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TREA submission to the AER on the
TasNetworks Distribution and Transmission Determination 2019 to 2024

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Planning for the future network

All networks face challenges in planning future investment at a time when demand for electricity if relatively static, there is a strong growth in decentralised energy generation and storage behind the meter, and the national policy framework for supporting a transition from an ageing fleet of coal fired power stations is unclear.

In this changing environment, networks (and their regulators) need to make decisions on investments that have long payback times. Over investment can lead to unnecessary increases in electricity prices, under investment can lead to disruptive failures and a lack of ability to meet electricity demand with major impacts on businesses, households and confidence in the security of energy supply.

Planning for future requirements in Tasmania faces some additional challenges:

- A single customer users a quarter of the electricity used in Tasmania and four customers use over half the total electricity used.
- Despite the concentration of large customers, peak demand is determined by household and commercial demand.
- Tasmania typically generates about 80% of electricity used from on-island renewable resources. The government objective of 100% renewable electricity by 2022 can readily be met from planned or proposed on-island wind developments and some improvements in existing hydro infrastructure.
- Despite Tasmania's close to self-sufficiency in electricity generation, there is active consideration of expansion of generation, storage and transmission capacity to meet a perceived opportunity for greater interaction with the mainland market.

TREA strongly supports the ENA/CSIRO Network Transformation Roadmap as the basis for planning the future strategy for the electricity system. The national roadmap recognises and provides useful mapping of the implications of the trends underway for greater customer involvement and the increased role of distributed energy resources (DER). The Roadmap also maps out a cost effective path to net zero greenhouse gas emissions from the electricity sector by 2050 which we believe is a minimum requirement in meeting the challenges of climate change and our national commitments under the Paris agreement. Tasmania is clearly in a position to meet a 100% renewable electricity sector far earlier than 2050, but some of the other changes mapped in the national Roadmap will prove challenging for Tasmania and significant progress needs to be made in the period of the 2019-2024 determination period.

We welcome the fact that TasNetworks has used the national Roadmap as the basis for the TasNetworks Transformation Roadmap 2025 (TasNetworks 2018b).

The TasNetworks Roadmap sets out some major developments in DER that are anticipated to be in place by 2025. However we are concerned that the 2019-2024 Revenue Proposal and Tariff Structure Statement do not reflect the level of planning and innovation necessary to respond to this scenario.

Capital expenditure

We are not in a position to provide detailed comment on TasNetworks capital expenditure proposals but do have a general concern that increased expenditure is proposed in an environment in which network delivered energy peaked in 2008 and is not projected to grow significantly over the 2019-2024 period.

We note that much of the proposed increased capital expenditure for both distribution and transmission is for renewal (Figures 21 and 22 in the AER Issues Paper). The Grattan Institute has provided us with analysis they developed as part of their research for their report Down to the Wire (see Appendix).

Using residual life of assets reported by networks in their 2006 and 2016 RIN responses, weighted by asset class, Grattan have produced a comparison of the change in the average residual life of network assets between 2006 and 2016. This shows that TasNetworks transmission assets are younger than the average of all networks in 2006 and even younger in 2016. It would therefore be useful to have more information to understand why renewal capital expenditure for transmission is higher for 2019-2024 than historical levels (particularly in 2021-2022) – see TasNetworks 2018a p.87.

Contingent projects

As noted by the AER, contingent projects in the Proposal have the potential to greatly increase TasNetworks' transmission RAB:

> *"TasNetworks has proposed five contingent projects estimated at over $938 million, or more than three times TasNetworks' proposed capex. Should all these contingent projects proceed, they would increase TasNetworks' transmission RAB by more than 60 per cent."* AER p.23

This increase (or a significant proportion of it) would have a major and long term impact on customer prices. While we understand that each of these five projects will be subject to its own assessment process it is important that the total impact is looked at both in relation to likely developments in the NEM and in the price impact on customers.

We encourage the AER to ensure that any process for adding contingent projects to the TasNetworks transmission RAB:

- Involves appropriate consultative processes that reflect the interests of the whole TasNetworks customer base.
- Tests the cost benefit of the projects against a range of future scenarios for network development (including the likelihood of a much greater role for distributed generation). Cost benefit analysis should explicitly test the sensitivity of the benefit to key assumptions (for example future demand, future wholesale prices and price volatility).
- Apportions the cost of these projects fairly taking into account the benefits to different groups (for example mainland versus Tasmanian consumers, customers on the distribution network versus those directly connected to the transmission network).

Tariff reform

As stated in previous submissions (TREA 2016a, TREA 2016b), TREA is supportive of the introduction of demand based tariffs on an opt-in basis for residential and small business customers.

We are concerned that increases in fixed charges and reduction in variable charges will discourage energy efficiency.

We do not believe sufficient investigation and analysis has been undertaken on the social impact of closing the gap between the TAS31 and TAS41 network tariffs.

We believe active consultation and trials are necessary to identify the appropriate new tariffs to support greater integration of DER into the network. Meeting the scenarios for the role of DER by 2027 in the national Roadmap will require new tariffs to be designed, trialled and widely implemented before the end of the 2019-24 determination period.

For this reason we are disappointed that the TasNetworks 2019-2024 Tariff Structure Statement does not include more innovative proposal to support integration of distributed energy resources (DER).

Electric vehicle tariffs

The TasNetworks Roadmap projects 5-17,000 electric vehicles in Tasmania by 2025.

In the medium term, electric vehicles (EVs) can provide both a significant challenge to the network (if uncontrolled charging leads to increased peak demand) and a significant potential benefit (both as a source of controllable load and as a source of distributed storage which can be used to support network peaks).

We believe that during the 2019-2024 period it is important that TasNetworks sets some future directions for the interaction between EVs and the network. We would like to see network tariffs and trials to explore:

- Tariffs that would provide an incentive to EV owners to charge at times that do not create additional network peaks. (Once there are significant numbers of EVs, a simple time of use consumption tariff such as the recently introduced Aurora tariffs 93 and 94 could result in a new peak demand at the beginning of the off-peak period at 9pm.)
- DER tariffs for energy fed back into the grid when it provides benefits to the network.

Distributed Energy Resource Tariffs

The TasNetworks 2025 Roadmap projects an increase to 40,000 Tasmanian customers with DER and 33 MW of distributed storage by 2025.

We are generally supportive of the proposed opt-in DER tariff proposed by TasNetworks. However this is still a conventional tariff based on demand based pricing for energy purchased by the consumer. As consumers increasingly install distributed storage (either stationary batteries or EV batteries) there is potential for new arrangements that reward customers for providing services to the network. These services might include:

- energy fed in at times of high wholesale prices
- energy fed in at particular times and locations of network constraint
- FCAS.

The TasNetworks Bruny Island trial is pioneering innovative arrangements for customer-owned distributed storage to interact with the network. We would like to see published tariff arrangements similar to the network support payments offered to Bruny Island residents offered in other locations.

Offering innovative tariffs on an opt-in basis may not initially result in a significant uptake of these tariffs but it will encourage customers to adopt DER. It would also provide valuable learning experience for customers, service providers and networks, in anticipation of the point at which EVs and other DER become cost-effective and result in rapid uptake as is currently happening with solar PV.

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Appendix: Comparison of residual asset life by networks

Grattan Institute compared the residual life of assets reported by networks in their 2006 and 2016 RIN responses.

The assets of TasNetworks distribution were older than the NEM average in 2006 (i.e. the network reported a shorter residual life), and aged further between 2006-2016. The opposite is the case for TasNetworks transmission assets, which were much younger than the NEM average in 2006 (i.e. the network reported a longer residual life) and then was even younger again by 2016.

The table below shows each network's weighted average residual life of assets in years for 2006 and 2016. Residual life is reported by asset class within a network so the calculation of the residual life of assets for each network is weighted by the $ value of each asset class.

DNSP	**STATE**	**Average residual life of assets in 2006 (age weighted by asset value)**	**Average residual life of assets in 2016 (age weighted by asset value)**
ActewAGL	ACT	26.88	13.63
Jemena	VIC	27.11	24.36
TasNetworks (D)	TAS	21.86	19.33
CitiPower	VIC	20.92	22.19
Essential Energy	NSW	21.11	16.98
Energex	QLD	27.19	35.32
Ausgrid	NSW	29.05	36.07
Ergon Energy	QLD	23.69	27.32
SA Power Networks	SA	17.68	17.39
Endeavour Energy	NSW	37.80	41.08
Powercor	VIC	17.37	25.15
AusNet Services (D)	VIC	28.64	29.19
United Energy	VIC	19.17	21.43
TNSP			
ElectraNet	SA	27.68	29.41
Powerlink	QLD	23.90	21.15
AusNet Services (T)	VIC	28.14	19.61
TasNetworks (T)	TAS	31.14	35.86
TransGrid	NSW	25.07	23.90
NEM avg. residual life (age weighted by asset value)		**25.44**	**28.32**