

EMBEDDED NETWORKS

EUAA Breakfast Seminar – November 2014

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Formed in 2008, Seed Advisory is an independent commercial advisory firm specialising in the energy sector covering electricity, gas, renewable technologies and carbon and spans the entire value chain. Key services include the provision of commercial, policy, strategic and risk management advice to energy companies, energy users, infrastructure businesses, regulators, governments, financial institutions, entrepreneurs and investors.

Seed Advisory offers:

- Significant experience in executive management and advisory capacities within the wholesale and retail gas, electricity and environmental markets including experience in:
 - advising government and corporate clients on issues relating to the development, operation and performance of wholesale markets, retail markets, and regulated markets (transmission and distribution); and
 - working with large energy users and businesses understand the opportunities, implications and risks arising from the changing energy and carbon related markets and develop and implement strategies and business responses.
- strong financial modelling capability in areas including business/project evaluation, risk management, pricing, wholesale market performance and demand forecasting;
- a track record of achievement in assisting clients achieve their objectives;
- direct involvement and a hands on approach from its senior personnel; and
- a flexible approach in our fee structure that reflects the experience of the personnel, but also offers value for money compared with the services offered by larger, less specialised advisory firms.



- Background
- Overview of detailed design
- Simplified costs and benefits
- Risks and opportunities
- Timeline for implementation



BACKGROUND



AEMO submitted a rule change in late 2014 in response to a request from COAG energy council.

- As part of the 'power of choice' reform program COAG tasked AEMO to develop a rule change to introduce new arrangements for embedded networks.
- AEMO worked with industry participants over 2014 to develop a detailed design for the new regime.
- AEMO submitted rule change to AEMC in October 2014 which is currently under consideration by AEMC but not published as yet.
- Objectives of reform are to lower barriers to competition and standardise processes and operational interfaces to address known issues.

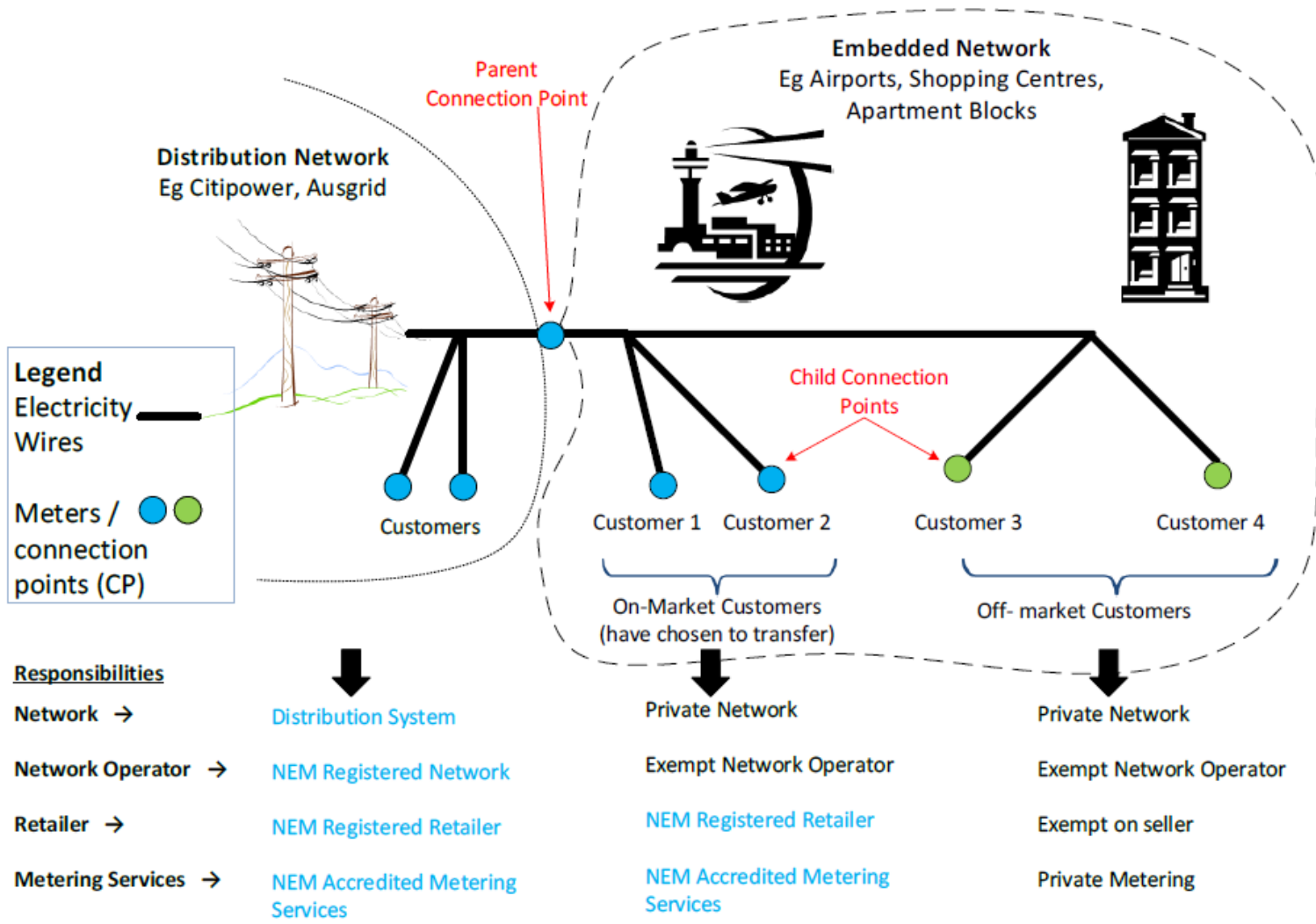


The rule change is designed to address a number, but not all issues perceived in the current approach.

- Responsibility for establishing and maintaining standing NMI data in MSATS.
- Limited visibility by retailers of data for off market children in embedded networks.
- Critical data such as presence of life support equipment in embedded network may not be known by local network businesses.
- Meter maintenance processes, and possibly standards can vary from NEM requirements.
- Consumer protection may vary for on and off market children.



The main elements and concept of an embedded network is unchanged.



Source: AEMO Detailed Design V2.0 8 August 2014

OVERVIEW OF DETAILED DESIGN



The key feature of the design is a formalised new role called an Embedded Network Manager.

- The Embedded Network Owner / Operator (ENO) must appoint an Embedded Network Manager (ENM) for all NEM embedded networks as below.
- The ENM must be accredited by AEMO

Scenario	Individual / Registrable Exemption	Deemed Exemption
New EN	ENM must be appointed from commencement of EN	No ENM required to be appointed.
Existing EN	ENM must be appointed within 2 years of commencement of rules.	



The ENM has the majority of the operational roles and responsibilities to facilitate customer choice.

- Set up and maintain NMI standing data for on-market children (e.g. embedded network code, assigning NMIs and maintaining distribution loss factors (DLFs) and receiving service order requests).
- Fulfil MSATS roles for child connection points which local network service providers (LNSP) would normally perform.
- Maintain an understanding of subtractive metering arrangements within the embedded network.
- Communicate with market participants and customers on behalf of the ENO including notifying of life support equipment.



AEMO will maintain an accreditation process to ensure critical functions are carried out as required.

- ENM accreditation requires:
 - Maintaining an understanding of the NER and procedures relating to the function of an ENM, participant role relationships and subtractive metering arrangements.
 - Maintaining interfaces (e.g. web browsers) to support the B2B Procedures and to support MSATS Procedures.
- For the first 6 months any Market Customer or Network Service Provider who wishes to be an ENM will be deemed to be accredited.
- AEMO will establish and maintain ENM service level requirements and will conduct periodic reviews to assess ENM compliance with these requirements.



Only minimal changes envisaged to the AER exemption guidelines.

- AER Exemption Guideline will continue to govern the operation of embedded networks including network charging and setting of distribution loss factors.
- Minimal modifications expected:
 - Obligations on ENO to appoint an ENM.
 - Standardise metering arrangements by requiring routine testing and inspection of off-market child meters.
 - Ensure that customers in embedded networks have transparency with respect to their network and energy charges.



Other changes are envisaged to ensure effective and efficient operation .

- The design contemplates that:
 - A NMI is allocated when an off-market child first becomes an on-market child.
 - If an on-market child returns to being an off-market child its NMI will be retained but will be identified in MSATS as not active.
 - Where a NEM Customer connected to a DNSP network converts to an off-market connection child connection point in an embedded network the existing NMI will remain
- NEM jurisdictions are encouraged to move towards maintaining compatible metering and settlement arrangements at the on-market child connection points as at the parent connection point.



Many areas are unchanged.

No change is proposed to:

- Metering services
- Meter reading cycles
- Calculation of distribution loss factors (DLF)
- Network charging arrangements in embedded networks
- Retailer of last resort processes
- Obligation to supply provisions
- Instrument transformer arrangements



SIMPLIFIED BENEFITS AND COSTS

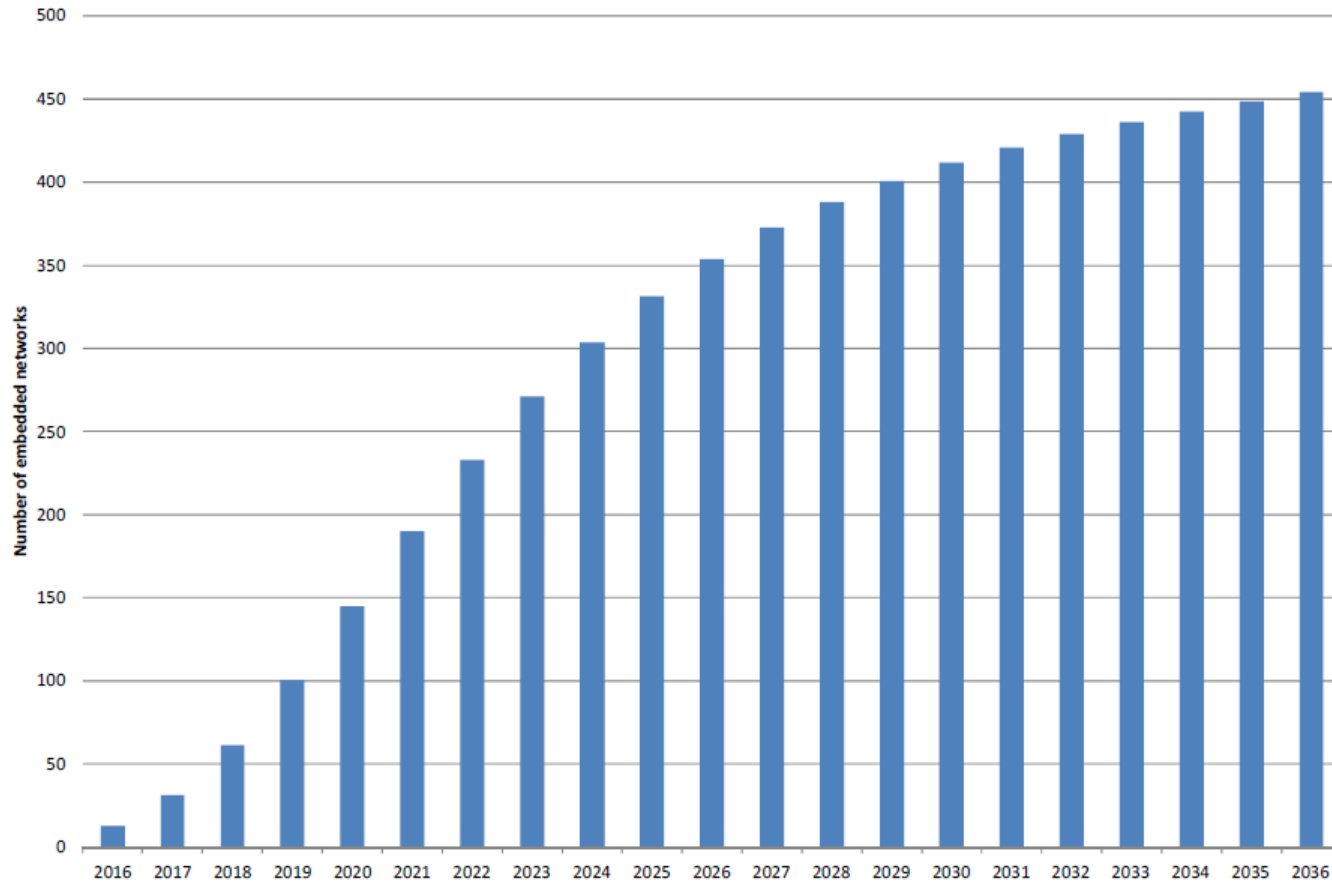


A high level cost benefit analysis was undertaken at the commencement of the AEMO detailed design process.

- Undertaken by Jacobs SKM with report completed in May 2014
- Costs and benefits will not align with final detailed design given critical changes in proposed approach made since pre commencement.
- Costs were based on a simple AEMO survey of retailers and distributors requesting a range of costs and also included AEMO's costs.
- Benefits and costs were assessed on two scenarios:
 - **EN1 scenario:** the local retailer would set up NMIs for all embedded customer settlement points within each EN.
 - **EN2 scenario:** the local retailer would only set up NMIs when embedded customers become NEM customers.



Exec Figure- 2 Projected uptake of NEM participation by embedded networks



Source: Jacobs SKM Benefits and Costs of Multiple Trading Relationships and Embedded Networks May 2014

Based on the high level modelling and assumptions there are estimated very small net benefits.

Item	EN Scenario 1	EN Scenario 2
<i>Through to 2025</i>		
Benefits	103	103
Costs	126	107
Net Benefits	-22	-3
<i>Through to 2035</i>		
Benefits	165	165
Costs	162	146
Net Benefits	2	19

Source: Jacobs SKM Benefits and Costs of Multiple Trading Relationships and Embedded Networks May 2014



RISKS AND OPPORTUNITIES



Risks

- Unintended costs to ENO
- Ability of ENO to recover all material costs
- Overall costs to be higher than expected
- Adequate competition in provision of ENM services

Opportunities

- Customer choice where currently not available.
- Improved efficiency in customer transfer processes where choice is currently available.
- New business opportunities for ENM services

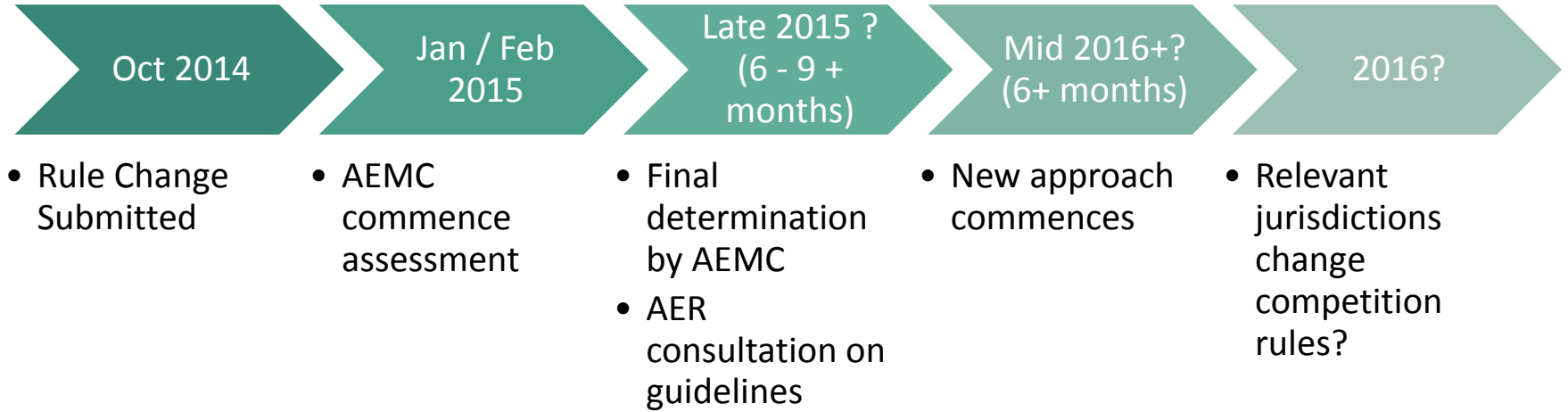


TIMETABLE FOR IMPLEMENTATION

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The new approach is unlikely to commence before mid 2016.



Peter Eben

Director

p> +613 9658 2351

m> 0411 207 505

e> peben@seedadvisory.com.au

www.seedadvisory.com.au