



## Save Solar Tasmania

# Briefing Paper for feed-in tariff consultation

5 June 2013

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This paper provides background information in response to the government's [Issues Paper](#) on Feed-in Tariffs (FIT) which is currently open for public consultation.

**Submissions should be sent to [Electricity.Reform@treasury.tas.gov.au](mailto:Electricity.Reform@treasury.tas.gov.au) by Friday 7 June 2013**

Even a short email submission is useful – you do not have to write a detailed submission.

## 1 Overview

### Summary

The Australian electricity industry faces many challenges in adapting to changed circumstances, and consumers often bear the brunt through higher energy bills. The current approach taken in Tasmania is focussed mainly on the issue of retail competition, and ignores the state's enormous potential for leading the way in distributed and renewable energy generation. With this mindset, solar PV is seen as a problem rather than as a valuable part of a wider transition to affordable, sustainable energy.

The Issues Paper released by Treasury and the Government as part of their review of feed-in tariff arrangements has consistently overstated the cost of the current scheme, in an apparent attempt to create division between today's solar owners and other consumers by claiming that there is inequity and cost to consumers. The Issues Paper ignores or misunderstands the workings of the energy market, and belittles the material contributions that domestic solar PV industry makes to Tasmania.

In this Briefing Paper we outline the inaccuracies and omissions in the Issues Paper and summarise the many benefits of continuing to support an active solar industry in Tasmania.

On our estimate the total cost of continuing the current 1:1 feed-in tariff is at most \$5.28m in 2013-14, less than 0.4% of Aurora's turnover of over \$1,400m per year.

As well as setting a fair return for future solar owners, the 12,500 households who have already installed solar PV need to be given a fair deal. They have invested millions of dollars of their own money with the reasonable expectation that feed-in tariff arrangements would be in place for some time. In other states, premium feed in tariffs have been contractually locked in for up to 20 years from the installation of their systems.

We urge the government to ensure that the broader benefits of distributed renewable energy generation are taken into account both through the determination of a future feed-in tariff and through other complementary measures.

### Recommendations

- The Terms of Reference for a Tasmanian Economic Regulator (TER) determination of future FiT needs to be framed consistently with the National Energy Objective and be based on "the long term interests of consumers" rather than the current focus on "the net financial benefit to retailers".
- There are sound public policy reasons for supporting the development of small and medium scale renewable energy in addition to the direct financial benefit to electricity consumers. The government needs to implement measures complementary to the FiT to encourage this development.
- The proposed limit of three years of the current 1:1 tariff for existing installation (until 31 December 2016) is an absolute minimum requirement. There is a strong case for extending this to 5 years from the date of connection for those who connected in the last two years.

- Existing arrangements should apply for anyone who pays a deposit before 31 December 2013.
- Transition arrangements are needed to prevent the solar installation industry grinding to a halt after 31 December.
- The feed-in tariff should apply to projects up to 100 kW capacity to support commercial, community and on-farm projects who are otherwise unable to sell energy for a reasonable price on the energy market. As there is no net cost for a fair and reasonable FiT there is no impact on other consumers in raising the FiT eligibility to 100kW.
- The implementation of metering needs to be resolved so that solar PV owners are able to use the electricity they generate to offset consumption on all tariffs, not just tariff 31. In keeping with the National Electricity Rules, this will require government to direct Aurora to use specific metering solutions.

## **Background**

At the moment, Tasmania has a feed-in-tariff (FiT) arrangement that credits the full retail price (27.785c/kWh) for electricity fed back into the grid from small (<10 kW) renewable energy generators. This is most commonly used by household rooftop solar photovoltaic (PV) installations but also applies to commercial premises and other technologies such as small hydro installations on farms. This is a relatively informal arrangement offered by Aurora, the state-owned energy retailer.

The Tasmanian Government is currently implementing reforms to the electricity industry which will result in the retail activities of Aurora being disaggregated from their network operations and the customers sold to two private retailers.

Following extensive public pressure the Government has released an Issues Paper on FiT arrangements and called for comment by 7 June 2013. New arrangements, including legislation, need to be put in place before 31 December to ensure that new retailers are required to offer a reasonable FiT to households that have, or intend to install, solar PV (as well as other renewable generation).

## **2 Discussion of issues**

### **The need for stability for the solar PV industry**

Domestic scale solar PV has had a rocky path nationally with constant changes to state and federal policies resulting in a boom and bust cycle that is not conducive to installation quality and industry growth and development. Uncertainty about future FiT arrangement for Tasmania has already seriously curtailed the solar PV installation business, with many installers reporting cancelled orders.

A clear government announcement is needed now about the eligibility of systems installed or ordered before 31 December 2013 so that the industry can continue to operate successfully in this transition period.

Some form of tapered withdrawal of the existing 1:1 tariff also needs to operate after 31 December if the FiT rate is significantly lowered in order to prevent the solar installation industry grinding to a halt after that date.

### **Cross subsidy issues**

The most persistent, and we believe ill-informed, arguments around FiTs concern the belief that solar PV owners are heavily and unsustainably cross subsidised by other consumers. This is sometime presented as a cross-subsidy from those who don't have PV to solar PV owners and at other times as

a subsidy from the poor to the wealthy. The Issues Paper conflates these issues by using the term 'regressive'. It claims that *"The experience of other jurisdictions suggests that premium FiTs eventually result in significant (and regressive) cross-subsidies between customer classes"* (p.20) but does not provide details to back this claim. While it is true that premium schemes in some other states (particularly Qld and NSW) have incurred significant costs that have impacted other consumers, these are very different situations involving premium FiTs at higher than retail tariffs which are locked in by contract for a number of years. Tasmania has never had such a premium (above retail) tariff.

The term 'middle class welfare' is often used glibly in reference to solar incentives. The reality is that solar power tends to have least penetration in very low and very high-income demographics, but a number of other, more significant, factors come into play.

We have compared the uptake of solar PV in Tasmania with household income at the local government area (LGA) level using figures supplied by Aurora and the ABS statistics on household income (ABS 2012). As can be seen in Figure 1, there is no significant correlation between income and the uptake of solar PV, if anything the trend line is slightly downwards (ie wealthier areas are slightly less likely to install solar PV).

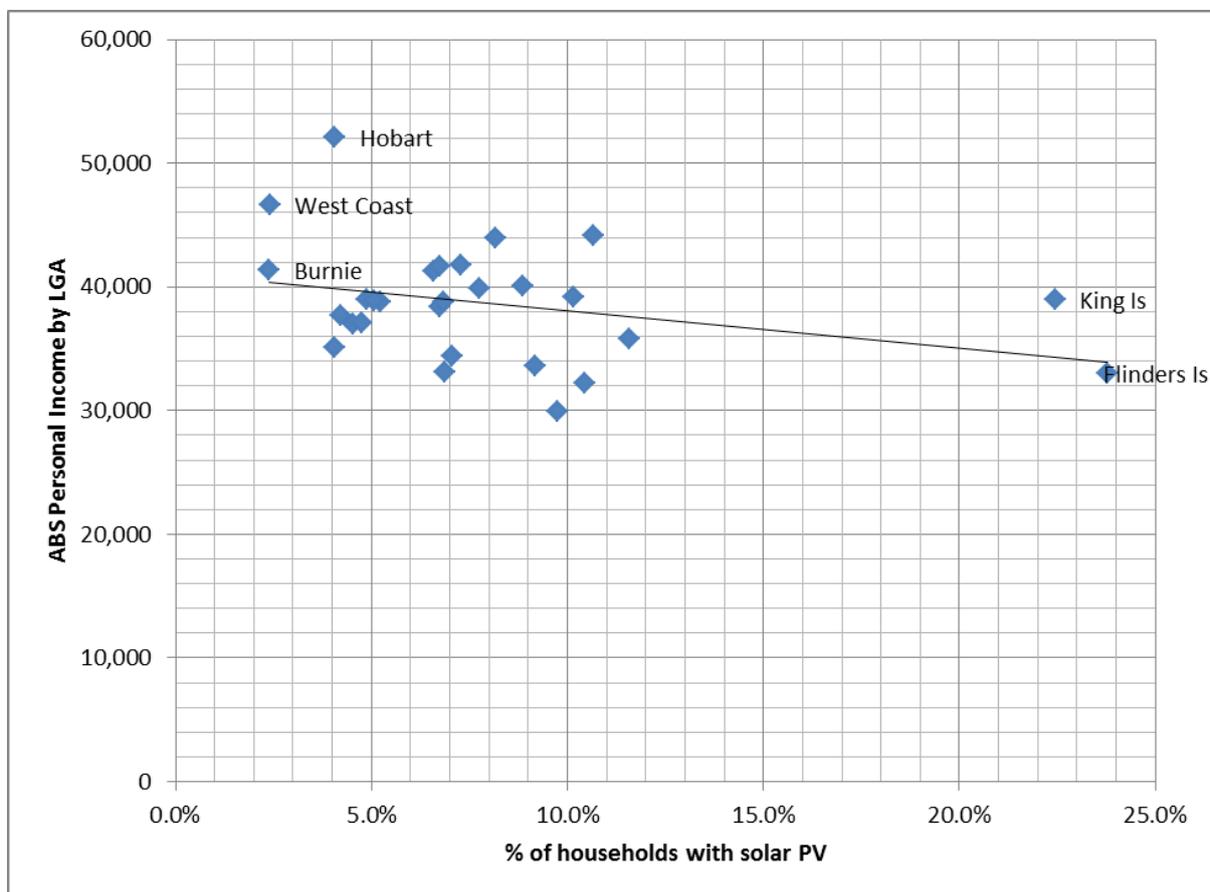


Figure 1: Percentage of Tasmanian household with solar PV by income at LGA level

This Tasmanian analysis confirms national figures with similar findings conducted by the REC Agents Association: *"A broad range of communities have accessed solar under the RET scheme and the ... figures explode the myth that the RET is supporting metropolitan middle class welfare"* (quoted in Parkinson 2012).

In view of this evidence it is incumbent on those who make the argument to the contrary to provide evidence to support their assertion.

Many pensioners, retirees and other low income households in Tasmania have invested in solar with the deliberate purpose of making their electricity bills more affordable. These lower income households will be disadvantaged by any reduction in the feed-in tariff.

### **Allocation of network costs**

The 'cross subsidy' argument sometimes take the form that because solar PV owners are generating more of their own electricity, they are not 'pulling their weight' because they contribute less to network costs and that this puts up costs for others.

It is true that a large proportion of network costs are fixed and that these costs are currently mainly recouped through network charges based on consumption. Problems are starting to emerge with this model as a result of reduced consumption of electricity. There are a number of factors behind this reduction, including reduced economic activity, implementation of energy efficiency measures, reduction in consumption in response to price rises, as well as the contribution of distributed generation such as solar PV. This is a significant challenge for the electricity industry generally and is sometime referred to as the death spiral – consumption goes down as cost go up, which in turn encourages less consumption and more conservation and local generation, further raising costs (see for example Nelder 2013, Parkinson 2013). However solar PV is only one small part of this much bigger problem, network businesses need to develop new business models to survive when demand is not increasing. It is inaccurate and disingenuous to selectively blame the problem on solar PV. It is no more accurate to accuse solar PV owners of being subsidised because they buy less electricity than to say that people who put in insulation or buy energy efficient appliances are being subsidised by those who don't.

It is worth noting that a hypothetical Tasmanian solar PV owner who bought **no** electricity from the network would still be paying \$430 per year to be connected to the network<sup>1</sup>. Tasmanian fixed supply charges are generally higher than in other states - and most Tasmanian's incur multiple fixed charges because of their connection to more than one tariff (Electricity Industry Panel 2011).

The purist pursuit of a 'no cross subsidies' electricity system<sup>2</sup> is unrealistic and is applied selectively to demonise solar PV when other and more substantial 'cross subsidies' are largely ignored. In relation to the network costs to support peak loads, the Energy White Paper (Australian Government 2012, p.xiv) notes that *"It is estimated that the installation of a 2 kilowatt reverse-cycle air conditioner can cost a consumer around \$1500, but imposes costs on the energy system of up to \$7000 when adding to peak demand—costs that are spread across all customers."*

### **Upper limit on size of systems eligible for the FiT**

Given that the overall intention of the revised FiT is that small generators are paid the value of the energy they generate there is no inherent reason why there should be a cap of the size of systems. If there is to be an upper limit, Tasmania should use the 100 kW limit on the size of systems eligible for the FiT as is done in the new Victorian FiT.

It is important to distinguish two separate issues: the automatic right to connect to the network and the size of the system that is eligible for the FiT. There are **potentially** problems if larger distributed generators are connected to the distribution network which might require upgrades to the distribution system, but these are often overstated. There should be a "deemed grid connection agreement" under the National Electricity Rules for systems up to 10 kW. For systems over 10 kW it is reasonable that there be a right to refuse a connection **if there is good evidence that it would**

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<sup>1</sup> Combined fixed charges for tariff 31 and tariff 41 totalling \$1.18/day.

<sup>2</sup> For example Appendix B of the Issues Paper proposes as a specific requirement for the TER determination that "feed-in tariffs should not result in any cross-subsidies between customers or customer classes".

**cause network problems**, or a negotiated sharing of upgrade costs. However this is not a reason to limit the FiT for connected systems to 10 kW.

### **Benefits of larger scale distributed and embedded generation**

Tasmania has great potential for distributed renewable energy projects at scales in between the household and industrial scale wind and hydro projects. This potential exists across a range of technologies, including solar PV, mini-hydro, wind, biomass and tidal power, and across a range of business models including commercial, municipal, on-farm and community owned.

The benefits of policy support for these projects include:

- Regional development: many of these projects will be located in rural areas. On-farm projects can reduce energy costs and provide valuable additional revenue – and the benefits are likely to be shared locally.
- Industry development: building on Tasmania’s existing expertise in renewable energy development could create a significant potential for sale of expertise and services to the mainland and overseas.
- Unlocking sources of capital not available to utility-scale projects.
- Utilising energy resources that are too small to be viable through conventional utility-scale projects.
- Improving the efficiency and robustness of Tasmania’s electricity infrastructure. By increasing electricity generation closer to the location of use, less energy is wasted in transmission and the need for expensive upgrades to the transmission and distribution networks can be reduced or delayed.

At the moment these projects are not covered by the existing feed-in tariff as they are greater than 10 kW and are required to negotiate individual power purchase agreements with Aurora. As argued above, any revised FiT should be applicable to project up to 100 kW.

Given the substantial community benefit of such projects a policy framework for encouragement of these projects should be put in place before the proposed energy market reforms are implemented.

### **3 Problems with the Issues Paper**

The Issues Paper has a number of deficiencies:

- The Paper presents very much the standard narrow economic argument that the only benefit of solar PV is avoided purchase of wholesale power and some avoided distribution losses. It ignores the benefits in job creation, public engagement and diversification of electricity supply. It only mentions in passing the role of solar PV in putting downward pressure on wholesale electricity prices.
- There is no wider vision of the role of renewable energy for the future development of Tasmania.
- It proposes that the FiT continue to only be offered for connections below 10 kW. There is no support for community, farm, small business and commercial renewable energy installations.
- The paper uses the word ‘regressive’ to imply that a 1:1 feed-in tariff transfer money from the poor to the wealthy but no evidence is presented for this.
- The presented examples (p.23) assume that solar electricity offsets electricity used for heating (tariff 41). This is not the case given the way solar PV is currently installed in

Tasmania and as a result the paper understates the amount owners would be worse off with a lower FiT.

- The paper claims that the cost of the current scheme would be “almost \$10m” in 2013-14. Despite repeated requests, no justification has been provided for this figure. Using Aurora data our estimate is \$5.28m.

### **Metering anomaly**

In a number of places (eg p.9, examples on p.23) the Issues Paper states or implies that solar electricity offsets electricity used for heating (tariff 41<sup>3</sup>) as well as light and power (tariff 31). It is our understanding that this is not the case given the way solar PV systems are connected in Tasmania and the way that Aurora currently configures the meters it installs when solar PV systems are installed.

In summary, the problem is that export of solar electricity is only measured through the light and power meter so it is possible that electricity is being exported through one meter at the same time it is being imported through the other. This is not a problem with the current 1:1 tariff, but means that if the FiT rate drops below the tariff 41 rate of 16.757c the retailer would charge the solar PV owner the difference between tariff 41 and the FiT rate for electricity they generated and used instantaneously in their own premises.

We have raised this issue with the Electricity Reform Project and with Aurora. The Electricity Reform Project responded by producing a Supplementary Paper (ERP 2013d) which contains 12 different examples but avoids acknowledging any problem and does not actually say whether *any* customers currently have the ability to offset their tariff 41 use with their locally generated electricity.

### **Calculation of amount of electricity exported to the grid**

The Issues Paper uses Aurora’s assumption that only 30% of the electricity generated by solar PV in households is exported to the grid. The ratio of electricity exported will vary widely depending mainly on:

- the size of the system – bigger systems will export more of the electricity generated
- the pattern of use in the household – when people are at home during the day they are more likely to use the electricity they generate.

Measurement by individual householders with solar PV and analysis of the figures presented by Aurora suggest that the Aurora assumptions are inaccurate. It is likely that on average at least 50% of the electricity generated by Tasmanian household PV systems is exported to the grid at the time it is generated. However most household would reimport at least this much electricity at different times of the day, and very few customer would actually export more energy than they use over the course of a year.

Using the lower export figure of 30% rather than the more realistic 50% means that the examples in the Issues Paper understate how much worse off householders will be with a lower FiT.

It is important that the best available information is used to inform the proposed setting of a revised FiT by the TER.

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<sup>3</sup> Technically Aurora currently has a tariff 41 (hot water) and tariff 42 (hot water and heating) however both tariffs are at the same rate (16.757 c/kWh).

## **Cost of the current FiT**

Both the Issues Paper and Minister Bryan Green have used a figure of \$10m as the cost of the current FiT scheme in 2013-14. The Issues Paper says “Aurora estimates that the cost of the scheme could potentially rise to almost \$10 million in 2013-14”. We have asked Aurora, the Minister’s office and the Electricity Reform Project for the source and basis of this figure but no one is accepting responsibility as the source of the figure or the basis on which it is calculated. Using Aurora’s figures on the anticipated number and size of solar installation and valuing the electricity exported to the grid at a very minimal 8c/kWh, we calculated the net cost of the current FiT at \$5.28m in 2013-14. This is a very small cost in the overall Aurora turnover of over \$1,400m per year, and the real cost would be even lower once some of the other benefits of the solar industry are taken into account.

This is symptomatic of a consistent pattern in the Issues Paper of overstating the costs and problems of current FiT arrangement and understating the benefits.

## **4 Benefits of support for domestic PV and other small renewable energy**

### **Job creation**

Jobs created in installing rooftop solar are direct, local and of the type needed in the Tasmanian economy in light of the loss of jobs in other construction and industrial areas. The jobs are created in small, local businesses of the type Tasmania needs to encourage. Many other forms of energy generation have relatively low job intensity.

### **Diversifying the energy base**

The government cites “long-term safe, secure and reliable supplies” of electricity as one of the objectives of its reforms, but the proposed changes do nothing to diversify the sources of electricity which is a key aspect of secure and reliable supply. Encouraging household solar PV as well as commercial and community small renewable energy sources is an important part of developing a smarter, more efficient and more robust energy system.

### **Impact in reducing energy costs**

Solar PV is often characterised by opponents as expensive but in fact costs are declining rapidly and nationally the uptake of solar PV is demonstrably acting to reduce electricity prices (Sandiford 2012). This occurs through the ‘merit order effect’. Because solar electricity exported during the daytime reduces the demand for the most expensive peak power, it has the effect of reducing overall wholesale prices.

Household solar PV makes the energy system more efficient because electricity is generated at or close to the point of consumption. This completely avoids losses in the transmission network and substantially reduces losses in the distribution network.

The Alternative Technology Association (ATA 2012) documents the extent of vertical integration in the electricity industry – most retailers, including all the biggest retailers also own generating assets. Retailers are therefore not motivated to purchase power from households. Research conducted by ATA demonstrates that in NSW, where there is no legislated FiT, retailers typically offer FiTs that are below the actual value of the solar generation to retailers.

### **Economic benefit to the state**

Hydro Tasmania earns revenue from export of power to the mainland. This revenue has increased recently as a result of higher wholesale prices due to the carbon tax (which does not have to be paid on Tasmania’s renewable energy). Local energy generation and conservation frees up energy that

would otherwise be used in Tasmania. This benefit is magnified by the ‘battery’ of our water storages, allowing freed up energy to be exported at times of maximum prices on the mainland. This economic benefit flows to the people of Tasmania as the owners of Hydro Tasmania. Calculation of the wholesale value of electricity fed into the grid by solar PV needs to take into account this benefit.

### **Maximising the brand benefits of clean Tasmanian electricity**

The Market and Regulatory Framework Position Paper (ERP 2013a) states that one of the government’s objectives is to “Maximise the value of Tasmania’s low carbon advantage and the brand benefits of clean Tasmanian electricity” however the only proposed mechanism for this is the continuation of the operations on the mainland of Momentum, the retailing arm of Hydro Tasmania. This is an extremely limited approach compared with the detailed strategy developed by the Tasmanian Renewable Energy Industry Development Board (TREIDB, 2011) and submitted to the state government in 2011. Within an overarching vision that Tasmania should be a net exporter of renewable energy, the TREIDB suggested practical strategies for facilitating both utility scale development and distributed and embedded generation by private and community-based projects. It also made recommendations on facilitating the introduction of electric vehicles in Tasmania which would improve energy security, reduce carbon emissions and further enhance Tasmania’s ‘clean green’ image.

### **Community empowerment**

Installing solar on their homes is arguably the most powerful, visible way that ordinary Tasmanian citizens can demonstrate their participation in Tasmania’s response to climate change and contribute to Tasmania’s unique position in delivering most, if not all, of its power by renewable energy.

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