



Office of the Tasmanian Economic Regulator

Statement of Reasons

**Regulated Feed-in Tariff Rate for Tasmanian Small
Customers**

May 2016

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1 BACKGROUND

A Feed-In Tariff (FiT) is a pricing mechanism whereby an electricity utility pays a customer for the excess electricity generated by the customer's micro distributed generation systems and exported to the electricity grid.

Under the *Electricity Supply Industry Act 1995* (ESI Act), the Tasmanian Economic Regulator is required to determine the rate to be paid by authorised retailers to standard feed-in tariff customers for energy exported to the electricity grid.

Before making a determination the Economic Regulator is required to conduct a pricing investigation with the objective of gathering information to assist in setting the rate. On 2 July 2015 the Economic Regulator published a notice of its intention to conduct such an investigation.¹

On 5 February 2016 the Economic Regulator released a Draft Determination and a Draft Report which discussed the costs and issues the Regulator had considered in calculating the FiT rate for Standard FiT customers in Tasmania.

The Economic Regulator sought written submissions on its Draft Determination and Draft Report during a consultation period ending on 15 March 2016.

Submissions were received from the Tasmanian Renewable Energy Alliance (TREA), the Tasmanian Greens, Save our Solar and a number of private citizens.

This Statement of Reasons addresses the issues raised in submissions and outlines the Economic Regulator's decision in respect to each issue. The Economic Regulator's decisions are also reflected in the Economic Regulator's Final Report and Determination which were released on 5 May 2016. The Determination applies to a regulatory period that commences on 1 July 2016 and ends on 30 June 2019. The Economic Regulator will publish the regulated FiT rate for 2016-17 in mid-June 2016.

The issues raised during consultation have been grouped into the following categories:

- scope and approach;
- direct impacts; and
- indirect impacts.

These issues, and the Economic Regulator's responses, are discussed in the following chapters.

¹ The Economic Regulator advised stakeholders on 29 April 2016 that it would release its final report and make its determination on or before 6 May 2016. An amended Notice was subsequently published on the Economic Regulator's website.

2 SCOPE AND APPROACH

The Economic Regulator received a number of submissions raising issues with its approach to setting the FiT. Submissions raising issues which were beyond the scope of its investigation were also received. These issues included:

- transferring the FiT rate determination responsibilities from the Economic Regulator to the Treasurer;
- increasing the generation capacity threshold for regulated FiT eligibility;
- promoting technological development such as battery storage and electric cars;
- promoting the development of the Tasmanian solar industry and its associated employment benefits;
- energy security issues; and
- metering issues.

This chapter discusses these issues and the Economic Regulator's responses to each issue.

2.1 Scope of the feed-in tariff rate investigation and determination

2.1.1 Overview

Submissions from Eve White, Barb Jowett, Lorraine Perrins, Andrew Ross, Megan and David Marrison, Tim Rudman, John Thirgood (Save Our Solar), Andrew Glenn and the Tasmanian Greens suggested that the Economic Regulator's Draft Report and Draft Determination failed to account for the other benefits of distributed generation.

TREA's submission also expressed concern about the scope of the Regulator's investigation, suggesting that the terms of reference for setting the FiT were too narrow and too heavily focused on benefits to retailers of exported electricity. In its submission, the TREA noted that:

The "Principles to be taken into account in making feed-in tariff rate determinations" as set out in section 44H of the Electricity Supply Industry Act 1995 focus mainly on the benefits to retailers.

However section 44H (c) of the [ESI Act] does require the Regulator to take into account 'the other costs, or other benefits, that...the Regulator considers relevant, including, but not limited to including those related to the distribution networks or transmission networks'.

By recommending that only benefits that flow to retailers from distributed generation be included in the calculation of the FiT the Regulator has short changed Tasmanians.

2.1.2 Discussion

Section 44H of the ESI Act sets out a number of principles the Economic Regulator is required to take into account when making a FiT rate determination:

- (a) the fair and reasonable value to authorised retailers of electricity supplied to the distribution network by feed-in tariff customers
- (b) the net financial benefit, to authorised retailers, of electricity supplied to the distribution network by feed-in tariff customers, having regard to the costs of authorised retailers, including, but not limited to including:
 - the costs to authorised retailers of purchasing wholesale electricity; and
 - other costs of authorised retailers in operating their retail electricity businesses
- (c) the other costs, or other benefits, that
 - the Regulator considers relevant, including, but not limited to including, those related to the distribution networks or transmission networks; and
 - result, either directly or indirectly, from the supply of electricity to distribution networks by qualifying systems at premises of small customers;
- (d) the COAG National Principles for Feed-in Tariff Arrangements, as those Principles apply from time to time
- (e) any arrangements of the Commonwealth, whether legislative or otherwise, in relation to the pricing of carbon emissions or other mechanisms to reduce the use of carbon-emitting fuels;
- (f) the principle that the feed-in tariff rate specified in the determination should not have the effect that any customer would effectively be cross-subsidising any other customer;
- (g) such approaches, methodologies, findings or recommendations, taken or made in other jurisdictions, as the Regulator thinks fit, for determining fair and reasonable feed-in tariff rates;
- (h) any prescribed matters;
- (i) any other matter the Regulator thinks relevant.

As TREA notes Section 44H(c) grants the Economic Regulator a wide degree of discretion to account for ‘other costs, or other benefits the Economic Regulator considers relevant’.

However, section 44H(f) of the ESI Act also states ‘the feed-in tariff rate specified in the determination should not have the effect that any customer would effectively be cross-subsidising any other customer’.

Further, section 44H(d) of the ESI Act requires the Economic Regulator to take into account the COAG National Feed-in Tariff Principles, one of which states:

That any jurisdictional or cooperative decisions to legislate rights for micro generation consumers to receive more than the value of their energy must:

(c) give explicit consideration to compensation by public funds or specific levies rather than cross-subsidised by energy distributors or retailers; and

(d) not impose a disproportionate burden on other energy consumers without micro generation.

In its Draft Report and Draft Determination the Economic Regulator's proposed an approach to setting the FiT rate that focussed on assessing the benefits of solar PV generation to retailers having regard to:

- the legislative requirement to prevent cross-subsidisation;
- difficulties in quantifying and/or measuring other costs or benefits; and
- the approaches taken by regulators in other jurisdictions.

The Economic Regulator also notes that the Queensland Competition Authority has found that:

...setting the retailer-funded feed-in tariff at a rate any higher than the direct financial benefit to retailers would likely result in retailers increasing electricity prices for all customers to cover costs that exceed the benefit that they receive.²

2.1.3 Economic Regulator's Conclusion

The Economic Regulator aims to recognise benefits associated with the uptake of solar PV insofar as they are material, measurable and don't breach other criteria for setting the FiT rate. The Economic Regulator considers that setting the FiT at a rate any higher than the direct financial benefit to retailers, without measurable and material benefits, would likely result in retailers increasing electricity prices for all customers to cover costs. Raising the FiT rate for reasons which are not measurable and material would potentially contravene both the COAG Feed-in-Tariff Principles and the ESI Act which require the Economic Regulator to avoid cross-subsidisation.

The Economic Regulator has therefore decided, at this point, it is not appropriate to change the scope of the proposed approach to setting the FiT rate from that outlined in its Draft Report.

The Economic Regulator's consideration of the treatment of specific other costs and benefits identified in submissions on the Economic Regulator's Draft Report are outlined in Chapters 3 and 4 of this Statement in discussions on the direct and indirect impacts of the FiT rate determinations.

² Queensland Competition Authority (2013), *Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland: Final Report*, Page 10.

2.2 Approach to setting the feed-in tariff rate

2.2.1 Overview

With respect to the Economic Regulator's intended approach to setting the FiT Rate, TREA recommended that:

- the Economic Regulator should identify and quantify the benefits of distributed generation;
- the FiT should ultimately be set by the Treasurer to reflect the wider non-monetary benefits; and
- the FiT rate and review and grandfathering arrangements should be set to provide some level of certainty to prospective purchasers, while not placing an undue burden on customers of the electricity system.

2.2.2 Discussion

Under the ESI Act the Economic Regulator is responsible for determining the regulated FiT rate. Legislative changes would therefore be required to enable the Treasurer to set the FiT rate.

The Economic Regulator notes that the current FiT Rate; the process for the reviews of the FiT rate; and the grandfathering arrangements with respect to customers who are not Standard FiT customers are documented in the Economic Regulator's reports and determinations and on the Office of the Tasmanian Economic Regulator's website.

2.2.3 Economic Regulator's Conclusion

The proposal for the Treasurer to set the FiT Rate would require legislative amendment and is, therefore, outside the scope of this investigation and outside the Economic Regulator's control.

Based on the information currently published, the Economic Regulator considers that prospective solar PV customers have access to sufficient information to make an informed decision about whether to install a solar PV system.

2.3 Eligibility

2.3.1 Overview

In their respective submissions, TREA and Neil Dixon recommended that the generation capacity threshold for eligibility for the regulated FiT be raised to 100 kW. TREA argue that:

...in the days of premium FiTs there was a case for limiting the size of eligible systems. Once the FiT is calculated to reflect the benefit of energy exported there is no logical reason to set a low limit on the size. Some cut-off point between

eligibility for a FiT and generators that fall within the NEM Rules is necessary. Given that eligibility for STCs for solar projects is capped at 100kW it would be logical to use the same level for FiT eligibility.

2.3.2 Discussion

The current system eligibility requirements for the regulated feed-in tariff are set in section 44B of the ESI Act 1995. In particular, section 44B(2)(a) and 44B(2)(b) specify that a “qualifying system” has a total generation capacity of not more than 10kVA (10 kW) for installations with a single phase inverter or not more than 30kVA (30 kW) for installations with a three phase inverter respectively.

Legislative changes would therefore be required to amend the definition of qualifying system to increase the total generation capacity to 100kW.

2.3.3 Economic Regulator’s Conclusion

This is a policy matter and is therefore outside the scope of this investigation and outside the Economic Regulator’s control.

2.4 Employment benefits associated with the feed-in tariff

2.4.1 Overview

Submissions from Barb Jowett, Andrew Ross, Megan and David Marrison, Tim Rudman, John Thirgood, TREA and the Tasmanian Greens recommended that, in setting the FiT Rate, the Economic Regulator account for the employment opportunities associated with a growing solar industry.

2.4.2 Discussion

As described in Section 2 of this Statement of Reasons, both the ESI Act and the COAG National Feed-in Tariff Principles, require the Economic Regulator to ensure that the FiT rate does not lead to a disproportionate cost burden on consumers without micro generation. Raising the FiT for the purpose of increasing employment would likely result in consumers without distributed generation subsidising those who have installed a solar PV system. To do so would contradict the Economic Regulator’s obligations to prevent cross-subsidisation.

The Economic Regulator also notes that the QPC found that:

Given Solar PV industry development and employment that are achieved through mandated feed-in tariffs are paid for by other consumers and businesses — subsidising solar exports for these reasons will increase electricity costs for other

businesses and households (including vulnerable consumers) and is likely to have an overall negative impact;³

2.4.3 Regulator's Conclusion

The employment implications of a higher FiT rate are beyond the scope of this investigation. Raising the FiT to account for the employment generating benefits of a growing solar installation industry would be inconsistent with the Economic Regulator's obligations to prevent cross-subsidisation. As well as this, were a determination to take into account the employment implications of the FiT rate it would have to look at the net employment consequences for the Tasmanian economy, not solely jobs created in the solar industry.

The Economic Regulator has decided to retain the proposals made in its Draft Report with respect to this issue, and will not make any changes to its FiT rate calculation to account for economic or employment benefits.

2.5 Energy security benefits associated with the feed-in tariff

2.5.1 Overview

Submissions from Eve White, Barb Jowett, Lorraine Perrins, Andrew Ross, Megan and David Marrison, Tim Rudman, Andrew Glenn, Fraser Petrie, TREA and the Tasmanian Greens referred to the current energy supply situation in Tasmania, due to the Basslink outage, and recommended that, in setting the FiT Rate, the Economic Regulator account for the energy security benefits associated with the promotion of distributed generation.

2.5.2 Discussion

Energy security encompasses a wide range of issues and considerations. Determining what role, if any, the FiT rate should have in ensuring the security of Tasmania's energy supply would require analysis of both its advantages and disadvantages, as well as its merits relative to large-scale generation. This analysis is beyond the scope of this investigation.

The Economic Regulator does however recognise that solar PV can provide energy security benefits. However, despite significant growth in the number of solar PV installations in Tasmania over the past decade, as at 30 June 2015, solar PV generation met only one per cent of Tasmania's total annual demand⁴. While a higher FiT rate may encourage additional solar PV installations and play a role in increasing energy security in the longer term, this is highly unlikely in isolation to have a significant impact on Tasmania's energy security in the short term.

³ Queensland Productivity Commission (2016), *Solar Feed-in Pricing in Queensland Draft Report*, Page 109.

⁴ Tasmanian Economic Regulator, *Energy in Tasmania Report*, 2014-15, Pages VI and 47.

Further to this, as described in Section 2 of this Statement of Reasons, both the ESI Act and the COAG National Feed-in Tariff Principles, require the Economic Regulator to ensure that the FiT rate does not lead to a disproportionate cost burden on energy consumers without micro generation. Raising the FiT to increase the number of solar PV installations thereby improving Tasmania's energy security would likely result in consumers without distributed generation subsidising those who have installed a solar PV system. In order to justify this it would have to be demonstrated that the energy security benefits of increased solar PV system uptake outweigh the costs to consumers more broadly.

2.5.3 Economic Regulator's Conclusion

Energy security is a policy issue for the Tasmanian government and is therefore beyond the scope of this investigation. The Economic Regulator has decided not to make any changes to its Draft Report in respect to this issue.

2.6 Technological development impacts

2.6.1 Overview

Submissions from the Tasmanian Greens and TREA suggested that in making the FiT determination, the Economic Regulator should take into account the impact of technological developments such as battery storage and electric cars. In its submission TREA recommended that:

New and broader terms of reference, incorporating active consideration of new technologies, should be drafted and a new FiT methodology investigation should be carried out before the start of the 2017-2018 regulatory period.

TREA also noted that:

Optimum integration of these technologies is likely to require a mixture of regulation, appropriate tariffs and possibly time and location based FiTs. Once these frameworks are in place the industry can design and promote suitable hardware options. All of these have significant lead times. It is therefore important that planning for this commences as soon as possible. Waiting three years before considering the best way to maximise the benefit of these new technologies would be a massive wasted opportunity.

TREA also recommended that:

...the revised terms of reference should require the Regulator to investigate the role that new distributed generation options (including domestic battery systems) can play in reducing network costs and make recommendations on mechanisms to allocate this benefit, including the possibility of time and location based FiTs.

2.6.2 Discussion

The Economic Regulator considers that the development of embedded battery storage technology and electric car technology are in their early stages and there is insufficient information at this time to assess what role, if any, the regulated FIT rate could play in their development. As described in Section 2, the Economic Regulator has a legislative requirement to minimise cross-subsidisation and any modifications to the regulated FIT rate designed to promote any particular technology would likely result in the retailer passing on costs to other consumers.

The Economic Regulator notes that Aurora Energy intends offering Time-of-Use (ToU) tariffs during the upcoming 2016-19 standing offer regulatory period⁵. The entry of new retailer(s) to the Tasmanian market may also lead to the introduction of ToU FIT rates. A competitive market for ToU tariffs has the potential to promote the uptake of battery storage by encouraging consumers to utilise battery storage to shift electricity demand to periods when the cost of energy is lower.

2.6.3 Economic Regulator's Conclusion

The Economic Regulator will continue to monitor the development of new technologies and the influence they may have on the Tasmanian electricity network.

In this regard, the Economic Regulator is currently reviewing the reliability of the network and the potential impact of electric vehicles and battery storage will be considered as part of this review. However, the promotion of the development of new technologies is considered to be outside the scope of the Economic Regulator's investigation and therefore cannot be considered in determining the FIT rate.

2.7 Metering issues

2.7.1 Overview

Submissions from Irvin Cottle and TREA expressed concerns that homeowners who invested in solar after 2013 were not receiving the full benefit of their contribution to the grid due to software issues with TasNetworks' meters.

2.7.2 Discussion

Many Tasmanian electricity customers are connected to more than one electricity tariff, each of which is separately metered. These are generally Tariff 31 for Light and Power, and Tariff 41 or 42 for Hot Water or Heating. In August 2013 TREA identified that, due to software issues with TasNetworks' meters, many solar owners would only be compensated for excess power generated against the light and power tariff and not the hot water and heating tariff. Because of this, when a customer was consuming power on Tariff 41 or 42 while at the same time exporting power produced by their

⁵ Aurora Energy Pty Ltd, *2016 Retail Price Determination, Draft Standing Offer Price Strategy* (12 February 2016), Pages 21-23.

solar panels they would not be adequately compensated for the power they were exporting to the grid.

The Economic Regulator understands that while a solution has been identified, due to the costs and the incompatibility of the solution with TasNetworks' long term tariff strategy the solution is yet to be implemented.

2.7.3 Economic Regulator's Conclusion

This issue is outside the scope of this investigation. Metering is TasNetworks' responsibility and the funding of metering software solutions in response to the identified issue is a matter for the Government and TasNetworks.

3 DIRECT IMPACTS

In relation to the direct financial benefits retailers receive from the FiT, the Economic Regulator sought comment on:

- the proposed inclusion of wholesale electricity costs, network losses and National Electricity Market (NEM) fees in calculating a 'fair and reasonable' FiT;
- estimating wholesale electricity costs using the regulated wholesale electricity price adopted as part of the determination and approval of standing offer retail prices rather than the market price method; and
- the proposed exclusion of all other direct impacts.

This Chapter addresses issues raised relating to the inclusion of direct impacts on retailers in the FiT Rate, including avoided distribution and transmission costs, wholesale energy costs and reducing network loss factors.

3.1 Avoided distribution costs

3.1.1 Overview

Submissions from TREA and the Tasmanian Greens recommended that an allowance for avoided distribution costs be included in the calculation of the FiT. The TREA submission stated that:

There are at least two ways in which distributed generation makes less use of the distribution network and reduces its costs. Exported energy from solar PV is typically used close to the point of export and therefore makes significantly less use of the 'poles and wires'. Also a significant proportion of the cost of the distribution network is the transformers which convert from 11 or 22 kV to 230/415V. Solar inverters have this capability built in and export power at 230V single phase or 415V three phase.

TREA recommends that 'in the absence of a mechanism in the NEM for reflecting the benefits of lower network usage by distributed generation, the Regulator should reflect this benefit in the feed-in Tariff'.

3.1.2 Discussion

In its Draft Report the Economic Regulator noted that it had consulted with TasNetworks to determine the nature of the Tasmanian distribution charging structure, and whether distribution costs can be avoided. At present, distribution costs are based on metered consumption and do not take into account the source of generation. As a result, retailers are unable to make financial gains through distribution charges when purchasing and on-selling excess electricity from distributed generation. Because a retailer cannot avoid these charges the Economic

Regulator concluded that they should not be taken into account when calculating a 'fair and reasonable' FiT.

In response to TREA's submission on the Draft Report, the Economic Regulator sought TasNetworks' views on the feasibility of providing a credit for avoided distribution costs to retailers to pass on to distributed generation customers. In response TasNetworks noted that:

The main driver of network costs is not the volume of electricity distributed to customers over time but the cost of building the network to meet peak demand. The output of solar PV systems is out of phase with recognised peaks in system demand in Tasmania, meaning that distributed generation has not given rise to distribution network cost savings.

3.1.3 Regulator's Conclusion

Based on the preceding discussion the Economic Regulator notes that distribution charges are not avoidable costs to a retailer.

The Economic Regulator notes the development of battery storage, in combination with solar PV, may at some point in the future contribute to reductions in peak demand. However, this technology is still in its infancy and is yet to make any significant impact.

From the evidence presented by TasNetworks, the Economic Regulator has concluded, at this time, solar PV does not contribute to reductions in peak demand and therefore does not lead to avoided distribution costs. Given that currently there is no material or measurable evidence of distribution cost reductions as a result of solar PV, the Regulator is unable to account for avoided distribution costs in its FiT rate calculation.

3.2 Avoided transmission costs

3.2.1 Overview

Submissions from TREA and the Tasmanian Greens recommended that an allowance for avoided transmission costs be included in the calculation of the FiT. The submissions noted that because electricity generated by Solar PV systems is consumed close to the point of generation the costs of transmission are avoided. Both TREA and the Tasmanian Greens have argued that these avoided costs should be accounted for in determining the FiT rate.

In its submission TREA suggested that

The most transparent way for these savings to be acknowledged would be for TasNetworks to provide an avoided TUoS credit to retailers in proportion to the percentage of energy they sell which comes from distributed generation by their customers.

3.2.2 Discussion

In its Draft Report, the Economic Regulator proposed that transmission charges were unavoidable costs for retailers and therefore should not be considered when determining the FiT rate.

Based on its discussions with TasNetworks the Economic Regulator understood that transmission charges were levied on retailers based on the amount of metered consumption at a customer's property. This means transmission charges are imposed on customers regardless of where energy is sourced. TasNetworks passes these costs directly onto the retailer. As a result there is no means by which the retailer can derive financial benefit from avoided transmission costs arising from the purchase of energy generated by solar PV.

This was consistent with the decision of regulators in other states. The Essential Services Commission of South Australia considers that retailers include transmission (and distribution) charges on a customer's bill as a way of collecting amounts due to distribution and transmission entities, and retailers do not have any ability to influence or amend the amount that is charged.⁶

The Queensland Competition Authority considered that:

"Excess electricity exported by PV customers is ultimately used by other customers on the network and will therefore register as metered consumption. As retailers are charged a variable network charge according to metered energy consumption, any PV exports that a retailer on sells will still attract the full variable network charge. As such, network costs are unavoidable when a retailer on sells solar PV exports and should therefore be excluded from the estimated export value."⁷

More recently, NSW's Independent Pricing and Regulatory Tribunal noted that it had:

"...not included any avoided transmission expenditure in our wholesale market value because there is currently no mechanism available for retailers to claim avoided transmission costs on behalf of their PV customers."⁸

The Economic Regulator sought a response from TasNetworks regarding TREA's suggestion that TasNetworks should provide an avoided TUoS credit to retailers in

⁶ Essential Services Commission of South Australia, *2012 Determination of solar feed-in-tariff premium, Final Price Determination* (2012), page 19.

⁷ Queensland Competition Authority, *Estimating a fair and reasonable solar feed-in-tariff for Queensland* (2013), page 22.

⁸ Independent Pricing and Regulatory Tribunal, *Solar feed-in tariffs, The subsidy free value of electricity from small scale solar PV units in 2015-16, Final Report* (October 2015), page 11.

proportion to the amount of energy sold that was sourced from distributed generation. In response TasNetworks noted that, in Tasmania:

...the primary determinant of transmission network costs is not throughput over time, but the need to build the network to cater for peak demand... in Tasmania at least, small scale renewable generators, either individually or collectively, have little or no impact on peak demand and, therefore, do not give rise to avoided TUoS.

3.2.3 Economic Regulator's Conclusion

As explained above, the primary determinant of transmission network costs is the cost of building the network to cope with peak demand. The output from distributed generation in Tasmania (predominantly solar PV), occurs during the middle of the day when there is the most sun exposure. Peak demand in Tasmania, however, occurs later in the day and during winter when there is less sunlight. This misalignment means that distributed generation does not contribute to a significant reduction in peak demand, and thus does not contribute to significant reductions in transmission network costs.

The Economic Regulator notes the development of battery storage, in combination with solar PV, may at some point in the future contribute to reductions in peak demand. However, this technology is still in its infancy and is yet to make any significant impact.

From the evidence presented by TasNetworks, the Economic Regulator has concluded that, at this time solar PV does not contribute to reductions in peak demand and therefore does not lead to avoided transmission costs. Given that currently there is no material or measurable evidence of transmission cost reductions as a result of solar PV, the Regulator is unable to account for avoided transmission costs in its FiT rate calculation.

3.3 Estimating the wholesale electricity price

3.3.1 Overview

In its submission TREA recommended that the price of energy used to calculate the FiT should be based on a forward estimate of the wholesale market cost of electricity in Tasmania, plus an allowance for additional future generation costs not reflected in the regulated wholesale price.

3.3.2 Discussion

As acknowledged in the Economic Regulator's Draft Report, the Economic Regulator accepts that a market based price is more consistent with the COAG National Principles. However, the Regulator's Draft Report relied on the regulated wholesale model calculation of the wholesale electricity price (WEP) on the basis that the WEP is the energy component of the standing offer prices that all small customers in Tasmania (including customers with solar PV installations) pay at present.

The Tasmanian regulated wholesale price is based primarily on the Victorian forward contract price adjusted using a rule-based methodology to account for factors unique to the Tasmanian power system.

There has been no change to the regulated wholesale price framework due to the current Basslink outage such that any changes occurring in the market (other than those relating to Victorian contract prices), or, for example, meeting the costs of hiring and powering diesel generators; are not currently flowing through to regulated wholesale prices nor to the retail prices that small customers pay.

Additionally, the regulated wholesale price calculation already takes into account additional costs associated with future generation by pricing Tasmanian regulated cap products on the basis of a discounted new entry cost calculation for generic peaking plant.

3.3.3 Economic Regulator's Conclusion

Given the arguments outlined above, the Economic Regulator considers that the Tasmanian regulated wholesale price is the most appropriate basis for determining the WEP input for the determination of the regulated FiT rate.

3.4 Reducing network loss factors

3.4.1 Overview

The Tasmanian Greens referred to distributed generation reducing network losses and TREA considers that further analysis should be carried out on the financial benefit of distributed generation in reducing network loss factors. This would inform a decision on whether credit for this benefit should be included in the FiT calculation.

3.4.2 Discussion

The Economic Regulator acknowledges the distributed generation may reduce overall network loss factors. However evidence from other states suggests that feed-in tariffs are not an effective mechanism for recognising these savings. The Economic Regulator also notes that the Queensland Productivity Commission (QPC) found that:

Where network benefits exist, they are best harnessed through mechanisms that can efficiently and effectively target these benefits, rather than paying all solar PV owners a uniform feed-in tariff unrelated to network impacts. A number of mechanisms exist and the Australian Energy Market Commission is considering whether any additional mechanisms are required.⁹

⁹ The AEMC is currently consulting on a Local Generation Network Credits Rule Change which has the aim of introducing a payment from distribution networks to embedded generators to reflect the benefits those generators may provide to the network.

No evidence was presented to this inquiry that these mechanisms were insufficient to ensure the installation of solar PV where it is a cost-effective alternative to network augmentation. Moreover, there are signs that firms are entering the market to provide third party energy aggregation and other services.¹⁰

The QPC also noted¹¹ that the National Electricity Rules (NER) already contain a number of mechanisms to incentivise the efficient use of networks including:

- the introduction of cost-reflective distribution network tariffs;
- transmission and distribution network support payments for embedded generators with capacity of more than 5MW;
- avoided TUoS payments for embedded generators with a capacity of more than 5MW;
- Regulatory Investment Test for Distribution (RIT-D) and Transmission (RIT-T):
- Distribution Network Planning and Expansion Framework;
- Capital Expenditure Sharing Scheme and the Efficiency Benefit Sharing Scheme;
- Demand Management Incentive Scheme (DMIS);
- Demand Management Innovation Allowance (DMIA); and
- Small-generation Aggregator Framework.

From its discussions on this issue with TasNetworks, the Economic Regulator notes that TasNetworks has stated that:

While some TUoS charges are energy based, in that they reflect the customer driven take-off of energy at a particular connection point, these charges are *not locational* and, thus, fall outside of the intent behind the requirement to pass on avoided TUoS under Clause 5.5(h) of the NER.

Because, at present, network charges are not locational, retailers do not benefit from the reduction in Network Loss Factors.

3.4.3 Economic Regulator's Conclusion

The Economic Regulator considers that any benefits of embedded generators in terms of impact on Network Loss Factors are most efficiently recognised through existing mechanisms rather than through the FIT rate.

¹⁰ Queensland Productivity Commission (2016), *Solar Feed-in Pricing in Queensland Draft Report*, Page 108.

¹¹ *Ibid*, Pages 87-88.

Additionally, while it is possible to gather data from, and measure the impact on the network of, a large embedded generator the same cannot be said in respect of customers with solar PV systems which are far more widely dispersed and may have different impacts on the network depending on their location, size and operation. It is therefore difficult to measure the benefits provided by solar PV systems in terms of reducing network loss factors.

Given existing mechanisms for incentivising efficient network usage, and the inability to measure the impacts of distributed generators, the Economic Regulator has therefore decided not to change the Draft Report to reflect TREA's and the Tasmanian Greens' suggested changes.

4 INDIRECT IMPACTS

In relation to the indirect impacts of micro distributed generation systems, the Economic Regulator received submissions relating to:

- network investment savings as a result of solar PV uptake; and
- environmental benefits associated with a higher Feed-in Tariff.

This Chapter discusses these issues and outlines the Economic Regulator's conclusions in relation to each.

4.1 Network investment

4.1.1 Overview

The Tasmanian Greens considered that solar PV systems have the capacity to support private investment in a renewable energy supply for Tasmania, as the capital cost of solar is met by the owner, which avoids the capital costs of new generation infrastructure. The Tasmanian Greens also referred to the deferral of investment in the grid network, including future reduced peak demand when solar PV is coupled with distributed battery storage.

4.1.2 Discussion

The Economic Regulator recognises that, theoretically, solar PV coupled with distributed battery storage may assist network businesses in reducing peak demand, thereby saving on capital expenditure. However, for the regulatory period covered by the 2016 Regulated FiT Rate Determination, solar PV is unlikely to contribute to reductions in peak demand, as most solar energy is exported to the grid during the morning and afternoon. Until such time as the number of battery storage installations reach a 'critical mass' and can have a material impact on peak demand, solar PV does not assist in dealing with peak demand and thus does not significantly affect capital costs.

The Economic Regulator notes that TasNetworks is not forecasting substantial capital expenditure on the network over the next few years. In fact, TasNetworks 'Tasmanian Distribution Network Regulatory Proposal', released in January 2016, forecasts a reduction in capital expenditure over the next five years¹². As a result, any benefits from the deferral of investment in grid demand due to solar PV would in fact be lower

¹² TasNetworks, *Tasmanian Distribution Regulatory Proposal: Regulatory Control Period 1 July 2017 to 30 June 2019*, Page 71.

than in the past when a more substantive capital expenditure program was being implemented.

The Economic Regulator also notes that the QPC's Draft Report found that:

...even in cases where augmentation can be avoided or deferred, a broad-based feed-in tariff, with a component for network benefits, is not an appropriate tool to achieve network savings:¹³

The QPC's Draft Report also quotes a submission on its review from Ergon Energy Corporation which stated that:

...a DNSP [Distribution Network Service Provider] receives no benefit where a FiT is paid to customers who install technology that does not address a specific constraint for which we are funded through our revenue cap. Such a requirement from a constraints management perspective would result in compensation for customers who are not directly addressing the constraint for which the funding was allocated.

The QPC went on to state that the value of any such network benefit is highly location specific and consequently cannot be applied across the network as a whole with the creation of cross-subsidies. This locational element is evident because network constraints exist (and consequently can only be addressed) in certain locations.¹⁴

4.1.3 Regulator's Conclusion

The Economic Regulator recognises that an increased uptake of solar PV in conjunction with battery storage could have a positive impact in terms of reduction in peak demand, and therefore network investment requirements. However, at this stage there is insufficient battery storage within Tasmania to have a material impact on peak demand and therefore, at this point in time, it is unlikely an increased uptake in solar PV would lead to TasNetworks being able to reduce its capital expenditure.

While the Economic Regulator has decided not to make any changes to its Draft Report, the Economic Regulator will continue to monitor the benefits from battery storage and will consider whether those benefits should be included in future FiT rate determinations once more information becomes available.

4.2 Environmental benefits associated with the feed-in tariff

4.2.1 Overview

Submissions from Eve White, Barb Jowett, Lorraine Perrins, Andrew Ross, Megan and David Marrison, Tim Rudman, Andrew Glenn, Fraser Petrie, TREA and the

¹³ Queensland Productivity Commission (2016), *Solar Feed-in Pricing in Queensland Draft Report*, Page 107.

¹⁴ Queensland Productivity Commission (2016), *Solar Feed-in Pricing in Queensland Draft Report*, Page 107.

Tasmanian Greens pointed to the environmental benefits that would flow from an increased uptake in solar PV as a result of a higher FiT.

4.2.2 Discussion

As described in Section 2 of this statement, both the ESI Act and the COAG National Feed-in Tariff Principles, require the Regulator to ensure that the FiT rate does not lead to a disproportionate cost burden on energy consumers without micro generation. Raising the FiT to increase the number of solar PV installations thereby delivering environmental benefits would likely result in consumers without distributed generation subsidising those who have installed a solar PV system. To do so would contradict the Economic Regulator’s obligations to prevent cross-subsidisation.

There already exist a number of mechanisms which encourage the uptake of solar PV. For example, according to the QPC:

Investors in solar PV systems receive a subsidy from the national Small-scale Renewable Energy Scheme (SRES). The SRES reduces the up-front cost of purchasing and installing a solar PV system by around 30–40 per cent on average. Based on average solar PV system prices, the level of the SRES subsidy is between 2.8–2.9c/kWh generated over 20 years. In terms of energy exported, households receive an additional 7.1c/kWh through the SRES for energy exported.¹⁵

On this basis, the SRES provides some compensation for emissions abatement. The Economic Regulator also notes that the QPC found that:

Given the subsidy provided through the SRES, and that the subsidy is provided with the objective of achieving an environmental benefit through lower CO₂ emissions, the evidence suggests that solar PV investors are already financially compensated for any environmental benefits accruing from their solar PV systems.¹⁶

And that:

Providing extra payments through a feed-in tariff would achieve relatively low emissions abatement at high cost...More than 85 per cent of the subsidy would go towards increasing the financial returns to solar PV owners, rather than inducing additional solar PV generation.¹⁷

¹⁵ Queensland Productivity Commission (2016) “Solar Feed-in Pricing in Queensland Draft Report”, Page 68.

¹⁶ Queensland Productivity Commission (2016) “Solar Feed-in Pricing in Queensland Draft Report”, Page 75.

¹⁷ Queensland Productivity Commission (2016) “Solar Feed-in Pricing in Queensland Draft Report”, Page 68.

4.2.3 Regulator’s Conclusion

The Economic Regulator’s investigation concluded that there was not enough evidence of material or measurable environmental benefits to justify raising the FiT for that purpose. As discussed above, the QPC found that a higher FiT is an expensive way of compensating solar PV owners for the environmental benefits associated with their installation. As well as this, the Small-scale Renewable Energy Scheme (SRES) already compensates solar PV owners for emissions abatements and other environmental benefits provided by solar PV installations. Determining a higher FiT to account for environmental benefits, without evidence to justify it, would also be contrary to the Economic Regulator’s obligations to prevent cross-subsidisation.

The Economic Regulator acknowledges the environmental benefits of solar PV, however it was not presented with any evidence that existing mechanisms (such as SRES) were not sufficiently compensating solar PV owners for these benefits.

The Economic Regulator has decided to retain the proposals made in its Draft Report with respect to this issue, and will not make any changes to its FiT rate calculation to account for environmental benefits.