

6 August 2018

Mr Matthew McGee
Executive Director, Energy
Department of State Growth
GPO Box 536
Hobart TAS 7001

Dear Mr McGee

RE Solar Feed-in tariff review

Thank you for the opportunity to make a submission to the Department of State Growth solar Feed-in tariff (**FiT**) review. We support the aim of the review which is to: “provide the right conditions and incentives to encourage further take up of solar, while ensuring Tasmanians who have already installed solar are suitably rewarded”. We seek to provide a submission that works towards policy outcomes and regulatory arrangements that provide the best outcomes for the entire community while being mindful of the impacts on customers who have made an investment in rooftop solar systems¹. This submission outlines TasNetworks’ position in three key areas:

1. Fair and equitable outcomes for all customers. The need for financial assistance to encourage growth of the rooftop solar industry is no longer required and the resulting cross-subsidies should be removed. Solutions should be adopted that ensure fair and equitable pricing outcomes for all customers;
2. Maximising the benefits for distributed energy resource customers. Greater emphasis should be placed on solutions and technology that allow rooftop solar customers to maximise utilisation of their own generation rather than exporting it into the grid. This would best be supported through the promotion of our new cost-reflective network tariffs such as the dedicated demand based time of use (**ToU**) network tariff for customers who invest in distributed energy resources (**DER**).
3. Modernising the network and enabling customer incentives. Policy initiatives should encourage the use of technology, such as advanced meters and communication-enabled batteries, that increase the overall efficiency of the network, drive down costs to all customers and enable solar customers to maximise benefits for their own households.

¹ Throughout this submission, TasNetworks has referred to rooftop solar as a commonly used term that includes all micro-embedded generation regardless of technology or fuel source.

We support the Government's approach of involving stakeholders in this review and share insights in this submission we have gained through our engagement with solar customers, through our ongoing customer engagement program and trials. TasNetworks understands the position of customers who have made investments in rooftop solar and who want to be rewarded for their investment. We are supportive of any approach that strikes a balance between the interests of customers with and without rooftop solar.

A more detailed discussion of each of these positions is included in the attachment.

If you have any questions in relation to this submission, please contact Kirstan Wilding on (03) 6271 6696 or via email kirstan.wilding@tasnetworks.com.au.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'W. Tucker', with a long horizontal flourish extending to the right.

Wayne Tucker

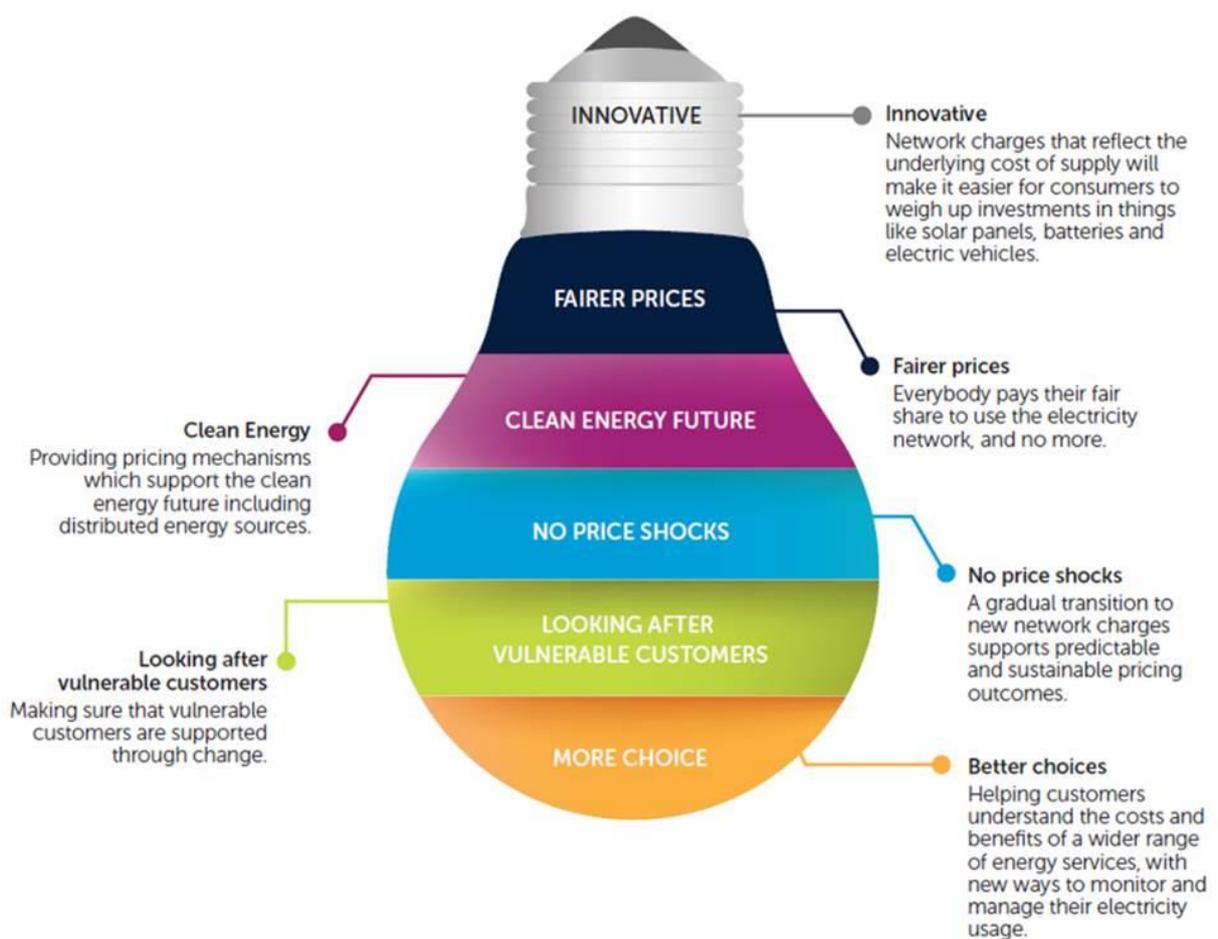
General Manager Regulation, Policy and Strategic Asset Management

Introduction

TasNetworks provides both distribution network services (via the poles and wires) and transmission network services (via the large towers and lines) to customers in Tasmania. Customers are central to everything we do at TasNetworks and our success is anchored to their prosperity and well-being.

One of the pillars of our strategy is to care for our customers and make their experience easier. Shaped by our strategy, our position regarding this review is to support measures that promote fair outcomes for customers and help us deliver sustainable and predictable pricing. Figure 1 highlights some of the key benefits for our customers and the principles which guide our plans for pricing reform.

Figure 1 - The benefits and our principles for pricing reform



TasNetworks also understands the position of customers who have made investments in rooftop solar and who want to be rewarded for their investment. We are supportive of any approach that strikes a balance between the interests of customers with and without rooftop solar.

1. Fair and equitable outcomes for all customers

TasNetworks supports the position of the Australian Competition and Consumer Commission (ACCC) in relation to feed-in tariff arrangements. Recommendation 25 of the *Restoring Electricity Affordability & Competitive Advantage*² is that any remaining costs related to subsidised FiT schemes should be borne by State Governments as opposed to being recovered through energy businesses that are often required to pass on these costs to all customers.

TasNetworks does not support an extension to the transitional FiT in Tasmania. The transitional FiT offers a subsidy to customers for the energy they produced that outweighs the value of that energy. Any FiT that pays customers in excess of the market value of the energy their system produces rewards rooftop solar customers at the expense of other customers, either through higher prices or lower dividends to Government from TasNetworks.

Continuing the existing grandfathered FiT framework would exacerbate the following issues:

Rooftop solar delivering limited benefit to the network

A recent review of solar FiTs conducted by the New South Wales (NSW) Independent Pricing and Regulatory Tribunal (IPART)³ suggested the benefits of rooftop solar were only able to be realised in limited parts of the NSW network where it has the ability to reduce peak demand. Tasmania has a winter peaking network with peak periods that occur early in the morning and late in the afternoon, largely as a result of increased heating load. Therefore, the majority of solar generation (that occurs during the middle of the day) does not coincide with the times when the network is most in demand. The potential benefit to the network is therefore not realised because solar generation without storage capability does not reduce the demand on our network and does not allow customers to benefit from a reduction or deferral of costs or optimisation of our network.

Rooftop solar installations have continued to grow and customers are investing

We encourage the uptake of DER to support facilitating customer-centric solutions to enable better products and services to customers, optimise network investments and reduce the overall network costs.

Until 2011, governments encouraged the growth of rooftop solar systems by providing generous FiT schemes. Once the industry matured, the need to provide these subsidies disappeared and as a result, between 2011 and 2013, all jurisdictions moved away from solar bonus schemes for new customers. Despite this, decreasing costs of rooftop solar (*Figure 2*) have provided sufficient incentive to ensure the installation rate has not declined (*Figure 3*).

² ACCC Electricity supply and prices inquiry:

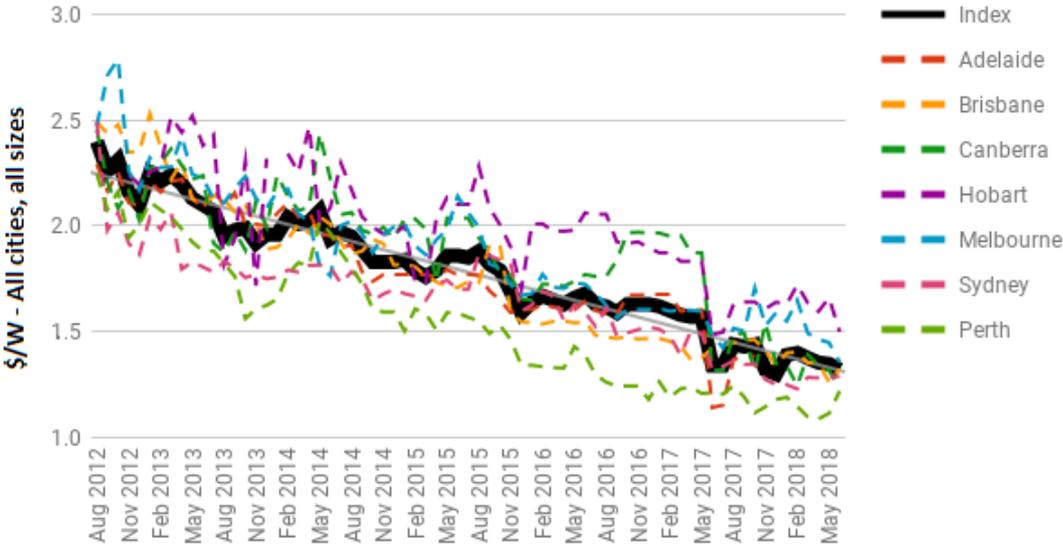
<https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018.pdf>

³ IPART solar FiT review: <https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/pricing-reviews-energy-services-publications-solar-feed-in-tariffs-201819/final-report-solar-feed-in-tariff-benchmarks-201819-june-2018.pdf>

This is supported by data from the Australian Energy Council⁴ which showed solar generation in Australia increased by 22.8 per cent in 2017, including a 19 per cent increase in Tasmania and a 29 per cent increase in NSW, where a fair and reasonable (market value of solar PV generation) FiT is the only option available.

TasNetworks is of the view that the original assistance required to encourage the rooftop solar industry is no longer needed and the subsidies that resulted from generous FiT schemes should now be removed.

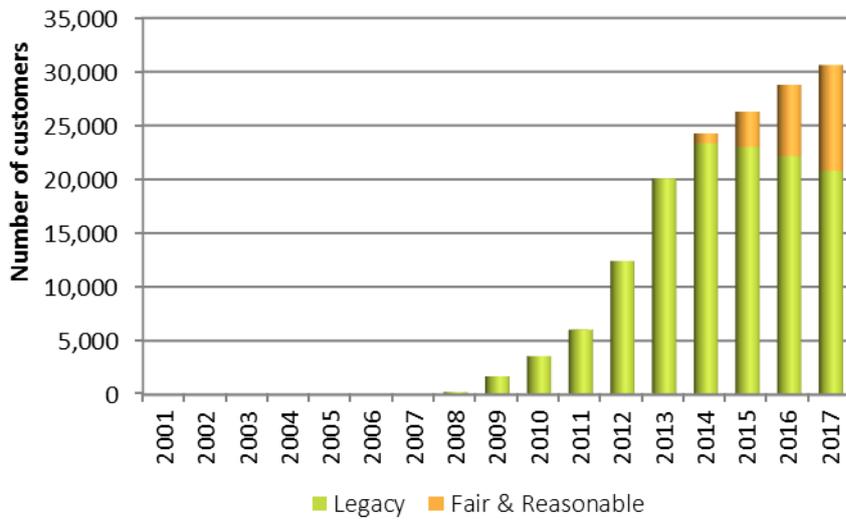
Figure 2 - Solar PV price index⁵



⁴ https://www.energycouncil.com.au/media/11188/australian-energy-council-solar-report_-january-2018.pdf

⁵ Solar PV price index: <https://www.solarchoice.net.au/blog/solar-choices-pv-price-index-is-going-quarterly/>

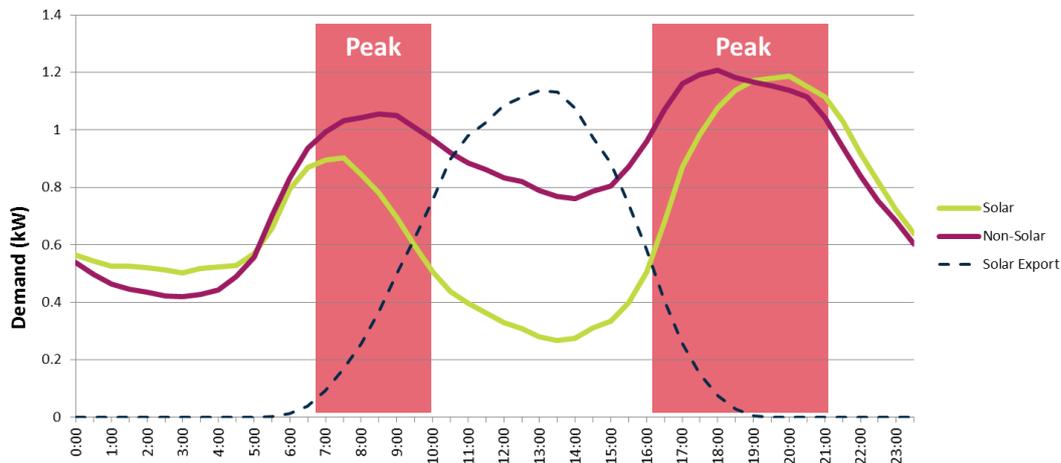
Figure 3 - Cumulative installation of solar PV by FiT⁶ in Tasmania



Fair prices for all customers

Network development costs are largely driven by the maximum demand on our network (usually a cold Tasmanian winter's morning). However, rooftop solar output is minimal at peak times in Tasmania, meaning rooftop solar customers often place as much load on the network as non-solar customers (*Figure 4*). However, under flat, consumption based network tariffs, rooftop solar customers are charged less for their use of the network because they typically consume less energy from the grid.

Figure 4 - Average daily demand profile: Solar versus non-solar customers⁷

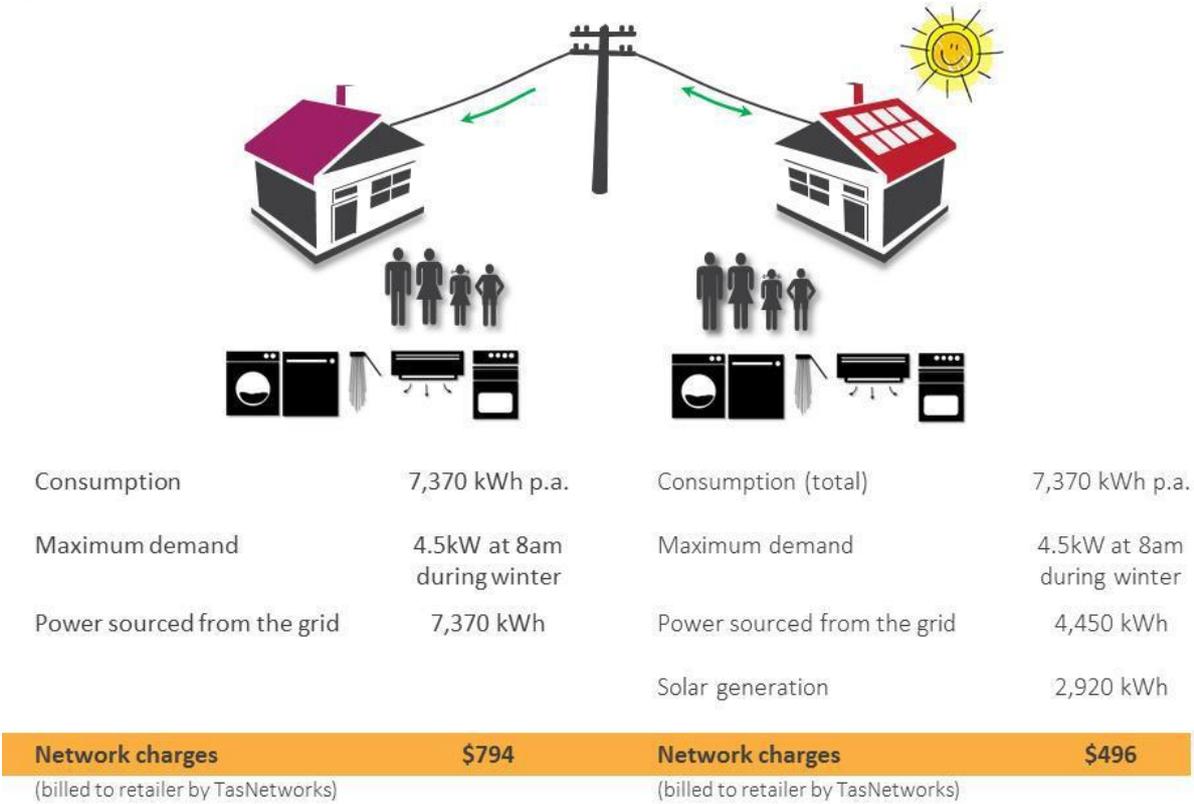


⁶ Clean Energy Regulator data has been used in conjunction with TasNetworks NMI (Tasmanian FiT customer) counts for each year: <http://www.cleanenergyregulator.gov.au/RET/Forms-and-resources/Postcode-data-for-small-scale-installations#Summary-of-postcode-data>

⁷ TasNetworks emPOWERing You Trial

The following illustration (Figure 5) shows two households with the same composition, the same appliances, same energy use and the same maximum demand. The two households pay very different amounts for their network services, despite being on the same flat-rate network tariff and having the same network capacity requirements at peak times. The difference is that one house has solar panels, and because the network tariff is a flat, consumption based tariff, factors like demand or time of use aren't taken into account when calculating either household's network charges.

Figure 5 - One of the unintended outcomes of DER⁸



2. Maximising the benefits for distributed energy resource customers

We are already seeing customers adopt new technology and know that the future will see new types of customers and technologies connecting to our network. In response, TasNetworks has introduced a range of cost reflective network tariffs for small customers, via their retailer. Some of the tariffs we have introduced for small customers, such as a consumption based ToU network tariff and a demand based ToU network tariff are already available to retailers. We will introduce dedicated network tariffs for business and residential customers who invest in DER from 1 December 2018, to coincide with the end of the transitional FIT.

The new tariffs are designed to encourage customers to avoid running lots of appliances at once, to draw on battery storage at times of peak demand for the network or switch their demand to off-peak periods to reduce their network charges.

⁸ TasNetworks Tariff Structure Statement for 2019-24 Regulatory Control Period: <https://www.aer.gov.au/system/files/TN-Tariff%20Structure%20Statement%202019-2024-PUBLIC.pdf>

The DER tariff is designed to ensure that customer investment in DER is used to decrease, rather than increase, network costs. All of the cost reflective network tariffs are designed ensure those customers who drive our costs pay their fair share of those costs.

If retailers take up the network tariff for customers who invest in DER, it will provide options for all customers who have made investments in DER as they transition to the fair and reasonable FIT arrangements.

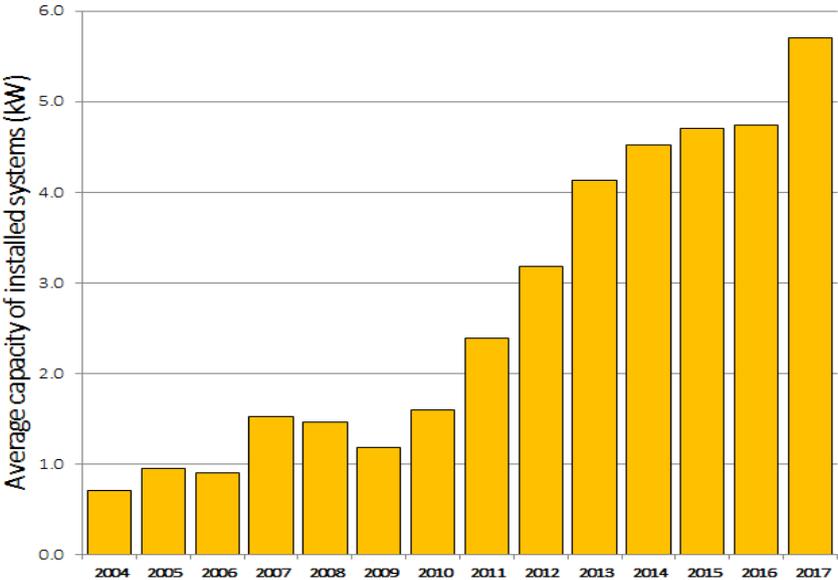
Introducing ToU tariffs for customers who install DER will allow us to:

- provide price signals to encourage these customers to use their DER to reduce their peak load or shift demand to off-peak periods, thus minimising their own network charges while avoiding increasing costs for us and all our customers; and
- identify these customers, so we can learn how to best integrate their energy use, energy export and network support capabilities into our own network operation practices. This will help us tailor our services and lower our costs over time which means lower prices for all customers in the future, relative to the case where these technologies are not used efficiently or optimally integrated into the network.

Exacerbating the inequity is the fact that the addition of rooftop solar can create challenges that may require additional expenditure on the network which is currently funded by all customers. The key issue relates to sustaining the quality of supply to customers connected to the distribution network, which relates to our obligation as a Distribution Network Service Provider (**DNSP**) to operate the network within a set voltage range. The growth in the capacity of rooftop solar demonstrated in Figure 6 may create challenges for the network as growth of rooftop solar systems export produces more energy during off-peak times. The increased prevalence of rooftop solar may increase variation in generation which causes voltages to vary beyond acceptable limits.

In summary, DER is going to be an important part of Tasmania's energy sector in the decades to come and an important part of TasNetworks' role is to facilitate its uptake in a way that maintains a safe, reliable and affordable service that does not disadvantage customers without DER. The new DER tariffs are going to be an integral part of TasNetworks' distribution pricing strategy over the coming five year regulatory period and beyond. We will develop a greater understanding of how DER can be deployed in ways that benefit, rather than disadvantage, the network and other customers who do not have it. This will enable us to offer network pricing that is unique to customers with DER and more cost reflective than the existing demand-based time of use tariffs. Our emPOWERing You Trial includes more than 100 customers (approximately 20 per cent) with rooftop solar to ensure our trial contains a representative sample of Tasmanian customers. The trial enables us to analyse customer data and develop pricing outcomes for customers that incentivise investment in DER technology and ensure all customers are able to extract maximum value from connection to the network.

Figure 6 - Average size of solar PV systems installed by year



To encourage uptake of new demand based tariffs, both demand based ToU tariffs (for residential and small business customers who make investments in DER technology) will be offered with an introductory discount applied to the off-peak period. The cost of the discount will not be passed onto customers.⁹

⁹ This DER tariff, our proposed discount and how we engaged with our Pricing Reform Working Group on this strategy, is further explained in our TasNetworks Tariff Structure Statement for 2019-24 Regulatory Control Period: <https://www.aer.gov.au/system/files/TN-Tariff%20Structure%20Statement%202019-2024-PUBLIC.pdf>

Maximising customers' utilisation of their own solar rooftop solar

TasNetworks is supportive of any position that assists rooftop solar customers to maximise utilisation of their own generation. The Alternative Technologies Association (ATA) suggested, in a recent report *Life After Legacy FiTs*¹⁰, that a customer's most economically efficient response to a reduction in FiT is to increase solar self-consumption in their own home or business.

This review of FiTs presents an opportunity to ensure energy policy is consistent with the Government's stated goal of reducing energy prices in Tasmania. Given network charges in 2017-18 make up, on average, 43 per cent of a typical residential customer's electricity bill¹¹, opportunities to explore ways to ensure more efficient network operation would support achievement of this strategic goal.

This review provides an opportunity to discuss solar FiTs as part of a wider discussion about how to encourage customers to modify their behaviour through network pricing and other incentives. Like other jurisdictions, TasNetworks is currently transitioning towards network pricing that aims to provide customers with appropriate signals about how their use of the network impacts on network costs. In this way, over time, customers will be encouraged to change the way they use electricity by drawing less from the network at peak times which will ultimately lower network costs for all customers in the future. A recent report published by the Australian Energy Market Commission (AEMC)¹² indicates a growing frustration with delays in the transition to these cost reflective network tariffs. We have consulted widely with customers about this transition and have received support to assign new customers and those who change their metering configuration, on an opt-out basis, to consumption based ToU tariffs.

A change to any of the ToU network tariffs we offer provides rooftop solar customers with an opportunity to better utilise their own investment in rooftop solar and maximise benefits for their household. Under current tariff arrangements, the majority of residential customers are on a combination of two flat rate network tariffs and are currently only able to offset their usage with rooftop solar against one of these tariffs (ie. the residential light and power network tariff). A change to a single tariff such as the dedicated tariff for customers who have made investments in DER will enable these customers to maximise their benefits by allowing all their generation to offset 100 per cent of their usage.

As well as incentivising customers to use their own rooftop solar through network pricing, additional measures that could be investigated include:

- helping customers improve the thermal performance of their home in order to facilitate pre-heating; and

¹⁰ ATA - Life after FiTs: http://www.ata.org.au/wp-content/projects/TEC_Life_After_FiTs_2016_Final_Report.pdf

¹¹ Tasmanian Economic Regulator:
<http://www.economicregulator.tas.gov.au/electricity/pricing/retail/electricity-pricing-explained#Whodoeswhatinsupplyingelectricitytomyhouseorbusiness?>

¹² Electricity network economic regulatory framework review 2018 – <https://www.aemc.gov.au/markets-reviews-advice/electricity-network-economic-regulatory-framework-1>

- facilitating use of timers to maximise usage by appliances such as hot water cylinders and heat pumps during times of solar generation.

The Australian Sustainable Built Environment Council (**ASBEC**) *Building Code Energy Performance Trajectory Report*¹³ found improved thermal performance of buildings offers a host of advantages such as reducing stress on the electricity network, reducing electricity bills and providing the most efficient path towards a zero carbon future.

It is possible that any Government policy facilitating these types of measures could be accomplished through existing resources such as the No Interest Loans Scheme (**NILS**) and the Tasmanian Energy Efficiency Loan Scheme (**TEELS**).

3. Modernising the network and enabling customer incentives

Technology is emerging that is providing an increasing number of customers with opportunities to make investments in batteries and other DER. As this technology becomes increasingly accessible for customers, third parties are seeking to provide services to customers that may provide mutual benefits for customers and networks.

New technologies to support implementation of these initiatives include smarter systems, such as advanced meters, smart solar inverters and smart batteries. These types of technologies are smarter because they are communications capable.

As noted in Energy Networks Australia's (**ENA's**) *Open Energy Networks*¹⁴ consultation paper, DER will be an integral part of the transition to a reliable, lower cost and more secure power system. Without consideration of local network limits and the role of networks in managing these issues, however, the benefits to greater DER integration are unlikely to be maximised. Managing the Tasmanian network through better utilisation, coordination and control of DER, and providing clearer signals to customers about the impact their usage has on network costs, are therefore essential to a future that ensures all customers pay the lowest sustainable price for their use of the network.

It is likely that increased prevalence of smart DER technology along with electricity tariffs that signal the true cost of energy production and distribution, will lead to significant benefits for the network and all Tasmanian electricity customers. The *Electricity Network Transformation Roadmap*¹⁵, jointly commissioned by the Commonwealth Scientific and Industrial Research Organisation (**CSIRO**) and ENA, suggests that such a combination could reduce total network expenditure across the NEM by \$16 billion by 2050. The report suggests that the savings in network expenditure could reduce average electricity bills by \$414 per year.

TasNetworks is supportive of any policy that supports Tasmanian customers taking-up technologies that help incorporate DER into the network such as advanced meters and smart batteries.

¹³ ASBEC: <http://www.asbec.asn.au/wordpress/wp-content/uploads/2018/07/180703-ASBEC-CWA-Built-to-Perform-Zero-Carbon-Ready-Building-Code-web.pdf>

¹⁴ https://www.energynetworks.com.au/sites/default/files/open_energy_networks_consultation_paper.pdf

¹⁵ Electricity Network Transformation Roadmap:
https://www.energynetworks.com.au/sites/default/files/entr_final_report_web.pdf

TasNetworks is currently undertaking the CONSORT Bruny Island Battery Trial in conjunction the Australian Renewable Energy Agency (**ARENA**), Reposit Power, 34 local customers and several Australian Universities. The CONSORT trial aims to provide information about how battery technology can be used to benefit customers and provide support to the distribution network. Preliminary analysis based on the CONSORT trial suggests batteries with the capacity to respond to network demand response signals provide a greater reduction in peak demand than batteries without the capacity to respond to requests from the network.

A battery that cannot respond to signals from the network may be beneficial for individual customers and may even be a valid response to a significant reduction of the FiT for some customers. However, such a battery may not be able to assist significantly in the overall efficiency of the network and may not assist in reducing network costs. Additionally, batteries that are unable to respond to signals from the network may also restrict individual customers' capacity to realise the full potential of their investment.

To encourage customers to take up these new smart technologies, existing programs such as NILS and TEELS could be utilised by supporting customers to make lower interest or no interest investments that benefit their household. There would be an additional benefit in using these programs because it would greatly assist in collecting the information mandated by the AEMC in their recent rule change regarding a DER register¹⁶.

TasNetworks understands the cost pressures faced by the metering coordinator and retailer in enabling a transition to cost reflective pricing and an acceleration of advanced meters to customers with solar. To support modernising a safe, reliable and affordable network for all customers, we recommend the Government consider a funding model that provides an appropriate allocation of support to manage the costs associated with enabling implementation of the policy. This arrangement would need to be transparent, accessible, sufficiently justified and monitored to ensure the benefits are allocated to customers.

¹⁶ DER Register Rule Change
<https://www.aemc.gov.au/rule-changes/register-of-distributed-energy-resources>