Embedded Networks

Aggregating DERs and Enabling Grid Value

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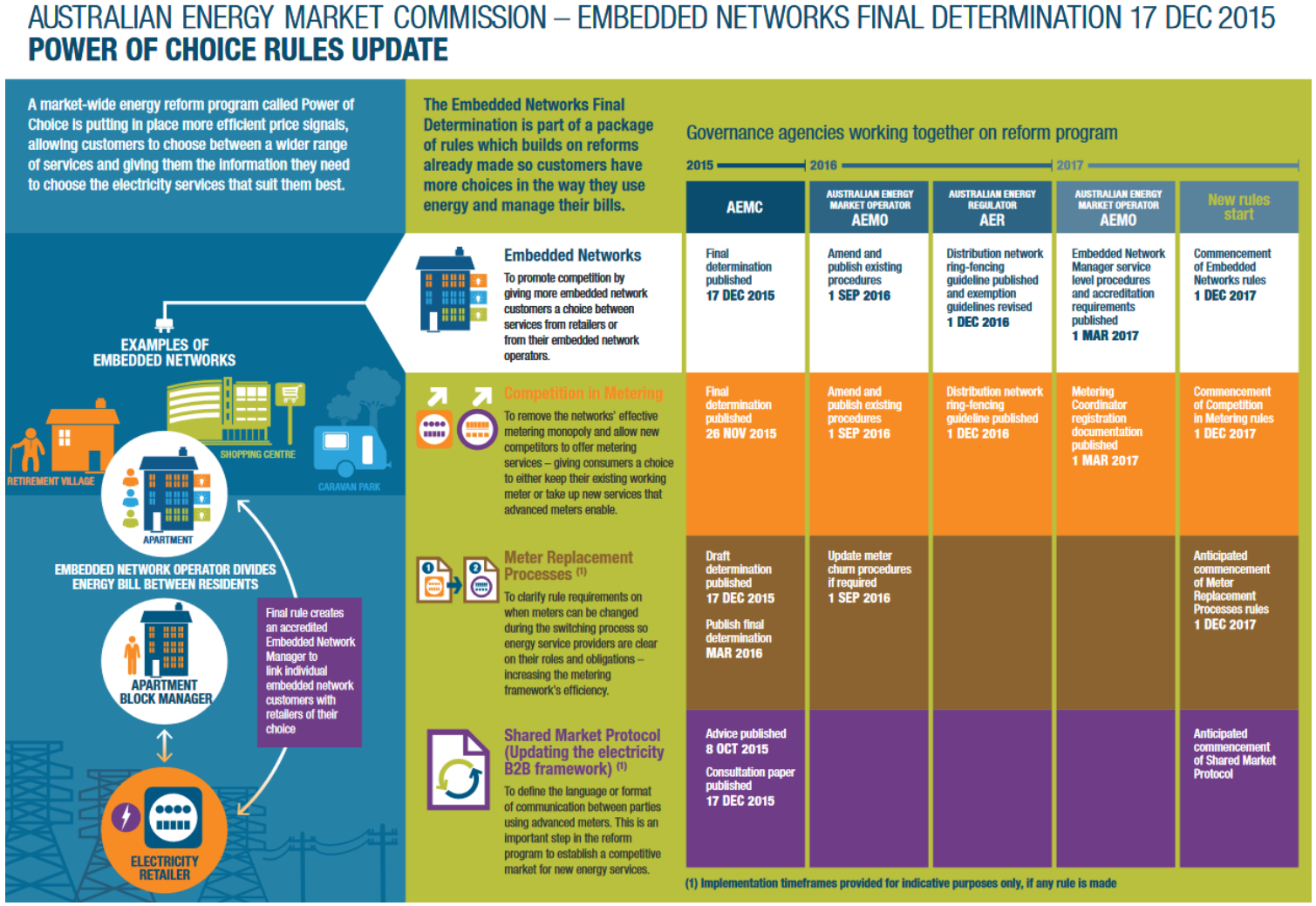
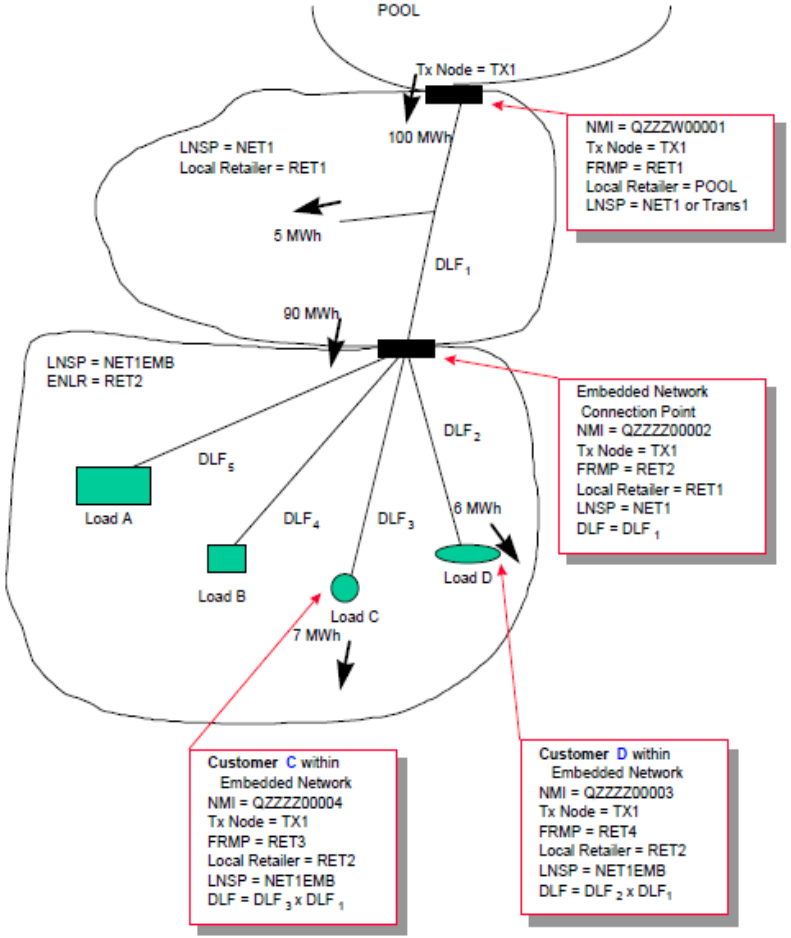
Embedded Networks



- Embedded Networks are a network and market mechanism, overseen by the Australian Energy Regulator which aggregates end users.
- A set of stringent Australian Standards govern power quality as ENs add generation, storage and energy efficiency measures
- Embedded Network Operators own the electrical infrastructure and retail the energy to their tenants either directly or via an Embedded Network Manager

Embedded Networks



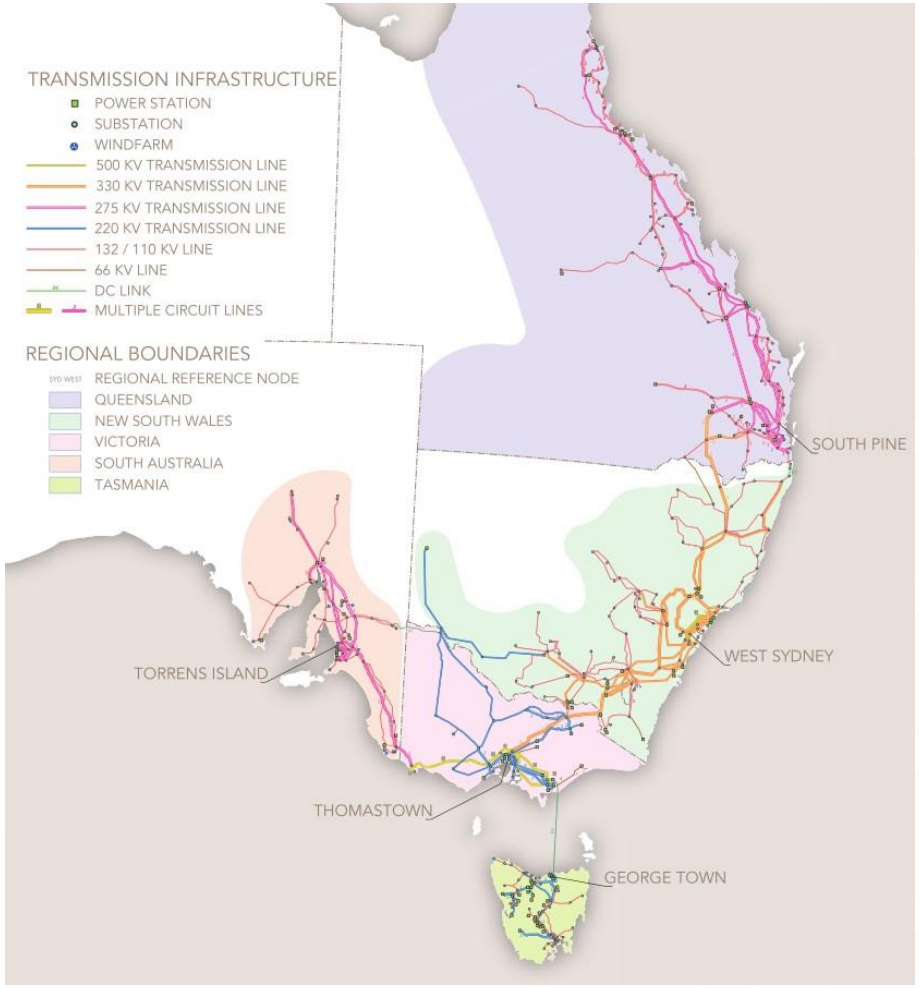
Credit: AEMO

Embedded Networks, allow retirement villages, shopping centres, housing estates, educational centres, apartment buildings, industrial complexes, etc. to have exemption as a network service provider and an energy reseller.

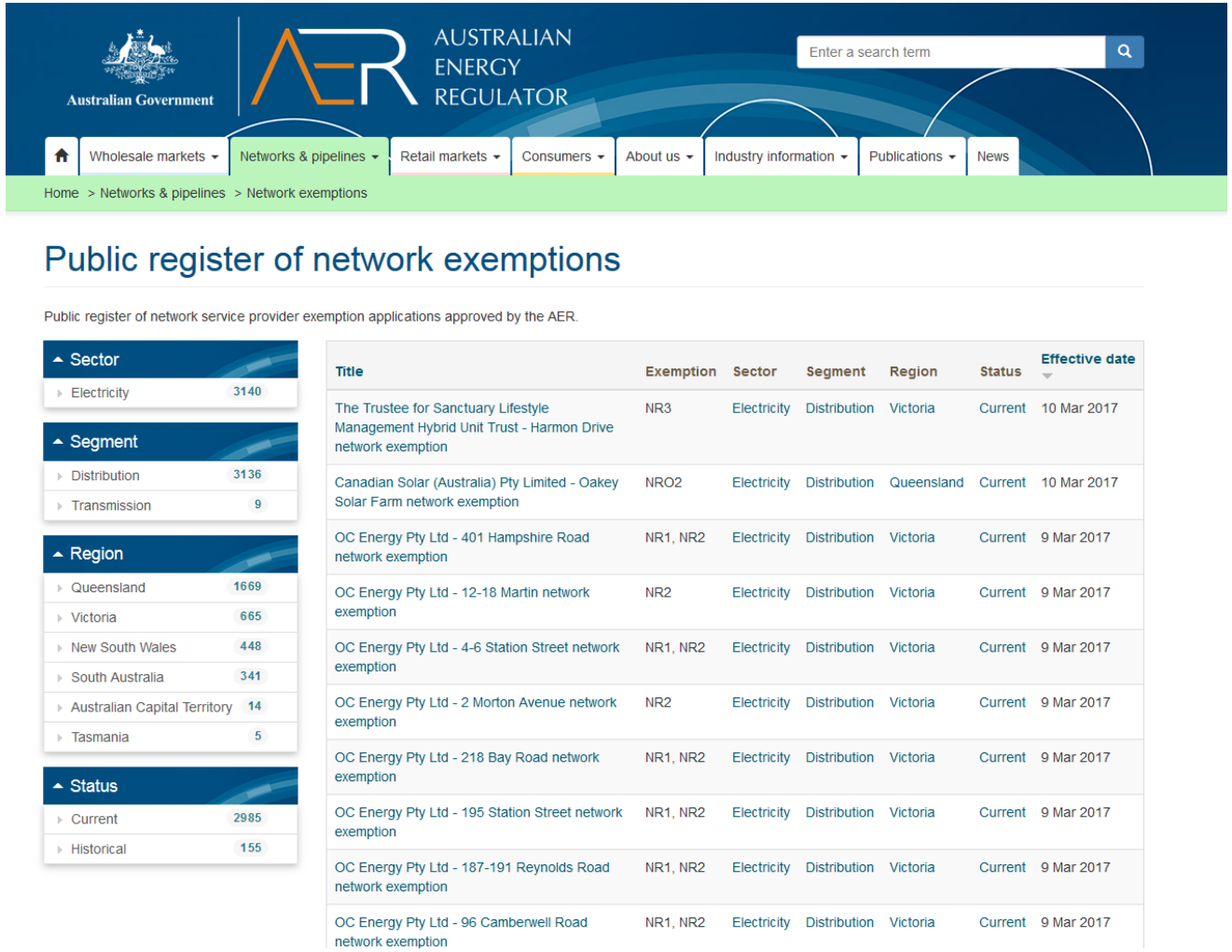
The Energy Network Manager (ENM) operates the local electricity distribution system and resells energy to the end users.

ENs Unlock Market Potential In Australia

- ~90% of the Australian Population lives in an urban centre however there Australian NEM stretches over 5,000km for a population of only 25M
- Australia has some of the most expensive electricity in the world
- 20% of Australian Homes and Businesses have Solar
- ENs breaks the barrier to the tenancy market



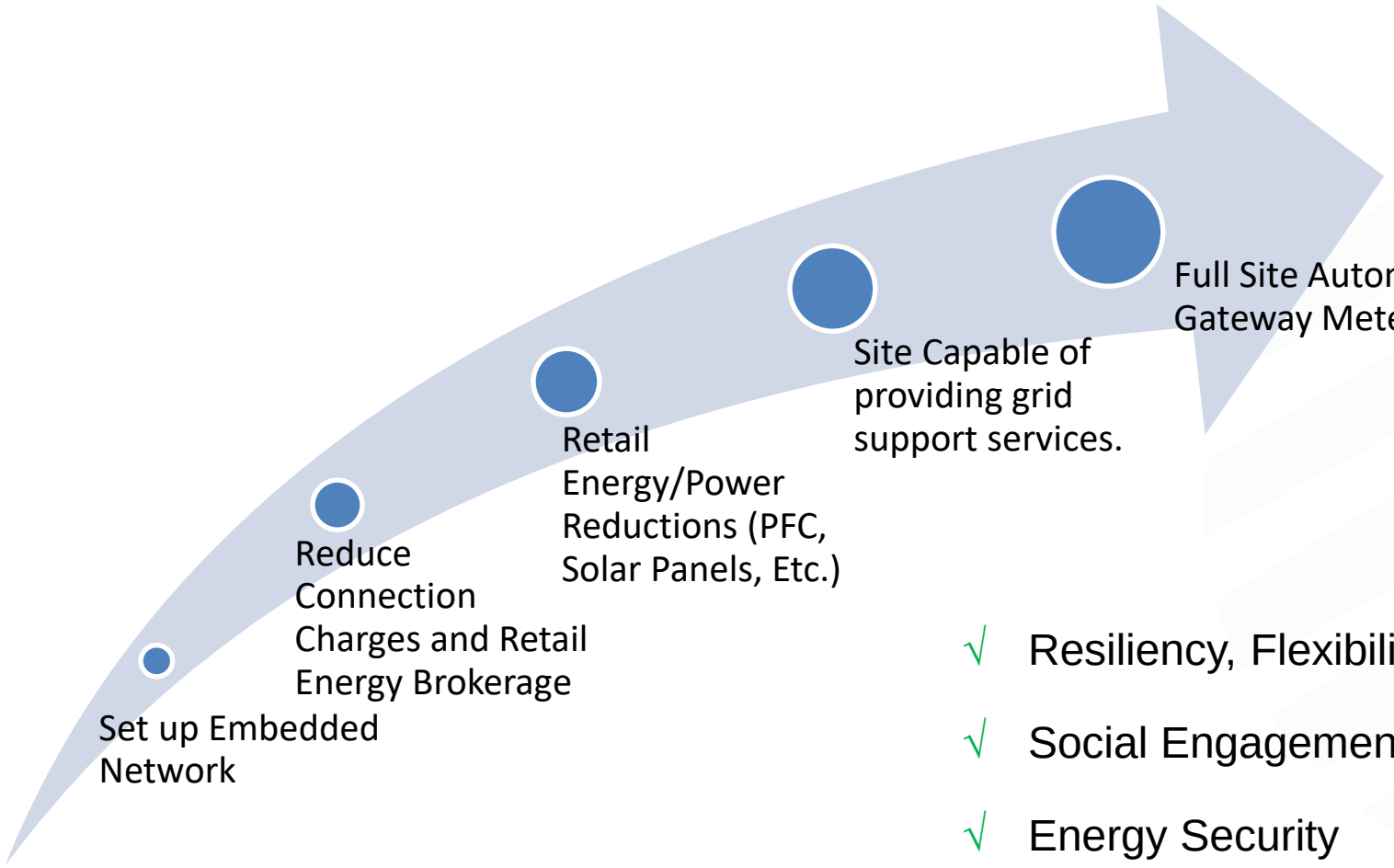
Growth of Embedded Networks



Credit: AER

- Over 4000 Embedded Networks have come online in the past 5 years
- You don't need an Embedded Network to reach tenancy customers but it makes it far easier and the engagement is high
- Retailers get a single consolidated contract which carries less risk, owners get an additional revenue stream and end users get reduced energy costs
- ENMs typically bring with them a legal framework, metering/reporting framework and operational framework which unlocks DERs in the tenancy market

The Full Potential of ENs



- √ Resiliency, Flexibility and Robustness
- √ Social Engagement
- √ Energy Security

Unlocking Aggregated Potential

- Embedded Network Managers can play ancillary service markets with a single large site or with many aggregated sites.

- ENs can provide frequency control services, voltage regulation services and demand response services to the grid.

- ENs can perform tariff arbitrage, demand reduction and PV self consumption for the benefit of its end users, the owner or both

- ENs can help networks with congestion relief and with grid infrastructure deferment.

SBS image from Reposit Power