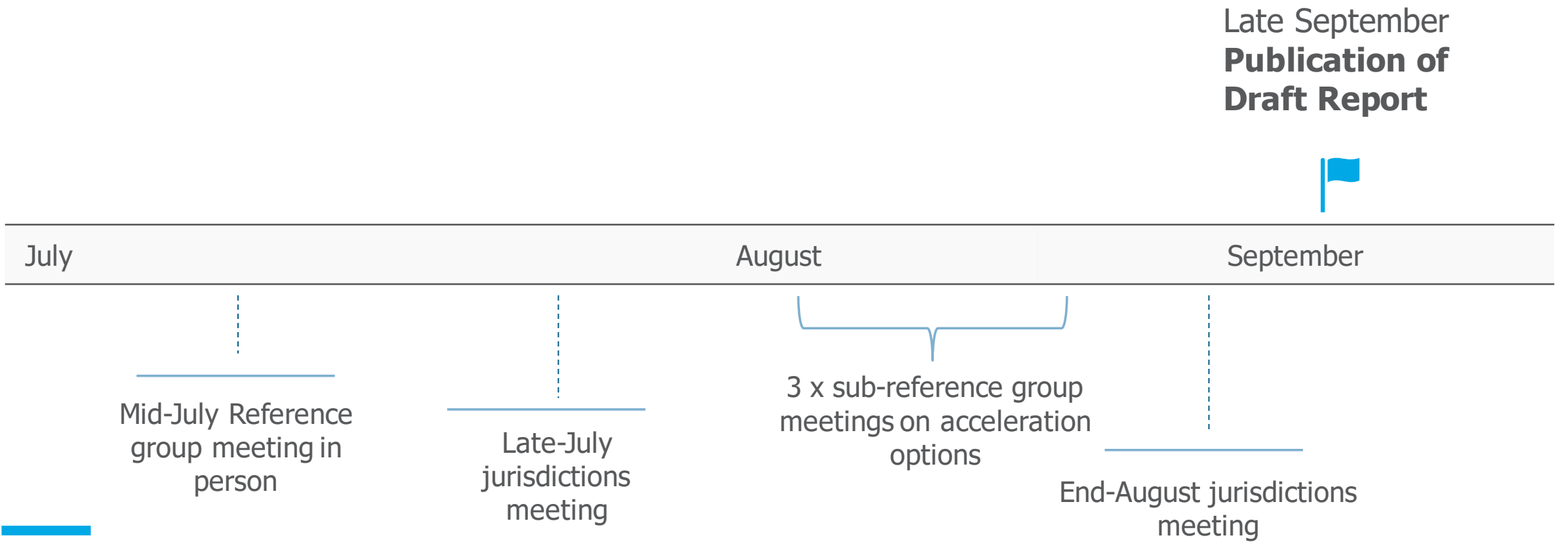
To enable the roll out of appropriately capable smart metering to consumers in a timely, cost effective, safe and equitable way, and to ensure metering contributes to an efficient energy system capable of maximising the benefits for all consumers



The problem statement

The current metering arrangements are not efficiently and effectively realising the key potential benefits that metering technology can enable for all consumers

Our project timeline has shifted back slightly, with a draft report in late September



Our Directions Paper set out four high level policy positions



Set a timeframe to achieve a higher level of smart meter deployment



Retailers and metering parties remaining responsible for metering services



DNSPs to support the rollout



Resolving key installation barriers

Most stakeholders support a clear direction to accelerate deployment with suggestions of their own

A universal roll out
with a timeline

An age-based
replacement program

An end or target
date for the roll out

A retail-led roll out
target for a certain
penetration of
meters by a certain
date

A coordinated roll
out across areas with
high DER or
emerging network
constraints

Expediting the roll
out to certain groups
or providing
government funding

Our Draft Report: a preview

- Options and recommendations where relevant for each of the key policy workstreams:

Measures to
accelerate
deployment

Improvements
of installation
processes

Services and
data access
framework

Including implementation considerations and feedback earned from the August working groups and jurisdictional government meetings.

IMPROVING INSTALLATION PROCESSES

WORKSTREAM UPDATE

Outcomes sought before and after the pause



When we paused

- There is a general consensus for most of the preliminary recommendations in the Directions paper such as notification requirements, customer opt-out and information for customers.
- Some still require further consultation with stakeholders, including:
 - Timeframe obligations for family failures

To be discussed at a later Reference Group



When we restarted

We have been focusing on [developing solutions](#) for unresolved and more complex issues, including:

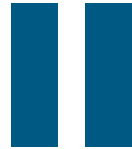
- [Multi-occupancy sites with shared fusing](#) in the complex and simple case for meter replacement
- [Site remediation](#)

To be discussed at this reference group

ENABLING SERVICES AND DATA

WORKSTREAM UPDATE

Outcomes sought before and after the pause



When we paused

- Development of a framework to facilitate efficient data exchange between participants
- Improve consumers' access to billing & consumption data

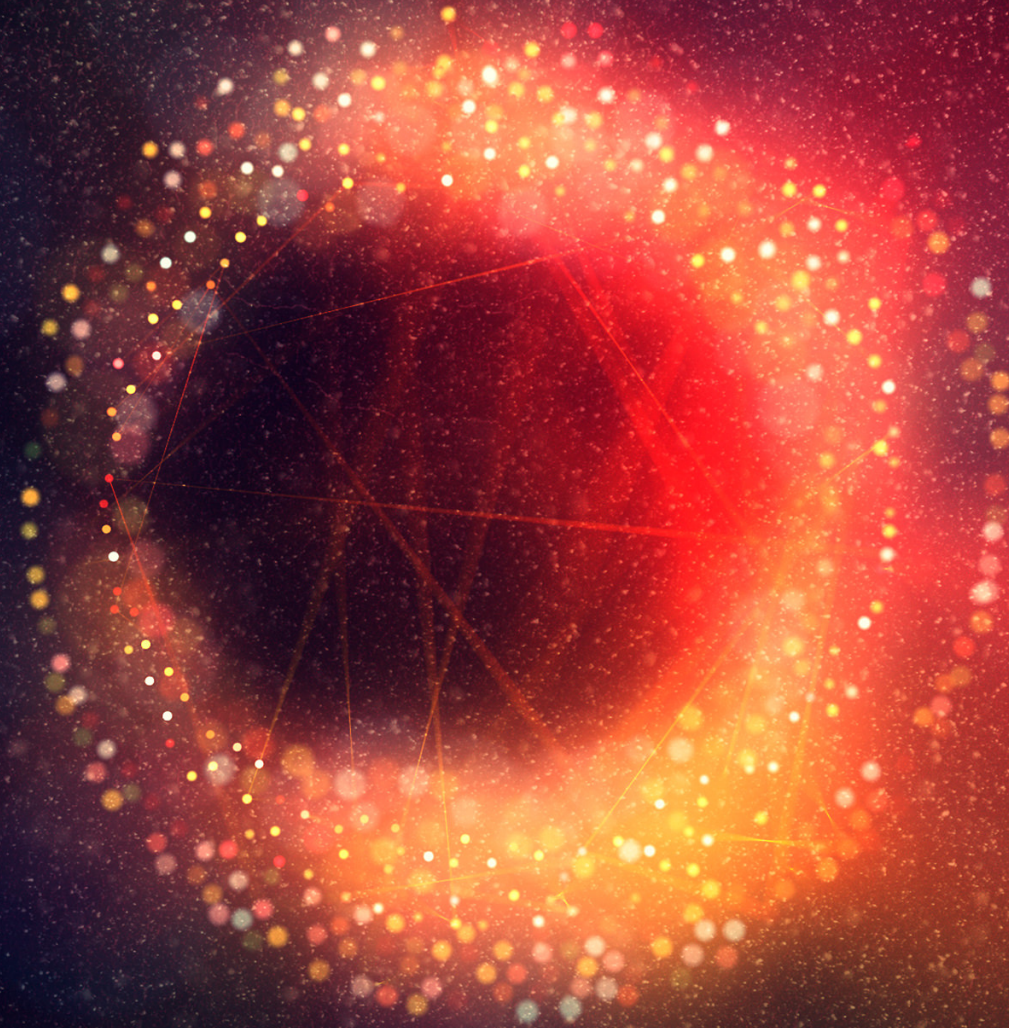


When we restarted

- Agreeing the basic power quality data service:
 - Voltage, current, phase angle (power factor)
 - For import and export, per NMI, per phase, per element
 - Every 6 hours, aligned to market time
 - From all comms-enabled small customer type 4 meters.
- Consumer access to data:
 - CDR provides historical access
 - More real-time data needs to be made accessible
 - Privacy and consent arrangements

WHERE TO FROM HERE?

NEXT STEPS

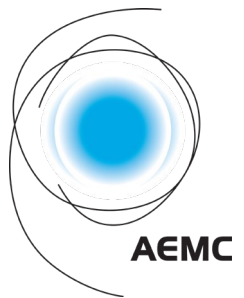


Next steps

- The topics discussed today will be considered for inclusion in the metering review's draft report.
- We have a full reference group meeting to communicate draft positions penned for the end of August.
- To get there requires engagement with reference groups and working groups.
- The project team will organise follow-ups to discuss issues related to today's topics and the collaboration required to get us to the draft report.



We'd like to hear from
you about any ideas
raised in today's meeting



Office address

Level 15, 60 Castlereagh Street
Sydney NSW 2000

ABN: 49 236 270 144

Postal address

GPO Box 2603
Sydney NSW 2001

T (02) 8296 7800

IMPROVING INSTALLATIONS PROCESSES

MULTI-OCCUPANCY SITUATIONS WITH SHARED FUSING



BACKGROUND

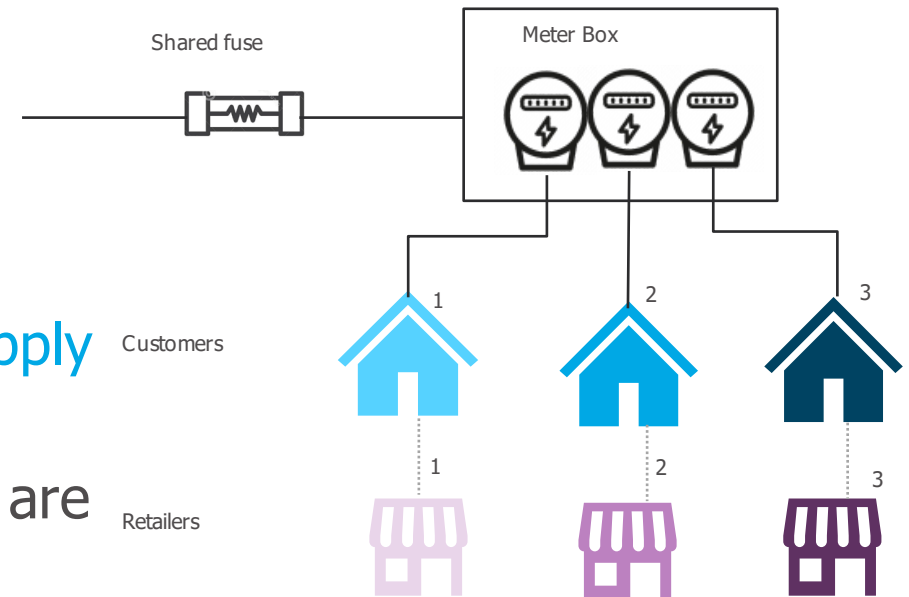
A RECAP ON THE ISSUE

RECAP: what is the issue?

- For some sites, there may be **one fuse** for isolating supply to multiple premises
- Multiple meters usually **share a meter panel**

This leads to **three main issues**:

- Interrupting supply to replace one meter will **interrupt supply to *multiple* customers** that share the same fuse.
- ***Multiple* parties** are required to **coordinate** to ensure they are on the site **at the same time** for meter replacement
- Replacing meters on a **piecemeal approach** would lead to customers facing **multiple supply interruptions**



RECAP: what is the issue?

Issues

- Increased **costs** due to multiple visits
- Administrative inefficiency
- **Negative customer experience**, particularly from multiple planned outages, regardless of whether getting a smart meter or not
- A new meter may trigger a meter **board replacement** due to insufficient room
- Delays and a **slow and inefficient process** for meter replacement

Addressing the issues

- MC-planned interruptions rule change partially addressed the problem but **issues still remain**

There are two priority goals in the installation process for shared fuse sites

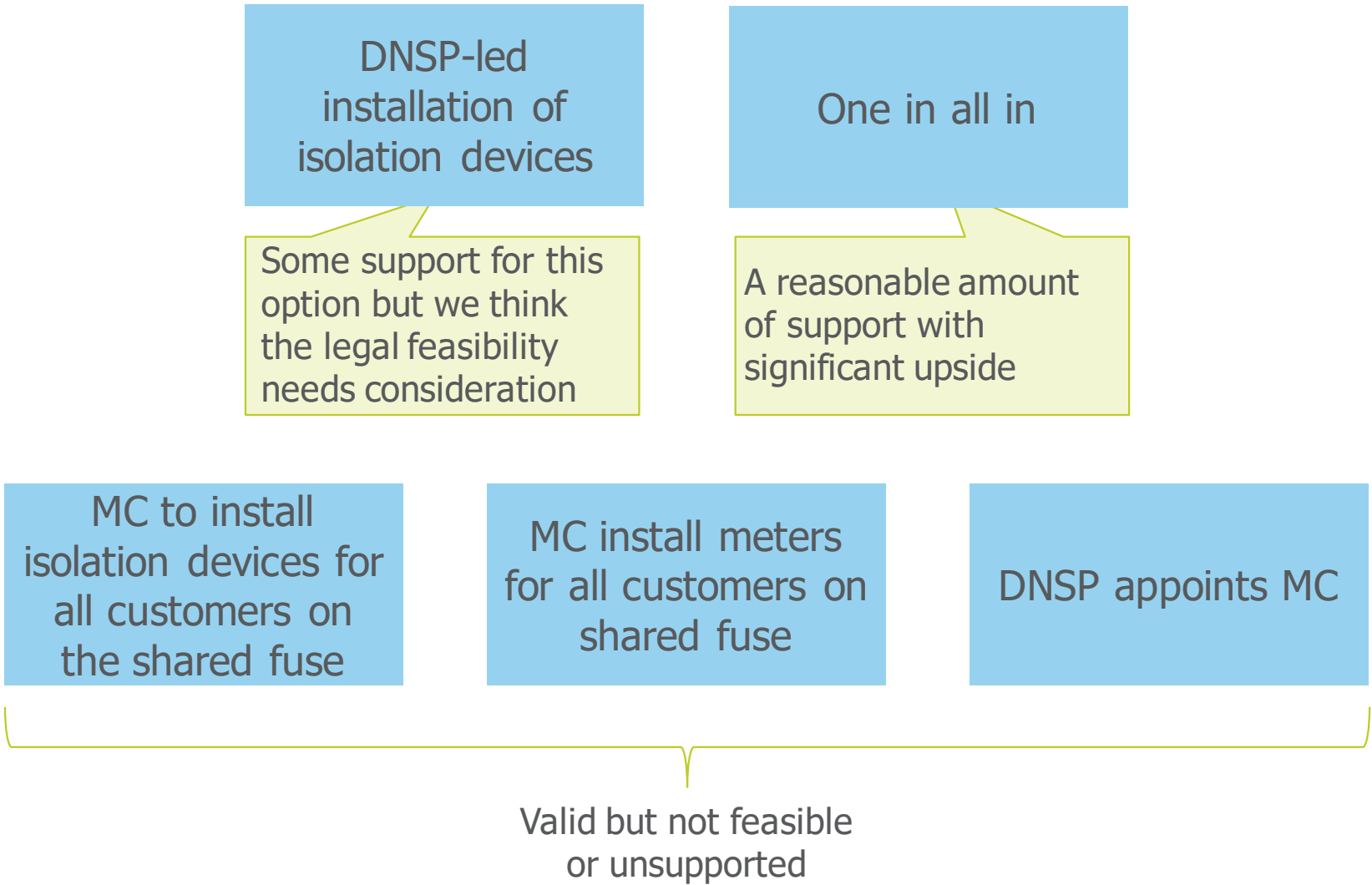
- An ideal installation process for shared fuse multi-occ sites achieves the following goals:

- Helps achieve acceleration of smart meter roll-out
- Minimises interruptions of supply for customers

← Priority goals

- Reduces costs of installation
- Minimises the number of site visits and delays
- Complexity to implement

Before the pause, we presented a few options for efficient meter replacement in multi-occupancy sites

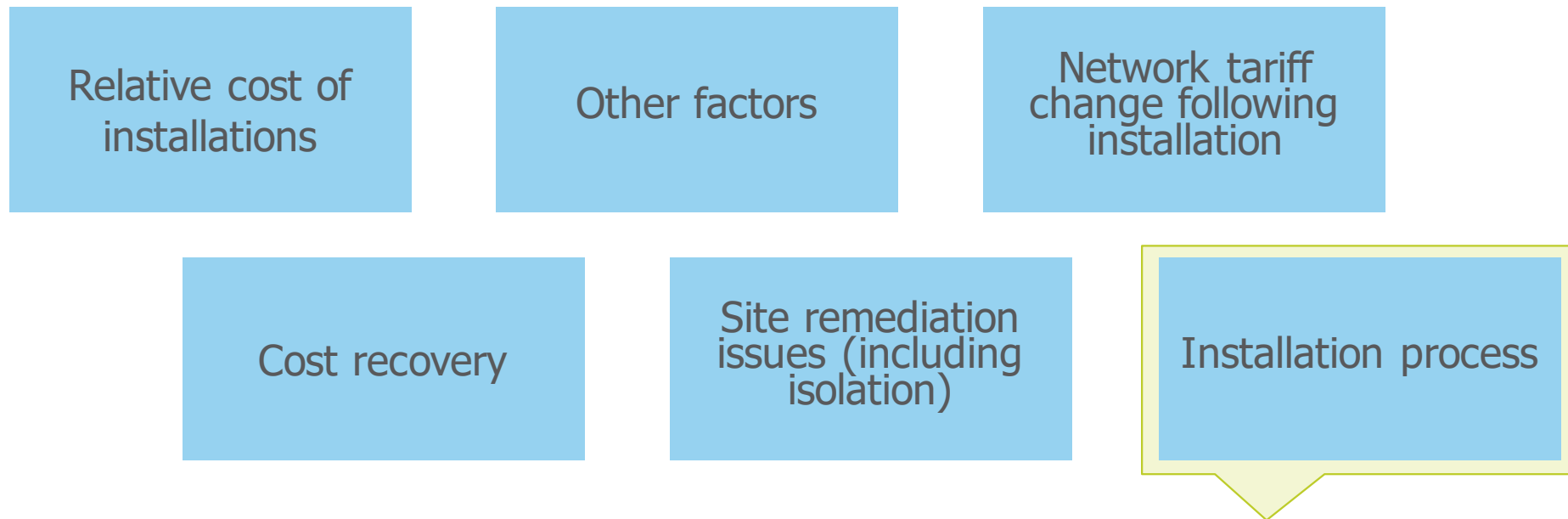


WORKSHOP

STRESS TESTING ONE-IN-ALL-IN OPTION



Today, we are only focusing on the installation process



Scope of today's discussion

Some parameters to guide our discussion



Context

- Consider options in the context of an **accelerated roll-out** as the review is considering acceleration mechanisms
- Solutions should be suitable for scenarios with or without accelerated roll-out.




Parameters

- Roles and responsibilities under the current regulatory framework remain unchanged
- We are striving to achieve the objectives on **slide 5**

One-in-all-in: what does that entail?

Where shared fusing is found, all legacy meters on the shared fused are replaced with smart meters

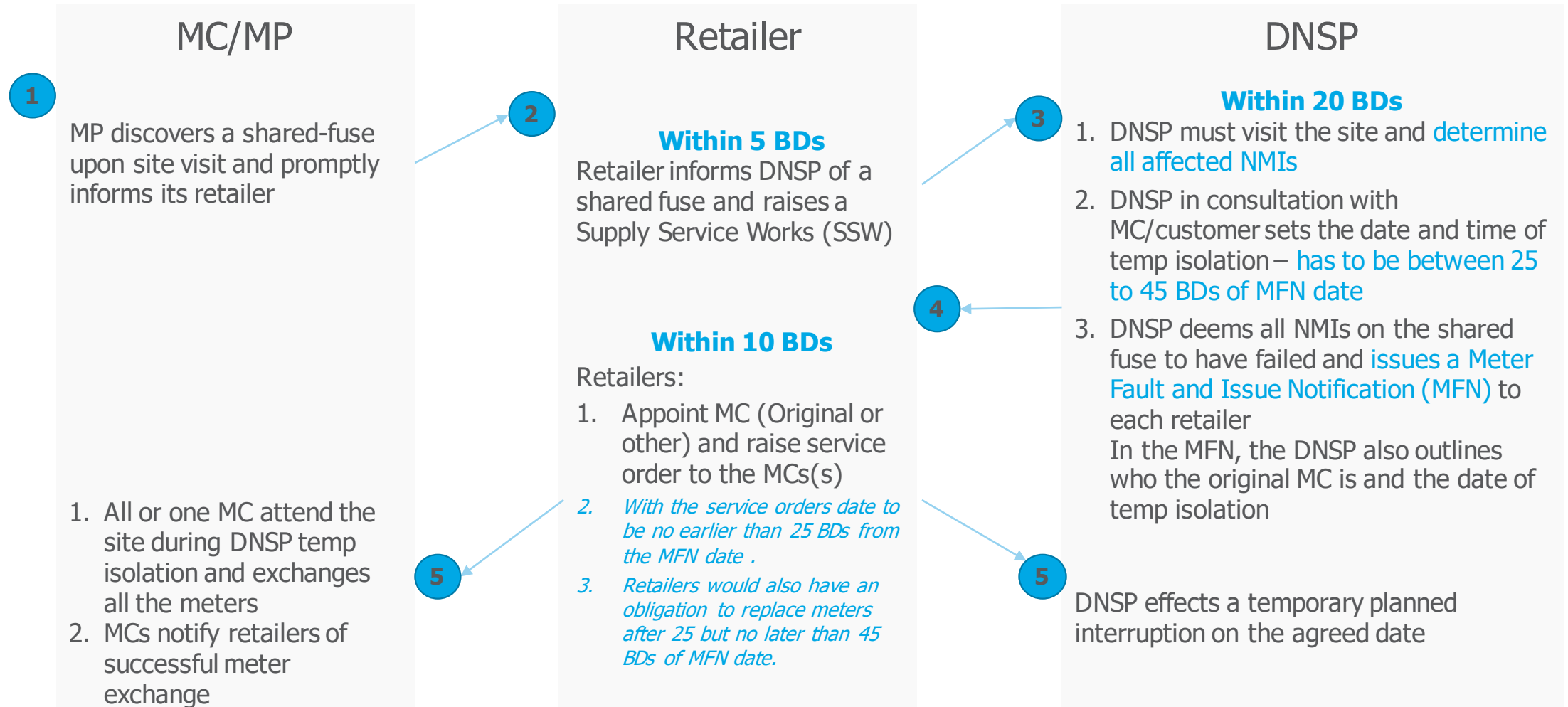


Replacement to be conducted by each of the MP(s) appointed by the respective retailers in a coordinated way



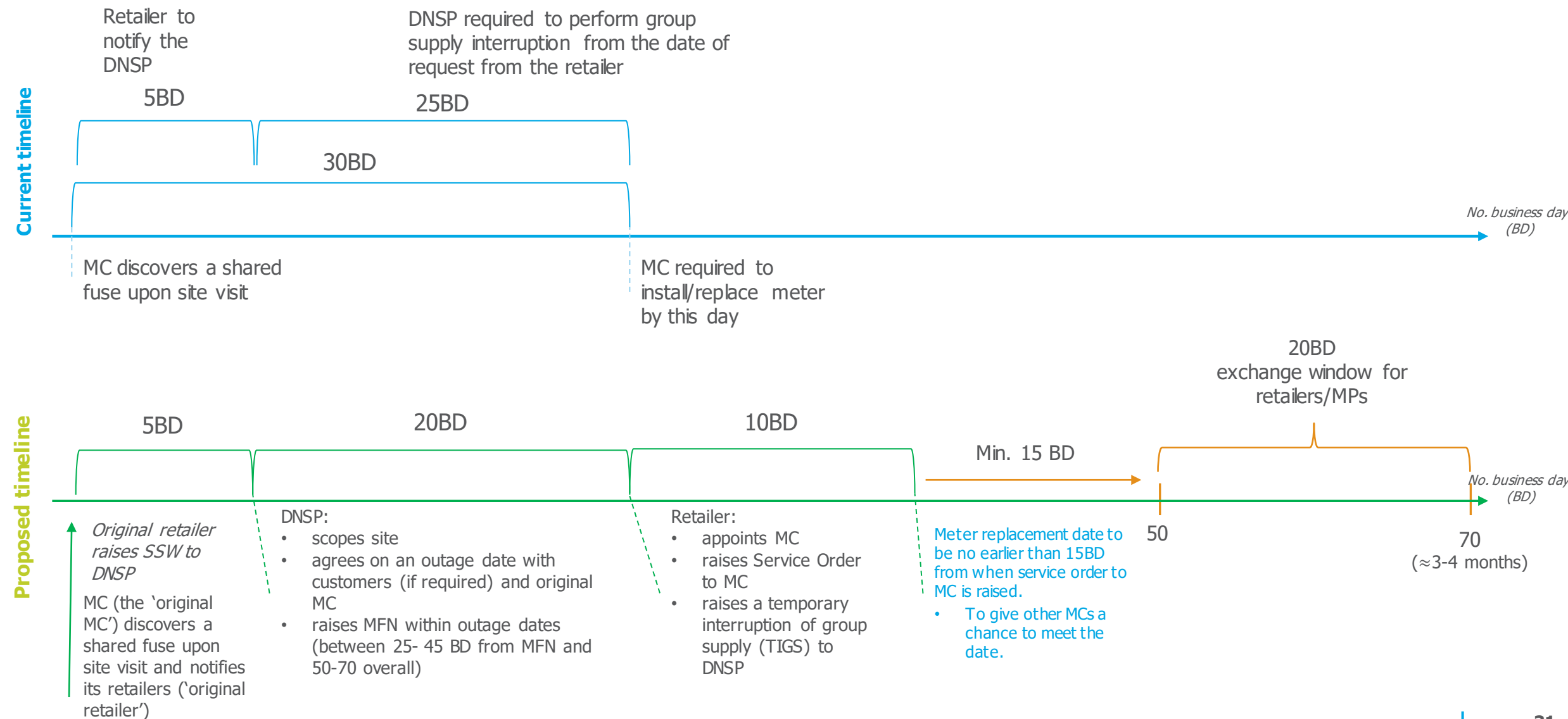
This goal is for a faster meter replacement with the least number of outages for customers

One-in-all-in process flow



Assume: there are **no remediation issues**

Timeline process view



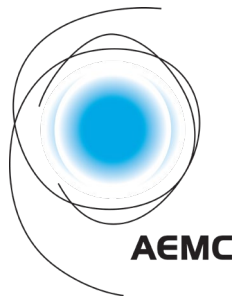
Some key points under this 'one-in-all' process

- Retailers can choose the 'original MC' or appoint their own.
- Retailers would be required to replace the meters within the 25-45 BDs from the MFN i.e. within the replacement window (\approx 3-4 months).
- This option encourages all meters to be replaced within one outage in the majority of cases – potentially reducing costs to retailers.
- Simple and complex installations could potentially be accommodated as the replacement could occur between 30 BDs (at the quickest) and 70 BDs at the slowest.
- Site-remediation issues would likely be identified during step 1 and the process would continue if one-in-all-in is deemed to be feasible without requiring substantial remediation.

We seek feedback on the 'one-in-all-in' approach for multi-occupancy sites

Discussion points:

- Would it improve the current installation process?
- Do you see any issues or gaps in the process flow?
- How can the process be improved?
- Do you think the proposed timelines on market participants are appropriate?
 - If not, what changes can be made and why?



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Sydney NSW 2000

ABN: 49 236 270 144

Postal address

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Sydney NSW 2001

T (02) 8296 7800

IMPROVING INSTALLATIONS WORKSHOP



SITE REMEDIATION

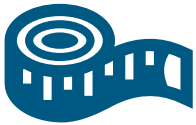
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BACKGROUND

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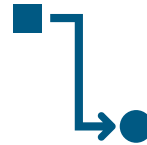
RECAP: What are customer site defects?

Site defects can be present in the infrastructure provided by customers, which is required to host the meter. Examples include:



Size and condition of the meter panel

Not enough room on existing panel(s) for installing smart meters or degraded board



Wiring conditions

In poor condition that it requires rewiring



Asbestos in board or meter and safety issues

Asbestos in the meter board

Examples

RECAP: Why do they occur? What issues do they cause?



The customer is responsible for remediation

This is in most jurisdictions, except Tasmania



MC cannot oblige customers to

It may not be in the commercial interest of retailers



Minor remediation is currently facilitated by

Where **more substantial** remediation is needed, it is **the customer's responsibility** to resolve.

Customers often lack capacity or desire to remediate

This often leads to:

- limited success in customers undertaking remediation
- **abandonment of meter replacements**
- unexpected costs and delays for the customer

Stakeholder feedback has shaped today's discussion points

Several stakeholders urged for the site remediation issues to be progressed while noting the limitations of the national framework

- Stakeholder submissions noted that customer site remediation issues:
 - significantly contributed to meter installation delays
 - become more urgent under a programmed roll-out
 - were more pronounced for rental properties and family failures
 - are faced in approx. 10-15% of installs
- Stakeholder feedback suggested consideration of :
 - funding arrangements for site remediations
 - adjustments to the onus on customers to remediate
 - better information sharing

We understand the current site remediation process depends on the extent/type of the site defect

		Impact on meter replacement	Who can fix it?	What happens next?	Who pays for fixing it?
≈ 10-15 %	Minor Defects	MP fixes minor issues and the meter installation goes ahead.	Metering tech	Happy customer 😊	Retailers, but these might be passed on /smeared across a retailer's customer base.
	Major Defects	Meter replacement doesn't go ahead and MC writes a defect notice.	Usually a qualified electrician (e.g. REC) but not an MP rep (as they are representing MPs)	Retailer is informed. Installation is not completed. It's left up to the customer to have the issues rectified by engaging a REC. These sites can sit there and never be replaced.	Individual customer
	Safety issues	Meter replacement doesn't go ahead and MC writes a defect notice. MP might take customer off supply under H&S or notify DNSP (who might take the customer off)	Usually a qualified electrician (e.g. REC) but not an MP rep (as they are representing MPs)	Metering installation doesn't go ahead. Customer engages REC to fix because they are off supply.	Individual customer

Problem statement



The main areas of concern are **major defects category**, as the metering installation can get stalled due to customers not remediating or taking a long time to remediate.

We believe the main reasons behind these remediations not taking place include:



Financial barriers: Individual customers need to pay – but there is limited willingness to pay, it may be a significant cost for some and there might be little benefit to the customer from having an advanced meter



Effort and incentive barriers: They rely on customers taking initiative to engage REC and fix it – they don't always have the vested interest to follow through



Additionally, the current arrangements may not allow for efficient management of site defects

MAP OF TODAY'S DISCUSSION

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A key question: who should pay for remediation?

There are two foreseeable options for cost allocation of major remediation issues:

Individual customer
pays

Costs are socialised

Key challenge

May not address financial
barriers

May sit outside our control,
so may or may not happen

Discussion mind-map

Cost socialisation may or may not be possible, so we need to discuss both possibilities

Scenarios	Today's workshops questions	
Cost-socialisation	<p>How socialisation would work to address financial barriers?</p> <ul style="list-style-type: none">• Scope• Administration <p>(Slide 12)</p>	<p>Who should be responsible for remediation to overcome effort/incentive barriers?</p> <ul style="list-style-type: none">• Customer• Customer under greater obligations• A "Nominated Party" <p>(Slides 13-14)</p>
None or very limited cost-socialisation	<p>What options are available?</p> <p>(Slides 16-17)</p>	<p>How will customer access funding? [Another day]</p> <p>What should be customer obligations? [Another day]</p> <p>Who could act as a nominated party? [Another day]</p>
With or without cost socialisation	<p>How can we enable better handling of remediation issues?</p> <ul style="list-style-type: none">• Greater information availability• Better coordination <p>(Slides 19-20)</p>	

COST SOCIALISATION



—

Cost socialisation may be desirable

Individual customer pays

This is what happens now. There are foreseeable challenges with this approach, especially under acceleration:

- Currently there is limited follow-through by customers. This approach without additional changes **may not address the financial barriers**.
- Under a programmed roll-out without funding, we could:
 - let the customer remediate (as now) - the current approach may lead to a sizable proportion of the customers missing out on smart meters and delays in achieving the acceleration goals.
 - Explicitly exempt sites needing remediation, which could risk perverse incentives to defect sites and also not address minor defects. Although, there could be solutions.
 - Oblige customers to remediate to allow meter replacement - it could lead to adverse customer outcomes and backlash. Lighter obligations may be more feasible.

Costs are socialised

Costs of remediation could be socialised via:

- **Government funding or subsidy:** such as schemes to provide direct funding
- **A centralised sinking fund recovered through**
 - **DNSPs**
 - **Retail Industry**
- **Requiring retailers to also fund major remediations**
- **Or some combination or variance of above e.g.** Govt. established/administered and recovered via network charges

This **could lower financial barriers** for customers.

However, these arrangements don't currently exist for remediation costs. It may not be possible to establish these arrangements without changes to the jurisdictional frameworks and government support, both of which sit outside of AEMC's control.

But we want to hear your thoughts...

Discussion questions on cost socialisation

1. Under a programmed roll out, should remediation costs be socialised? If so, what is the most desirable way to do this?

2. If a centralised sinking fund was to be enabled, how should it work? E.g. who should administer the fund and recover costs from customers?

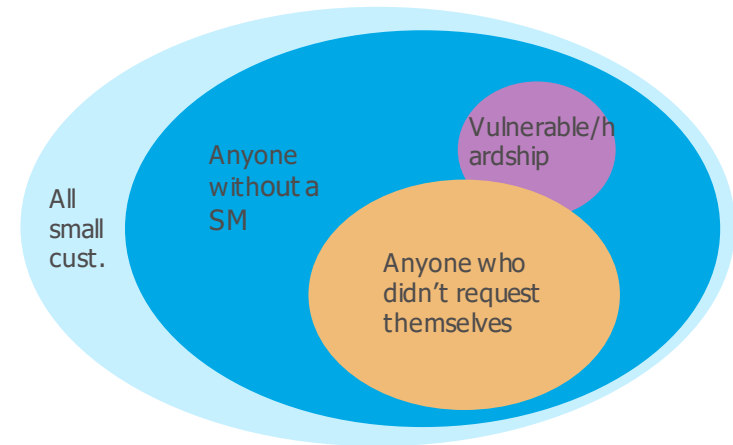
3. For which customers should the remediation costs be socialised?
Examples could be:

- vulnerable only
- all without a smart meter
- all without a S.M., except for customer-initiated meter exchanges e.g. to enable solar installations



DNSP led

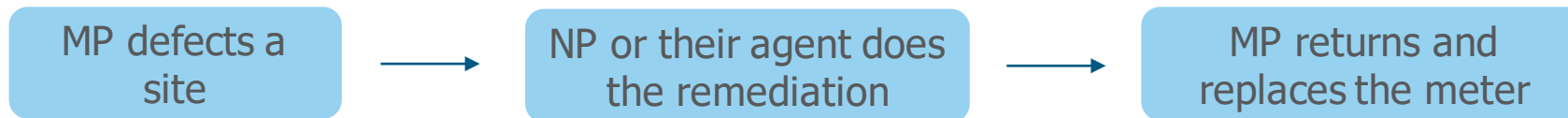
**Retail
Industry led**



Who should be responsible for remediating?

In the context of costs socialisation, e.g. a sinking fund, the responsibility for undertaking remediation could be as follows:

- A. **Customer responsibility as now:** This is the current scenario without additional obligations on customers. The customer or the REC would be eligible for claiming the costs against the sinking fund. This may also lead to a customer needing to pick an REC from a select panel.
- B. **Enhanced customer obligations:** Under this approach, the customer would have greater obligations to remediate their site to enable successful meter replacement under the regulatory framework. This may also need REC selection from a panel.
- C. **A “Nominated Party” (NP) is responsible:** This would mean a nominated party such as the DNSP, MP or Retailer is responsible for site remediation i.e. they do it on behalf of the customer where it is encountered. It is inspired by the VIC AMI roll-out to also address effort and incentive barriers.



Questions : Who should be responsible for remediating?

- 1. Do you consider that customer access to funding would be sufficient to resolve issues faced when dealing with customer site defects?
- 2. What are the strengths and weaknesses of each approach?

	A: Customer still responsible as now	B: Greater onus on customers	C: A nominated party should do it
Strengths			
Weaknesses			

- 3. Do you think it would be possible and efficient for the nominated party to also act as administer the sinking fund?

WITHOUT COST-SOCIALISATION

—

Clarifying or expanding customer obligations to remediate

If there are no feasible avenues to socialise remediation costs – options for site remediation could include:

1. **No change** – Up to the customer to choose to remediate
2. **Better enforcement of customer's current obligations to remediate by the:**
 - a) **DNSP**
 - b) **Retailer**
3. **Clarification of a customer's current obligation to remediate in the regulatory framework**
4. **Expansion of the customers' current obligations to remediate**

But there could be other ways...

Questions regarding : Clarifying or expanding customer obligations to remediate

- 1. If there are limited avenues to socialise remediation costs – are there other avenues that could enable greater levels of remediation?
- 2. Would a “no change” approach be acceptable under a programmed roll-out?
- 3. Currently, there is a limited onus on customer’s to remediate, is it due to:
 - a) Scope of obligations on customers being too limited?
 - b) Lack of clarity around when customers can be obliged?
 - c) Limited enforcement by Retailer or DNSPs?
 - d) Other reasons
- 4. What are the strengths and weaknesses of each of the options? Is there a preferred approach?

	1.No Change	2a. Better enforcement by DNSP	2b. Better enforcement by Retailer	3. Greater Clarity	4. Greater obligations
Strengths					
Weaknesses					

WITH OR WITHOUT COST-SOCIALISATION



Enabling better operational management of site remediation issues

Regardless of whether there are changes to the responsibility and funding of remediation work, there may be opportunities to enable better management of site remediation issues, such as, through improving the information available to the different parties and better tracking of issues.

Current operational challenges

Pre first visit

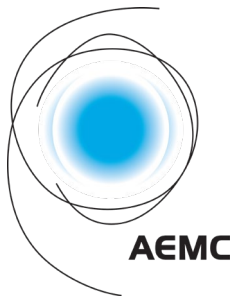
- Some stakeholders have raised concerns that MPs walk onto site with limited information available regarding the site, including the likelihood of site defects. In the VIC AMI roll-out, the DNSPs had access to some site information like age, location and inspection data.

Post first visit

- It is within no one's responsibility or interest to pursue and remind customers to rectify site remediation issues
- Customers aren't aware of their obligations to rectify or options available to them.
- MPs can't see if a site was previously defected by another MP

Potential approaches to improve operational efficiencies

1. Are there other operational challenges that are being faced in the management of site remediation issues?
2. If there is a programmed roll-out of advanced meters under the current roles and responsibilities, could greater sharing of information and better coordination between MPs, DNSPs, Retailers and customers enhance the efficiency of the roll-out and customer experience?
 - a) If so, what information could be shared between the parties?
 - b) Are there existing communication systems in place that could be altered/expanded to share site information between market participants?
 - c) What steps could be taken by each party to enable better coordination?



Office address

Level 15, 60 Castlereagh Street
Sydney NSW 2000

ABN: 49 236 270 144

Postal address

GPO Box 2603
Sydney NSW 2001

T (02) 8296 7800

ENABLING SERVICES & DATA WORKSHOP

UTILISING THE RIGHT EXCHANGE ARCHITECTURE

AEMC

BACKGROUND

PROGRESS SINCE DIRECTIONS PAPER



When the review paused, a priority for industry continuing the development a framework to facilitate efficient data exchange between participants

- A small working group of DNSPs and MCs were formed after the project paused to progress work on the basic power quality data service between DNSP and MC.
- The working group set themselves two workstreams:
 1. Basic power quality service form and format, where we have made good progress
 2. Exchange architecture – how do we best transfer the data between parties

← Up for discussion today



Re-cap of stream 1

Basic power quality data specifications



Workshop for stream 2

Utilising the right exchange architecture

- Using a SWOT (strengths, weaknesses, opportunities, threats) analysis.

RECAP OF STREAM 1

BASIC POWER QUALITY DATA SPECIFICATIONS

Re-cap of stream 1 What is the PQ basic service contents?

Guiding principles

Provide a consistent set of measurements and services from all POC smart meters that are remotely communicating and be made widely available to DNSPs.

Supported by the capabilities of POC meters already deployed and will not require meter hardware upgrades. Upgrade of software and/or meter reconfiguration may be necessary.

As the service will generate large volumes of PQ data, the data set should contain essential values only to minimise transaction costs.

Key assumptions

Basic Service not required from non-communicating smart meters.

Available by default to DNSPs from all POC meters at a go-live date in the future.

Should, or be likely to, contribute to the national electricity objective through the use cases that the data enables.

Agreements reached throughout the pause on PQ data service

Should be captured from all comms-enabled Type 4 small customer meters.

Will capture 5-minute data which is aligned to market time.

To identify the meter, use NMI#, serial#, and each element.

Will record voltage, current, and phase angle, for both export & import.

Will be delivered every 6 hours (i.e., the prior 72 market intervals) at a minimum.

Could allow access to other basic outcomes, like enquiry service and a multi-meter ping.

Implementation considerations realised over the PQ data service working group

Need to differentiate from C&I, pre-PoC, and non-5MS Type 4 smart meters that are also comms-enabled.

Need to allow for the broadest outcomes to be achieved (average vs. instantaneous) to start at 00:00, 00:05, and 00:10.

May need a specification for different labels of phases, elements.

Need to determine the best place for service level agreements for these services.

There could be privacy considerations with allowing these identifiers to go broader.

Need a common data convention to standardise and raise veracity of manufacturer recording data.

Need to understand cost differential and order of magnitude in service quality.

Need to determine the right exchange architecture to utilise

WORKSHOP

UTILISING THE RIGHT EXCHANGE
ARCHITECTURE

Workshop of stream 2 What data are we exchanging and what architecture is available?



Objective

Defining the right exchange architecture to use for sending and receiving the power quality data service, in order to recommend an industry view to the AEMC Metering Review.



Scope

Limited to defining the specific architecture that the MC's Type 4 comms-enabled meter and associated systems must support and be made available to the DNSP.

Workshop of stream 2 What data are we exchanging and what architecture is available?

Guiding principles

Minimise transaction costs and improve coordination between parties.

Avoid duplication of infrastructure costs, even for advanced service

Promote cyber secure exchange

Key assumptions

Will be one-to-one message or web-service based or file based

A single, consistent method would reduce transaction costs by ensuring that they are not duplicated unless necessary

An exchange architecture can also improve coordination by ensuring that all potential parties are already close to alignment before transacting

Should, or be likely to, contribute to the national electricity objective through the use cases that the data enables.

What are the options?

1. Point-to-point

A traditional point-to-point data link is a communications medium with exactly two endpoints and no data or packet formatting. The host computers at either end take full responsibility for formatting the data transmitted between them.

2. AEMO's B2B e-Hub

The B2B e-Hub is an electronic information exchange platform that is provided, operated and maintained by AEMO to facilitate B2B Communications. It was established to enable participants to transact with each other quicker than the current FTP protocol if required.

3. Other or new architecture

Would we look to utilise other existing architectures or do we need to pursue a new bespoke exchange architecture? E.g.

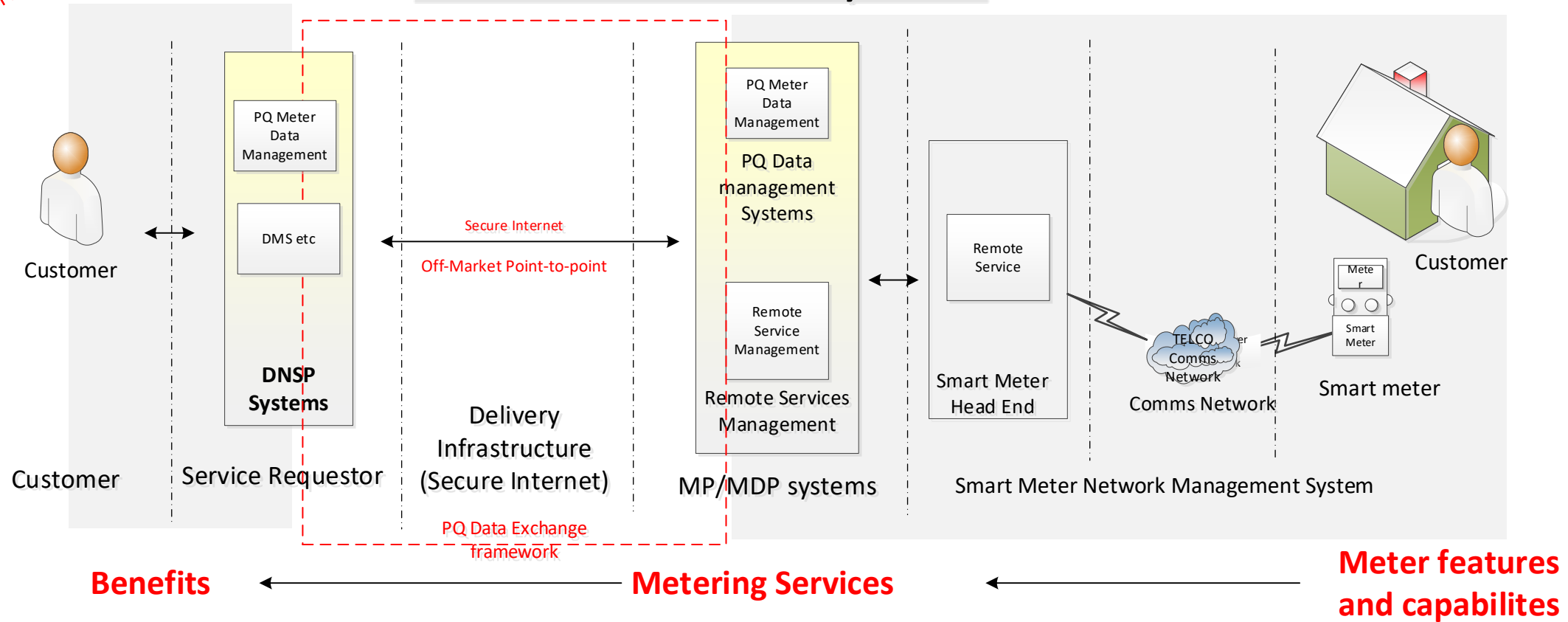
Federal Treasury's *consumer data right for energy* API.

AEMO's *Project EDGE* data exchange platform (when operational).

Overview of option 1 – point to point

Strawman 2 – Point to Point

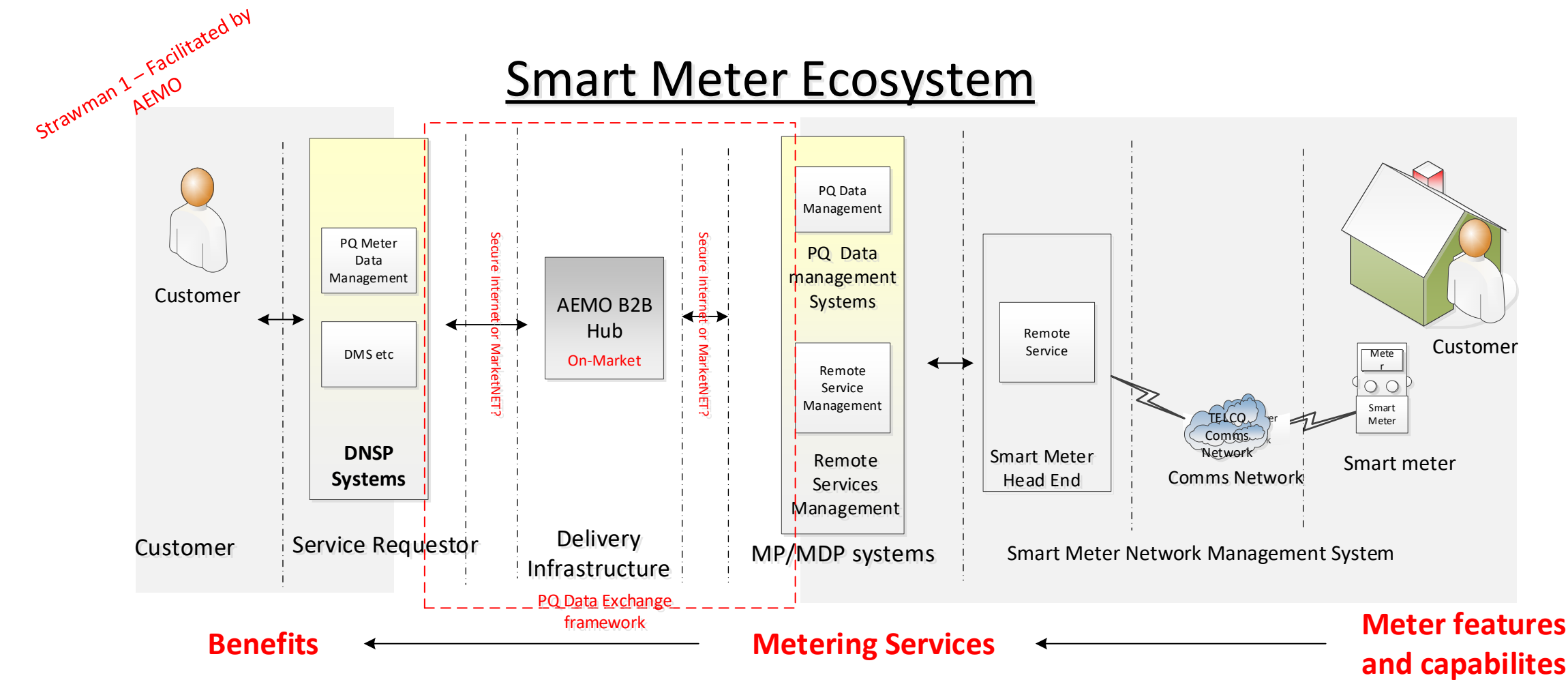
Smart Meter Ecosystem



SWOT analysis of Option 1 – Point to point

Strengths	
Weakness	
Opportunities	
Threats	

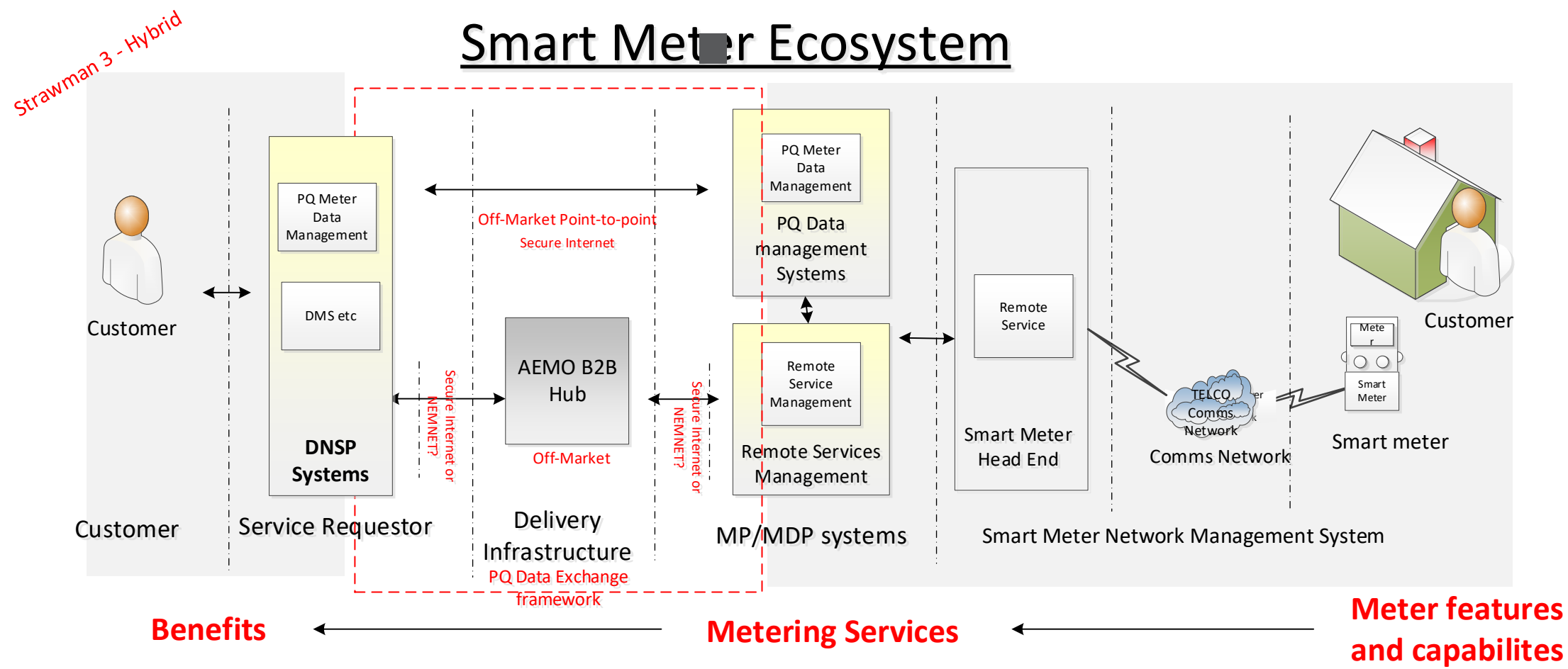
Overview of Option 2 – AEMO’s B2B e-Hub



2. AEMO's B2B e-Hub

Strengths	
Weakness	
Opportunities	
Threats	

Overview of Option 3 – Other or new architecture

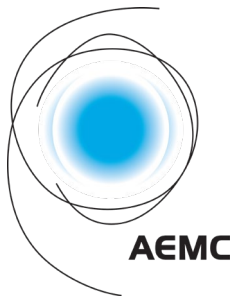


SWOT analysis of Option 3 – Other or new architecture

Strengths	
Weakness	
Opportunities	
Threats	

Next steps

- It's been a long journey for this working group—but we've earned an agreed DNSP and MC view for data access.
- The output of the working group will be incorporated as recommendations in our draft report.
- The draft report will seek stakeholder views on the validity of these recommendations from the broader stakeholder group, identifying gaps in how this exchange could be expanded beyond MC-DNSP. For example:
 - Does broader industry agree?
 - What else might we need to consider or incorporate?
 - How could non-DNSPs receive metering data or services?
 - How do privacy and sharing arrangements work for non-DNSPs?



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