

## Draft Voluntary Embedded Networks Code of Practice

### Consultation paper submission form

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Submissions should be emailed to [EPWA-Submissions@dmirs.wa.gov.au](mailto:EPWA-Submissions@dmirs.wa.gov.au) or posted to Energy Policy WA, Locked Bag 11, Cloisters Square, WA 6850 by 5pm (AWST) 23 June 2023.

Please indicate on the covering page of your submission if you wish part or all of your submission to be treated as confidential. Unless otherwise requested, submissions will be made available on the Energy Policy WA website.

Question number	Consultation area and section reference in Consultation Paper	Questions for consultation	Your comments
1.	<b>Embedded networks business models</b> (section 3)	Are you aware of any significantly different business models to those described in this Consultation Paper used in embedded networks in Western Australia?	Yes, community title. Not yet addressed.  Community title may include a mix of greenfield and strata title within the same community under a new land development that is mixed use and is in line with Development WA guidelines and requirements to increase densification and housing stock availability.
2.	<b>Embedded network seller definition</b> (section 4)	Do you have any suggested changes to the proposed 'embedded network seller' definition?	No.
3.	<b>Embedded network seller obligations</b> (section 5.1)	Do you have any comments on the general obligations on embedded networks sellers proposed in clauses 1, 2 and 3 of the Voluntary EN Code?	No. It may become confusing to have an ENS and a Co-ordinator of Energy.
4.	<b>Draft Disclosure Statement</b> (section 5.2)	Does the draft Disclosure Statement capture all information that should be disclosed to customers upfront? If not, what other information should be included?	Somewhat.  Different types of meters, leaves a wide hole for non interval data meters compliant with the renewable energy grid to be installed. Customers will choose the cheapest meter that may preclude future savings and low cost energy solutions associated with variable renewable energy in the future.
5.	<b>Metering arrangements</b> (section 5.3)	Do you have any comments on the proposed arrangements for metering outlined in clause 5 of the Voluntary EN Code?	Ok. Needs to ensure that the interval data meter can store 5 minute interval data on the meter itself.

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6.	<b>Disconnections and interruptions standards</b> (section 5.8)	Do you have any comments on the standards for disconnections and interruptions proposed in clause 10 of the Voluntary EN Code?	This is reasonable.
7.	<b>Access to renewable sources of electricity</b> (section 5.11)	Are the requirements in clause 14 of the Voluntary EN Code sufficient to facilitate access to electricity from renewable sources? Is anything else required, for instance additional information provision?	<p>14.1 (a) In line with AEMO's market rule changes to disaggregate generators portfolio's on the SWIS, it is recommended that the providence, sources of renewable energy purchased are provided by the electricity retailer to ensure that the retailer is actually providing renewable electricity. Providence and generation mix for each 5 minute trading interval shall be made available to the client and ENS to enable carbon emission intensity and move towards 24/7 renewable electricity and transparency within the market.</p> <p>14.1 (b) EPWA should consider the impact of LGC's. LGC's should be sourced from the local electricity network i.e. SWIS, NWIS... should the government of Western Australia wish to meet it's policy objective of carbon zero by 2050.</p> <p>Consider the provision of origin of LGC's information within this clause.</p>
8.	<b>Metering functionality</b> (section 6.1.1)	8.1 Should private meters installed in new embedded networks be subject to minimum standards in terms of functionality? For instance:	<ul style="list-style-type: none"> <li>meter captures and stores data in 30 minute intervals; These are being phased out by 2025 on the SWIS, why is EPWA making the ENS install non compliant meters that are not forwards</li> </ul>

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		<ul style="list-style-type: none"> <li>• meter captures and stores data in 30 minute intervals;</li> <li>• meter captures and stores data in 5 minute intervals; or</li> <li>• meter supports remote reading (communications enabled).</li> </ul>	<p>compatible with a 24/7 variable renewable energy grid.</p> <ul style="list-style-type: none"> <li>• meter captures and stores data in 5 minute intervals; Minimum requirement. Consider number of days of 5 minute interval data stored on meter. I.e. the National Electricity Market requires ~287 days under section 7 or the market rules. Interval meter data must be captured and stored within the meter.</li> <li>• meter supports remote reading (communications enabled). Should be a minimum requirement moving forwards to enable remote disconnection and 24/7 renewable energy and near realtime access of electricity data and costs over the internet (IoT) to consumers to enable them to measure and manage their costs and to avoid bill shock.</li> </ul>
		8.2 Should metering standards only be applied to new builds, or also to meter replacements and upgrades in existing embedded networks?	

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		8.3 Should such requirements also apply to conversions to embedded network (known as meter merges)?	
		8.4 What exemptions might be required if metering standards are applied?	
9.	<b>Meter ownership and access</b> (section 6.1.2)	9.1 Should there be a requirement that, from a certain date, private meters installed in embedded networks must be owned outright by the property owner (or collective property owners if strata titled)?	This may force the cost of builds up for developers. This should be based upon commercial and reasonable finance terms. Maximum commercial finance would be 10 years and at the end of the financing the meters ownership shall pass to the owners.
		9.2 Should there be a requirement that, from a certain date, private meters installed in embedded networks must meet certain requirements for access, interoperability and/or common communication standards?	<p>Meter access is an interesting one. Forcing meters to be retrofitting/installed in old switchboards may be costly to make them all safely accessible.</p> <p>But this would form good or best practice if they are accessible.</p> <p>Advanced multi branch meters such as the SATEC BFM136 NMI Compliant meter can measure 36 single phase or 12 three phase circuits and is a huge cost and time saving.</p> <p>Interoperability. All advanced smart meters shall have modbus RS485 as a minimum with an open modbus map for transparent communications standards. A big issue is meter manufacturers making this available to vendors.</p>

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			<p>ENS integrating multiple meter manufacturers is an expensive task, particularly down to the interval meter data.</p> <p>As previously discussed polling meters is easy, although communications issues lead to missed data and can cause billing errors in Time of Use (TOU) scenarios particularly as we move to a zero carbon grid and proving providence of the source of purchased electricity.</p>
		<p>9.3 Should any other types of assets in the embedded networks (e.g. DER assets) be covered by similar ownership and access requirements or is it acceptable for ownership of these other types of assets to be outsourced to reduce upfront costs to customers?</p>	<p>There are a variety of financing arrangements available:</p> <ul style="list-style-type: none"> <li>- Upfront from the developer (new builds)</li> <li>- Upfront CAPEX (Retrofit)</li> <li>- Strata Finance (No security requires, against the Strata Plan)</li> <li>- Commercial asset finance</li> <li>- Third party private finance</li> <li>- Power Purchase Agreement</li> <li>- Lease Agreement</li> </ul> <p>These assets have a very high upfront cost, namely batteries and EV charging, particularly vehicle to grid.</p>

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			Reducing options for the market to decide would have a prohibitory effect on the uptake of DER.
10.	<b>Regulation of safety requirements in embedded networks</b> (section 6.2)	Do you consider there is a need for greater regulation of safety requirements within embedded networks? Why/why not?	<p>Yes, generally the 100's of buildings that I've assessed have very poor quality, ages and unsafe or out of date safety standards for the electrical systems.</p> <p>These buildings often have no electrical documentation including no electrical single line diagrams. Even if they exist they are not up to date and require work to validate and update them, including bringing them into a modern format which can be maintained by the ENS as a DWG and by which an up to date PDF can be issued.</p> <p>The electrical safety is the responsibility of the electrical workers whom conduct works on the electrical system.</p> <p>Modifications and maintenance of the electrical systems should be either the responsibility of, or notifiable to the ENS as there may be unintended safety or billing issues that may arise surrounding said electrical works.</p> <p>Safety has fallen into a large gap within embedded networks due to the existing framework, whereby Synergy and in association Western Power take responsibility for the metering point and it's electrical supply but no responsibility for the assets their meters sit within. Therefore as a result, these electrical systems are overwhelmingly at end of life and</p>

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			<p>many are unsafe to conduct electrical work within.</p> <p>As ENS, we are often responsible for upgrading metering systems, yet the clients want the cheapest job possible, while the safety of electrical systems is often overlooked or considered as a low priority, secondary to cost pressure.</p>