SAVEOURSOLARTAS.ORG

Tasmanian Energy Reform

FEED-IN TARIFFS - SUBMISSION

To Department of Treasury and Finance

June 2013

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Introduction

This is a submission to the Department of Treasury and Finance, by the lobby group saveoursolartas.org, in response to the issues paper released in May 2013. It reveals some fundamental errors in the information provided to and interpreted by the government in producing this issues paper. These errors highlight the lack of understanding of some of the technical aspects of distributed generation systems and also highlight the importance of proper consultation with the solar industry. Our submission will highlight important factors to be considered by the government when formulating its principles for a fair and reasonable Feed-in Tariff (FIT).

Included with this submission is a petition asking for support in legislation for 1:1 feed-in tariff (FIT) going forward. While we see this as ideal to encourage the growth of this industry, we can see that the government appears to have written this off as a possibility early in the process.

The organisation "Save Our Solar Tas" was formed in response to the proposal to reduce the current 1:1 feed-in tariff in preparation for the privatisation of the electricity retail market in Tasmania.

The organisation represents the vast majority of solar retail and installation businesses in Tasmania and the large and growing number of ordinary Tasmanians who have invested in solar power on the rooves of their homes. We have the support of the Clean Energy Council as well as the Australian Solar Council. We also have the support of the Tasmania Chamber of Commerce and Industry.

A website, Facebook page, an on-line and a paper petition calling on the Tasmanian Government to maintain the 1:1 FIT has been initiated and maintained and the Facebook page has over 2400 "likes" and the petitions have well over 2600 signatures.

There are over 12,500 Tasmanian households who have installed solar power. Currently, a high percentage of retail clients are pensioners and self-funded retirees who want to "future-proof" themselves from high and increasing energy costs.

When the solar industry first began, most systems were only 1.0 kW in size and used a large proportion of the power generated on their own immediate electricity needs and fed on average only a small proportion of the power generated into the grid. This meant that the amount paid for FIT was not as critical as it is today, as now most systems purchased are much larger, have cost the homeowners much more and a larger proportion of the power generated is now fed back into the grid and currently credited to the householder by Aurora at the same rate as they pay for power they purchase from Aurora.

The reality is that most households use more power than they generate and thus, are net consumers of electricity.

Whilst the sun is shining and little power is being consumed at the home, power is being fed into the electricity grid. Then in the late afternoon and at night when people are showering, cooking dinner, turning on heaters, TVs etc, they will consume most of their power and purchase from Aurora, as their systems are not producing power whilst the sun is down.

The effect of this is that the electricity being produced by home solar systems is being "parked" with Aurora. Aurora can use this power to on-sell to other retail clients for the same amount, or sell on the energy market at sometimes greatly increased prices through Basslink. Electricity being produced by home solar systems is mostly generated at a time which coincides with the times of peak demand on

mainland states. This is in summer time, when we obviously have the most sunlight hours and mainland homes, businesses and offices require power to operate power-hungry air-conditioning systems. We have data that show some 68% of annual solar gain occurs in the summer half of the year which matches well with mainland peak demands.

This allows Hydro Tasmania to sell to the mainland at peak times through Basslink at higher prices as well as preserve a proportionate amount of our precious water resources, by being able to use solar power and less water through the turbines to produce the electricity required in the mainland market. This flexibility in our energy output allows Hydro Tasmania to manipulate maximum advantage within the Nation Energy Market (NEM) through the use of its retail arm.

Executive Summary

Response to Government Issues Paper

There are some major fundamental errors in the issues paper that raises some serious concerns about the understanding of the solar feed-in system by the Department, Minister Bryan Green, The Greens, The Liberal Party and from Aurora.

The errors relate to:

1. Potential cost of FIT.
2. Ratio of Power used off roof to Power Fed into the Grid.
3. Customer impact examples.

What is the cost of the FIT in Tasmania?

Last year, Aurora turned over $1.492 Billion dollars. Figures from Aurora estimated that $11.315 Million was lost in sales revenue due to solar installations. It is important to note that the lost revenue figure is incorrect. It is based on the assumption of 70% power used off the roof and 30% fed into the grid. This is a fundamentally important error by Aurora. This assumption is carried through all the figures and has been presented by the Government in the issues paper as fact.

We see that there are some costs allocated to solar feed in which are inherently unfair. It is incorrect to count the cost of raw high voltage transmission in the cost of feed in to the grid from distributed generation systems. There are also some other costs allocated by Aurora for processing and distributing power that cannot be allocated to solar installation feed in. There is no cost to the power system for transforming the power to a premium usable format in that neighbourhood.

Proposed Grandfathering Arrangements in the Event of a Reduced FIT

In considering the proposal for grandfathering for existing PV owners, consideration needs to be given to the time needed for those who have invested under the current arrangement to recoup their investment calculated on the basis of that arrangement. In many cases, this could be up to 8-10 years, if owners have borrowed to finance their investment. The second consideration is the understanding that PV owners have of a minimum 5 year contract with a 1:1 FIT.

What is a Fair and Reasonable FIT?

Whatever this value is, it should be noted in the principles for the regulator that costs avoided by the retailer through feed in should be taken into account.

They are:

- Generation
- Carbon Price
- Transmission Charges
- Part of the distribution charges

Power from roof-top solar is already refined and ready for use and no losses occur when power is transported to the local neighbourhood. Therefore the FIT for the PV owner must reflect this. It is imperative that the regulator be directed to take this into account when deciding the FIT rate.

As well as this cost credited to a PV owners account, a demonstrated value which reflects the investment made by the PV owner must be attributed to the feed in tariff.

How will a Reduced FIT Affect the Solar Industry in Tasmania?

In short, a reduction in the FIT to 8, 10 or even 14 cents will dramatically affect the industry. Jobs will be lost, businesses will suffer and downstream businesses will also be affected. We may end up with another "pink batt" scenario. Just in the past 2 months where this issue has been in the public domain we have seen a thriving solar industry come to a virtual standstill. Many solar businesses are reporting little or no sales because of the uncertainty surrounding the feed-in tariff issue.

To understand the effect of a low FIT, we must look to the reasons why consumers have been so keen to install solar on their homes in the past. Many comments on the Save our Solar Tas.org Facebook page have shown that consumers would not purchase any solar based on an unfair and unreasonable FIT. Also many people who recently purchased have said they wouldn't have done so if they knew that a reduced FIT was in prospect.

What are the Benefits of a Thriving Solar Industry?

The first has to be jobs. We must ensure the jobs are maintained. With 30,000 work days this year and a shift to possibly 18,000 work days next year the industry is already winding back to a more measured position after the boom event of 2012. If the FIT was to remain close to the current arrangements then we could easily expect the industry to grow again.

So there is a substantial case for encouraging an increase in the growth of the solar industry. This cannot be emphasised enough. This is an opportunity for Tasmania to use another renewable form of generation to help supplement our existing form.

Other Jurisdictions

A re-occurring theme in the issues paper is that other jurisdictions have spent quite some time offering over-inflated FIT rates in order to promote the uptake of solar. This has caused a huge burden of debt on the governments in those jurisdictions. The current Tasmanian FIT arrangement has ensured that no burden of debt has developed here in Tasmania.

A large increase in the size of the solar industry, and thus the amount of power fed into the system, does not mean that our Government owned power companies suffer losses of revenue. Hydro Tasmania is in a unique position where they can sell on the retail market though Momentum Energy and their premium 'Smile Power' product. The opportunity is there for the government owned companies to replace the lost revenue through the expansion of the solar industry by increasing its availability in other jurisdictions.

Network Benefits and Peak Demand

It is inherently unfair to compare a system of power generation that has no ability to save resources for power generation with a renewable and flexibly system like hydro. Coal fired power stations must continue to operate at a consistent level regardless of the load on the system. Hydro systems can save resources when load is low. A kw/h generated locally is saved at the generators end.

Response to the Governments Issues Paper

> *"This issues Paper sets out factual information regarding feed in tariffs generally, as well as an overview of how they operate in Tasmania and other jurisdictions. It also outlines a set of issues the Tasmanian government is considering in order to determine future FIT arrangements."*

There are some major fundamental errors in the issues paper that raises some serious concerns about the understanding of the solar feed-in system by the Department, Minister Bryan Green, The Greens, The Liberal Party and from Aurora.

Potential Cost of FIT

> *"If the current 1:1 FIT remained in place, Aurora estimates that the cost of the scheme could potentially rise to almost $10 million in 2013-14, based on a continuation of recent installation trends."*

The problem with this statement is that it is not factual. Aurora in its solar installation data has projected that the cost to Aurora for the FIT would reach $7.4 Million. When the issues paper quoted this year's figures it rightly discounted the normal cost for energy to Aurora when it quoted $3.4 Million for the cost of FIT for 2012/13. That means that this $7.4 Million figure actually should read $4.9 Million for 2013/14. Also, those who are in the solar industry have already reported multiple times to government that the market events of last year were a one off and that their sales from December 2012 had already significantly reduced compared to previous months. We believe this shows a lack of understanding on the part of the government of how to read and comprehend these figures from Aurora.

Ratio of Power used off roof to Power Fed into the Grid

> *"By far the most important contribution to paying for an investment in solar or other small scale generation is the value of electricity from the grid that is not required to be purchased. The financial benefit and economic value of this electricity is not affected by the FIT rate."*

And in the impact examples in the issues paper,

> *"The following examples show how changes to the net FIT rate could impact on a hypothetical customer's quarterly electricity bill where that customer:*
>
> - *Uses 2000kWh of electricity per quarter, under a simple '40/60' combination of tariffs 31 (27.785c per kWh) and 41 (16.757c per kWh);*
> - *Has a 3kW solar PV system, which generates 1000kWh for the quarter;*
> - *Uses 700kWh (70%) of that electricity on-site as it is being generated; and • exports 300kWh (30%) of their generation back into the grid."*

The assumption of 70% used off the roof and 30% feed into the grid only represents a very small portion of the installations. Aurora has stated that the average installation for the 12,500 total installs is 2.31kw. A 70:30 ratio is not realistic because the average system for 2013/14, as stated by Aurora, is 4.5kw which is vastly different from the popular 1kw systems from earlier times. Typical we see systems feeding anywhere from 45% to more than 80%. The example above provided by Aurora is incorrect. The most

substantial value for the majority of PV owners today is directly connected to the value of the FIT. This, once again, shows a lack understanding by Aurora of which systems are installed and how they operate. It also highlights the fact that there has been no proper consultation with the solar industry and also highlights the need for the government to direct the regulator to consult with industry properly.

Tariff 41 (Hot Water)

EXAMPLE A – 1:1 FIT	
Notional electricity bill for the quarter (i.e. if there there was no solar PV installed)	Tariff 31 charges: $222.28 Tariff 41 charges: $201.08 Fixed charges: $105.88 **Total: $529.24**
Saving from avoided purchases from retailer	- $77.80 (280kWh x 27.785c) - $70.38 (420kWh x16.757c) **Total: $148.18**
Credit for exported electricity	**$83.35 (300kWh x 27.785c)**
Actual electricity bill	**$297.71 (total saving of $231.53)**

Figure 1 Extract from issues paper p23

This is another error of fact in the information provided by the government in the issues paper. The examples are showing that offset consumption on tariff 41 is $70.38 @ 16.757c. There are no installed solar systems which are connected to tariff 41. In order for the above example to be true the solar installation needs to be connected to tariff 41 and tariff 31. This does not occur. These examples are now out in the public domain and are misleading everyone who reads the documents. Once again, it shows a complete lack of understanding of how a solar installation works and an unwillingness by the government to consult with the industry properly.

We believe that these examples of fundamental errors in the issues paper show that those who will be making decisions on this very important issue of feed in tariffs must ensure a level of understanding of how distributed generation operates with the grid before any level of feed-in is determined.

Having exposed the errors there is one more fundamental issue that goes to the credibility of those providing the numbers and those interpreting them to make the decisions.

What is the cost of the FIT in Tasmania?

Below is a table extracted from the official release of figures from Aurora in May 2013.

> *"The average size of the PV installation is the average from December 2008 (earliest available) to the latest date in the period being considered representing the average capacity in the system (based on 300 per month after February 2013).*

Table A

Period	Average Installations	Average size	kWh generated (million)	Credit back rate	Cost of FiT to Aurora	Reduced revenue due to offset consumption	TOTAL COST ($M)
2011-12	6528	1.60	22.112	$ 0.252	$1.671	$3.899	$5.570
2012-13	11890	2.31	58.145	$ 0.278	$4.849	$11.315	$16.164
2013-14	15680	2.68	88.961	$ 0.278	$7.419	$17.312	$24.731
2014-15	19280	2.93	119.590	$ 0.278	$9.968	$23.260	$33.228

These estimates should be considered as indicative only as they are based on assumptions which may be subject to change."

Let us take a look at the cost to the power retailers. Last year, Aurora turned over $1.492 Billion dollars. Figures from Aurora estimated that $11.315 Million was lost in sales revenue due to solar installations. At this point it is important to note that the lost revenue figure is incorrect. It is based on the assumption of 70% power used off the roof and 30% fed into the grid. (Extract from the Aurora "Solar installations data" document.)

> *"The calculation of the cost of the tariff payment itself is assumed to be 30% of the total generated cost, with the remaining 70% being the cost of the lost revenue through offset consumption to Aurora."*

As explained earlier, this is a fundamental error by Aurora here. This assumption is carried through all the figures and has been taken by the Government as fact. This is a very important point when calculating the impact of distributed generation systems on the grid and the contribution of solar to the power system. Therefore we have some concern as to the level of understanding within Aurora with regard to the costs associated with feed-in in Tasmania.

The total feed-in to the grid for 2012/13 was valued at $4.849 Million using the 1 to 1 feed in system. In the break down for that, the issues paper correctly allocates cost to Aurora at around $3.4 Million dollars. These costs are made up of carbon pricing, finance costs, market charges, transmission and distribution costs and retailing costs. These costs affect the profit and loss directly because power is fed back into the grid at the same price it is sold for. Therefore those costs are borne by the bottom line net profit of the company.

We see that there are some costs allocated to solar feed in which are inherently unfair. It is incorrect to count the cost of raw high voltage transmission in the cost of feed in to the grid from distributed

generation systems. There are also some other costs allocated by Aurora for processing and distributing power that should not be allocated to solar installation feed in. Power from distributed generation systems is already refined and is provided to the grid in a “ready to use” form with no losses from travelling long distances. There is no cost to the power system for transforming the power to a premium usable format in that neighbourhood. More information on this is provided in the section headed “What is a Fair and Reasonable FIT?”

Who is paying for the FIT?

At the moment, Tax Payers via Aurora, the power retailer bear the allocated cost of the power generated and fed in to the grid. The power retailer also bears the consequences of reduced revenue due to the power generated by distributed generation systems. This, however, cannot concern those tasked with regulating the FIT because Aurora's revenue figures have been affected by energy saving strategies for many years. We have even seen a constant stream of advertising from Aurora, explaining the best strategies to use LESS of their product. This would also be a significant contributing factor to reduced consumption of electricity.

What are the guidelines for a Regulated feed in tariff?

While they are not binding, the 2012 COAG National Principles for Feed-in Tariff have been listed in attachment B of the Tasmanian Energy Reform issues paper on feed-in tariffs as a document that the regulator must have regard to. There are also the "Fair and Reasonable feed-in Tariff Determination – Principles" guidelines which the regulator would be required to follow.

Proposed Grandfathering Arrangements in the Event of a Reduced FIT

The proposal in the Issues Paper for a continuation of a 1:1 FIT for existing clients as at 1/1/2014 for a further 3 years has some serious problems for many existing solar PV system owners.

Up until June 2012, Aurora issued a contract for householders who had notified their intention to connect a solar PV system to the grid. This contract was for a five year period. Since that time, no contracts for <10kW systems appear to have been issued as Aurora appears to be relying on an "implied contract" as advised by an official from Aurora during a meeting our group had with them in May 2013.

The Aurora official also confirmed that the lack of a proper contract between Aurora and their clients who have installed solar PV since June 2013 was a potential legal problem for them and that they would be investigating the issuing of a contract document retrospectively.

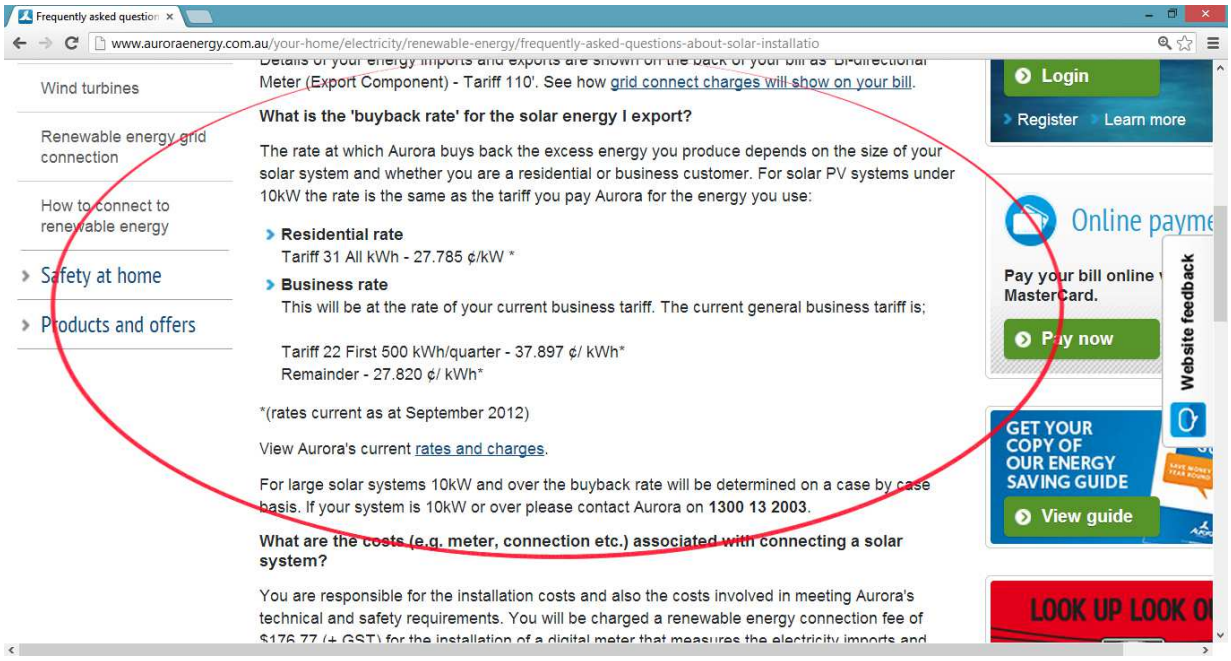

Figure 2 A snapshot of the Aurora website as at May 2013

Both of these situations would lead a householder who has installed solar PV to believe that they have a minimum 5 year contract with Aurora which, by implication, includes the level of FIT that they would receive. This also appears to be confirmed by information on the Aurora website which states that a 1:1 FIT is paid to solar PV owners who have systems less than 10kW. The inference here is that the 1:1 FIT is a permanent situation.

Until the matter of the potential reduction in the FIT was raised earlier this year in conjunction with the proposal to privatise and allow competition in the domestic retail electricity market, no public mention of the possibility of reducing the FIT had been made. Tasmanian PV owners made their considerable investment based on a 1:1 FIT. Just as changing the rules for business after they have made a decision to invest raises the issue of sovereign risk, the same applies for ordinary Tasmanians. We understand that there are a considerable number of PV owners who will consider a class action, should the FIT be significantly reduced.

In considering the proposal for grandfathering for existing PV owners, consideration needs to be given to the time needed for those who have invested under the current arrangement to recoup their investment calculated on the basis of that arrangement. In many cases, this could be up to 8-10 years, if owners have borrowed to finance their investment. The second consideration is the understanding that PV owners have of a minimum 5 year contract with a 1:1 FIT.

What is a 'Fair and Reasonable' FIT?

A fair and reasonable Feed-in tariff should correctly reflect the value of the electricity to the retailer as well as the costs involved. The FIT should not allow cross subsidy by other power customers nor should it allow PV owners the bear costs that they do not incur. This is most important. So far in the debate, there has been no proper scrutiny of the costs on the system incurred by feed in. However there has been a huge amount of discussion given to the fact that PV owners feeding into the grid will cause the price of power to rise because of cross subsidy.

The government, in its legislation, must stipulate that the regulator must apply the correct costs to PV owners and recognise the benefits they bring to the network.

First of all, to understand this, we must have a close look at the breakdown of the cost of 1 kw/h of electricity.

Quite a number of documents give a broad description of the cost breakdown of power, but the only detailed breakdown of the cost of power is given on a power bill from Aurora. Below is the cost of power, broken down into percentages as shown on a power bill.

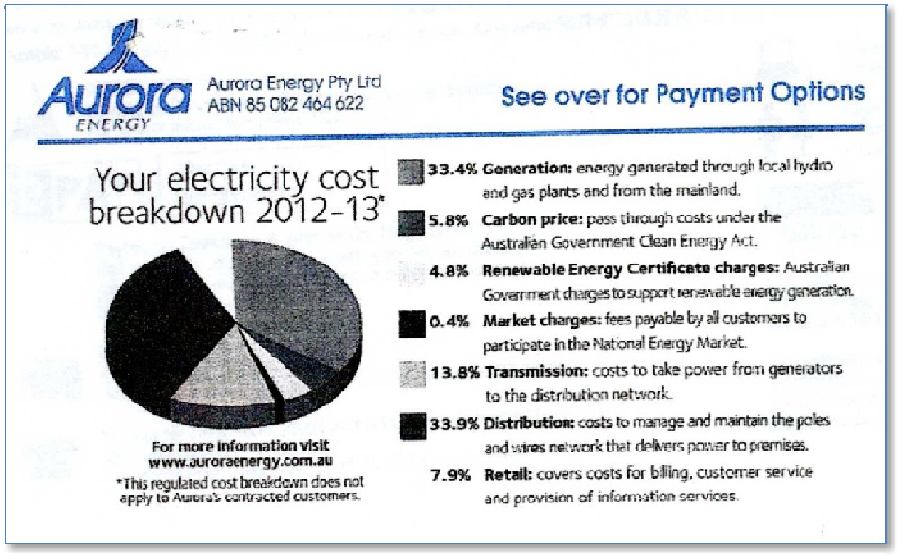

Figure 3 Extract from consumer power bill

This was discussed at a meeting with Aurora staff and we were assured that this was an accurate assessment of the cost breakdown of power.

Using this data we can then breakdown the costs associated with feeding electricity into the grid in Tasmania. This is then used to determine the value of the power generated by PV owners and fed in to the power grid.

Whatever this value is, it should be noted in the principles for the regulator that costs avoided by the retailer through feed in should be taken into account.

They are:

- Generation
- Carbon Price
- Transmission Charges
- Part of the distribution charges

Generation: The retailer has to pay for generation no matter where they get the power from. It has been argued in the past that power from renewable energy sources are worth more that power from non renewable sources. Minister Green has mentioned in the media that the FIT will not go below 8c. So it can be said that everyone agrees that the full cost of generation should be credited to a PV owners account.

Carbon Price: This portion must also be credited to a PV owners account. In the cost structure of the production of power, renewable power does not attract any carbon pricing to the retailer. Therefore it would be inherently unfair for that cost to be borne by a PV owner. A power retailer who includes this in the costing of power may therefore be profiteering because this portion of the credit reduces the carbon tax liability for the retailer.

Transmission charges: These are the charges for power travelling over the high voltage power network of Transcend. Electricity is the converted into lower voltage from where it is distributed through transformers to Aurora's distribution network. Renewable energy from roof-top solar does not go through this network at all. Therefore this cost must be credited as part of the feed in tariff.

Distribution charges: Just as non-solar owners should not have to bear any of the cost for solar PV feed-in, nor should PV owners have the bear the cost for distribution not used. The right thing to do in this situation is to ask PV owners the pay a demonstrated fair share of the costs of distribution. It is widely accepted that the power from roof top solar installations that is fed into the grid is used locally. That means that the electricity is already refined and processed and is used by other customers in the immediate vicinity of that installation. This power is travelling a very short distance and does not need transforming into a usable state because it can be directly used. Even in the exact same location the customer who feeds into the grid can also be using their own power through the hot water tariff. There, the power feeds into the grid (but barely passed the meter) and the straight back into the house for electric heating and hot water (tariff 41, 42). In this case PV owners are then denied full value for the power they produce. The "fair and reasonable determination – principles" should reflect this and the unused portion should be credited to the PV owner and added to the FIT determination.

Then there is the issue of transmission loss. Evidence presented at the Sustainable Living Forum on May 30 in Hobart shows that there are 5%-10% losses when power is transmitted over the lines from the power station to the home. Power from roof-top solar is already refined and ready for use and no losses occur when power is transported to the local neighbourhood. Therefore the FIT for the PV owner must reflect this. It is imperative that the regulator be forced to take this into account when deciding the FIT rate.

As well as this cost credited to a PV owners account, a demonstrated value which reflects the investment made by the PV owner must be attributed to the feed in tariff. Each installation added to the power system contributes to the infrastructure costs of the whole power system. The entity that benefits from this is the traditional power generator. In Tasmania's case this is Hydro Tasmania. Every kw/h produced by this form of renewable energy saves Hydro Tasmania at the other end. This saving for Hydro does not mean they are forced to endure reduced revenue, it means they are able to use this to further their profit making through the selling of an increased amount of 'Smile Power' to mainland customers. Smile Power

is a carbon tax free premium power product which is sold to mainland customers by Momentum Energy. This is the retail power company run and owned by Hydro Tasmania. While we note that the issues paper specifically downplays the reduction in network load and the need to upgrade infrastructure, it cannot be denied that a kw/h produced in one area saves the need for it to be produced in another. Therefore the PV owner must be rewarded for the investment and be duly paid for their contribution to the power system. The best way to do this is in the form of an increase to the feed in tariff by the retailer who then passes the cost back to the wholesaler. The guidelines that the regulator must follow should include a directive to reflect this ACTUAL value of the power fed into the power system.

How will a Reduced FIT Affect the Solar Industry?

In short, a reduction in the FIT to 8, 10 or even 14 cents will dramatically affect the industry. Jobs will be lost, businesses will suffer and downstream businesses will also be affected. We may end up with another "pink batt" scenario. Just in the past 2 months where this issue has been in the public domain we have seen a thriving solar industry come to a virtual standstill. Many solar businesses are reporting little or no sales because of the uncertainty surrounding the feed-in tariff issue. Below are extracts from just some of the letters we have received from businesses in the solar industry. We have attached the full letters with this submission.

> *"It is disastrous for sales businesses such as ours and puts at risk the position of our sales manager who is predominantly involved with sales of photovoltaic systems as well as the financial viability of a business which has suffered from the downturn in the construction industry generally, with reduced work available and losses suffered already through the failure of other businesses to whom we sub-contracted.*
>
> *We are aware that the installer who sub-contracts to us and installs for a number of other sales businesses also as well as the sales his own business generates, now has a number of employees idle, a situation that cannot continue for much longer. "*– David Fry, Business Manager, Grant Chugg Plumbing, Launceston.
>
> *"Due to the current situation we have already lost 2 full time positions and will have to "cut the cloth to suit" in moving forwards by either finding a superior position on the vital feed in rate and then building jobs and sales growth in this sector, or simply trim to survive through a poor and misinformed government decision." -John Thirgood, Jessups Solar squad.*
>
> *"This proposal will directly affect our business. During the economic down turn many companies downsized as there was limited opportunity to work on new building projects. Here at Tones Electrical we got behind the green energy movement at this time and were: able to keep all our staff, employ two extra electrical tradesmen and take on a mature age apprentice. The uncertainty of the feed in rates has greatly reduced our current work load and this puts a risk not only our business but the employees who rely on their jobs to support their families." - Brenton Hemelaar, Electrical Business Manager, Tones Electrical.*
>
> *"EnergyBank also employ teams of subcontractors to install our systems. Our subcontractors have also experienced growth in their business over the past few years, bucking the typical trend here in Tasmania, based on the strength of the growing solar industry. With a decrease in the FiT, and subsequently a decrease in solar installations, this will also severely impact our sub-contractors and their business'. Phil Beeston – Client Manager, Energy Bank*

The fear in the industry is that because mainland states have gone to 8 cents FIT that the public is thinking that Tasmania will go the same way. The minister has said publicly that it won't go below 8 cents which leads to public to believe that 8 cents is a reasonable outcome for the FIT.

To understand the effect of a low FIT, we must look to the reasons why consumers have been so keen to install solar on their homes in the past. In the very early days of solar consumers were installing solar for

environmental reasons first and foremost and economical reasons second. The federal government put an $8000 bonus rebate in place. This meant that 1kw or 1.5kw systems were installed. At that time a 1:1 FIT was considered the worst in the country. A feed in tariff was a secondary consideration because with a system of that size because the power it produced was used mostly by the home owners themselves and the resultant savings were from reduced power being drawn from the grid.

As the demand for solar systems increased in the following years, the purchase prices started to fall. This combined with generous, government multiplied rebates caused a significant rise in the number of installations. At the same time the reasons for installing solar systems changed. It changed from an environmental decision to an economic decision. Larger systems became more affordable and the huge rises in power prices drove huge demand for solar systems in Tasmania. The FIT started to become a player in the decision making process for solar purchases. It was now a decision about "How much can I reduce my power bill by?" and "How long does it take for my system to pay for itself?"

Power prices have risen by 10.56%, 14.8% and 7.2% in the last three years. These and more price rises before that have seen average power bills effectively increase by 64% in the last 5 years*. It has forced homes to become energy efficient. Everyone had to change the way they used energy or their bills would spiral out of control. They insulated, changed their lighting systems, installed much more energy efficient heating and looked to gas and other methods of energy cost reduction. Yet they still found their cost of living rising out of control. They had to look for another way to curb the electricity costs. And that was solar; solar hot water and solar grid systems. *Tasmanian Electricity Pricing Trends – discussion paper April 2011

The issues paper states that energy efficiency is a cheaper form of CO2 abatement. This is an unsubstantiated statement because the purchase price of a solar system is more cost effective than installing LED lighting, window double glazing and solar hot water. A solar grid system helps to reduce the cost of living more than any of these. The reason this is the case is because of the current feed-in situation.

It is now that the feed-in tariff is the major part of the decision process. A solar grid system is seen as an investment; an investment in the future and an investment for retirement. Many companies in the solar industry report that a high percentage of their customer databases are pensioners and retirees. It is the motivation of reduced living costs and the shorter time for the investment to pay for itself that makes it viable for pensioners and retirees. A reduced feed in will remove both of those reasons to buy a solar grid system.

A reduced FIT will also remove the motivation for people to use solar as a way of achieving the energy efficiency ratings for their new home builds. This is a potentially significant portion of the solar grid market.

Next we should look at how a reduced FIT has affected the solar industry on mainland Australia. Since mainland states have reduced their FIT to 8 cents or less, anecdotal evidence shows an up to a 60% drop in demand for domestic solar PV systems.

Who will be affected by a reduced FIT? How can we quantify the cost to Tasmania?

The last 12 months have seen the industry growing and employing many Tasmanians. While it is difficult to quantify exactly, we do know that there are 127 licensed installers registered with the Clean Energy Council that head up a workforce of possibly 5 times that amount. Using the data provided by Aurora

regarding the number of installations and the average size for the current year we can provide the following figures.

1. There were 6000 installations performed between June 2012 and March 2013.
2. The average size for those installs was 4.5kw (overall average is 2.31kw).
3. There was around 30,000 full works days used to perform the installs including sales staff, back office and installers.
4. Around $6.5 Million was paid in wages.
5. Around $87 Million in revenue for the solar industry.

We don't see the price of solar grid systems dropping any further based on the information from the international market. We have witnessed a leveling out of pricing.

The projection for the future from Aurora and the issues paper say that there should be around 3600 installs for each year to come based on the current FIT arrangement. This would mean a reduction in the size of the industry to a more stable level with steady increases from there.

Should there be a reduction in the FIT, we will see a change in the attitude of consumers toward solar power. Many comments on the save our solar tas.org Facebook page has shown that consumers would not purchase solar based on an unfair and unreasonable FIT. Also many people who recently purchased have said they wouldn't have done so if they knew that a reduced FIT was coming into place. Under the scenario of a reduced FIT the only opportunity for domestic solar to move forward would be for people to go back to the purchase reasoning of 4 years ago, where consumers were buying primarily for reasons of the environment. This means that purchases will only be for small systems. Our experience and feed-back from solar businesses shows that there will be a huge reduction in sales revenue, a dramatic reduction in the size of systems installed and therefore jobs will be lost in the industry.

We project the following outcome for the domestic market:

1. 1200 installs at and average of 1.5kw resulting in around $4.8 million in revenue.
2. 4200 full working days for the year resulting in $1.05 Million in wages

A number of solar businesses have noted that they had expansion plans in place and have put everything on hold pending the outcome of this issue. As you can see this represents a significant reduction in output by the industry.

What are the Benefits of Having a Thriving Solar Industry?

What would happen if this solar thing took off? What would the effect on the economy be? How could it affect the hydro system we have here in Tasmania? What can the solar industry contribute to the power system?

The first has to be jobs. We must ensure that the current jobs are maintained. With 30,000 work days this year and a shift to possibly 18,000 work days next year the industry is already winding back to a more measured position after the boom event of 2012. If the FIT was to remain close to the current arrangements then we could easily expect the industry to grow again.

We would like to use the example in the issues paper to speak to the benefits of solar. First here is the quote from the issues paper:

> *"The key issue here, however, is about scale and the cost of carbon abatement. For example, when hydro storages were at extremely low levels during April 2008, Tasmania imported 291 gwh for that month. On the basis of a household installation of 3 kW capacity generating an average of 10.5 kWh per day, there would need to be over 900 000 household installations to displace this amount of imported energy. at a current average cost in the vicinity of $8 000 for a 3 kW household installation, this would require an initial upfront investment in the order of $7.2 billion to replace the capacity for electricity imported over Basslink for that relevant period."*

This example was used to demonstrate the impact of solar energy in the context of this drought event in 2008. We would like to show how this could have been avoided all together if 20% of power customers had an average sized solar grid system installed. To achieve 20% distributed generation systems in Tasmania at the projected growth by Aurora (3600 systems per year) it would take around 13 years to complete. If the industry growth continued at last year's rate, it would be half that. 20% of the grid is around 58,000 installations.

A basic assumption in this example has to be that a kw/h produced on a solar system is a kw/h saved in water released from the dams. If 291gwh is produced from an alternative source other that the hydro system then the water needing to be released in the dams is reduced. Over the 12 months prior to the April 2008 event the solar industry could have produced the equivalent savings in water. Also 4 years of cumulative generation, from today's average size system and using Auroras predicted growth in number of installs, the solar industry would produce the same amount of 291gwh.

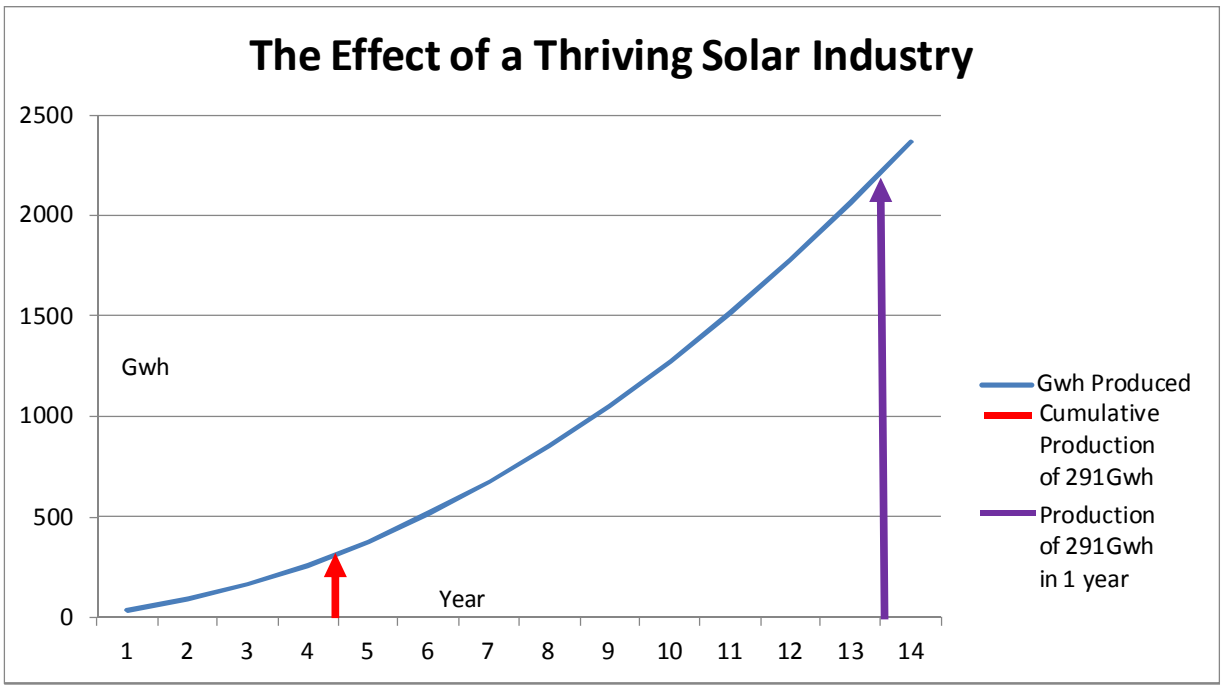

Figure 4 Shows growth of 3600 average size systems per year as per Aurora projections from June 2012

So there is a substantial case for encouraging an increase in the growth of the solar industry. This cannot be emphasised enough. This is an opportunity for Tasmania to use another renewable form of generation to help supplement our existing sources.

A significant growth in Tasmania's solar industry will only enhance Tasmania's clean and green image. The significant opportunity to increase the sales of 'Smile Power' through Momentum Energy cannot be ignored. The export industry in Tasmania can use an expanded solar industry to promote their products as come from a low carbon emitting state. We already have this image. If we were to discourage the solar uptake by implementing a reduced FIT, then it would do nothing to enhance our image, it would only detract from it.

A quote from the Basslink website:

"Basslink enables Victorians and other States to access electricity generated by the substantial renewable energy sources – hydro and wind – from Tasmania. By choosing green, electricity, consumers in Victoria offset the amount of the greenhouse gases, such as CO2, that is produced. The bigger marketplace also encourages additional investment in green energy, in particular wind."

And

"Basslink can transmit peak load energy from the Tasmanian hydro and wind generators to meet these peak demands."

A mature solar industry in Tasmania can be in the mix of providers for the use of Basslink in this way. While at the moment the contribution is small, the potential has been demonstrated above.

Other Jurisdictions

The issues paper gives a comprehensive overview of the FIT arrangements in other jurisdictions. A re-occurring theme is that these jurisdictions have spent quite some time offering over-inflated FIT rates in order to promote the uptake of solar. This has caused a huge burden of debt on the governments in those jurisdictions, and NSW has also put a huge burden on the retailers who have been asked to contribute to the "legacy costs" of the existing solar bonus scheme. We must ask ourselves why they did this. Was it because the government was desperate to encourage the uptake of renewable energy generation? Was it because they saw the potential of becoming a world leader in renewable energy generation? We are not sure. What we do know is that in Tasmania there is no burden of debt that must be recovered. The current FIT arrangement has ensured that no burden of debt has been incurred.

Aside from the "burden of debt" issue, what else makes Tasmania different from other jurisdictions and how does this relate to the level of FIT we should receive?

A large increase in the size of the solar industry, and thus the amount of power fed into the system, does not mean that our Government owned power companies suffer losses of revenue. Hydro Tasmania is in a unique position where they can sell on the retail market though Momentum Energy and their premium 'Smile Power' product. The opportunity is there for the government owned companies to replace the lost revenue through the expansion of the solar industry by increasing its availability in other jurisdictions. That way there is no pressure on wholesale power prices either.

The Attachment B in the issues paper stressed the need for The Regulator to have regard to "*Relevant approaches and methodologies for determining fair and reasonable feed-in tariffs in other jurisdictions*." These principles should also include a directive for the regulator to have regard for the differences in our power system, including the network and peak demand differences, as compared to other jurisdictions.

Network Benefits and Peak Demand

The issues paper directly quotes findings from other jurisdictions with regard to network benefits saying that information on such thing is "negligible" or "at best unclear."

Is goes further

> *"The extent to which grid-connected solar PV systems can contribute to deferred network augmentation depends on the extent to which the peak generation of solar PV systems reliably coincides with peak demand. Where peak generation coincides with lower demand, embedded solar PV generation is likely to provide few corresponding benefits." – Issues paper, page 15*

It is inherently unfair to compare a system of power generation that has no ability to save resources for power generation. Coal fired power stations must continue to operate at a consistent level regardless of the load on the system. Hydro systems can save resources when load is low. A kw/h generated locally using distributed generation systems is saved at the generators end.

Conclusion

This paper has highlighted some fundamental errors in the information provided to and interpreted by government. These are of the utmost importance because they influence the government's understanding of the following

1. How the solar industry has impacted the grid.
2. The potential for the industry to maintain and grow employment and economic activity.
3. How much the cost of FIT contributes to the price of power?
4. How much the FIT could contribute to the cost of power if solar power installations were encouraged?
5. The decision by government and the regulator to encourage or discourage the use of renewable energy in Tasmania.
6. What level of FIT should be paid to PV owners in Tasmania?

The view of saveoursolartas.org is that first of all existing PV owners must be provided for in a way which properly reflects the investment they have made. Then we must look to the future and see that a thriving solar industry is a crucial part of the Tasmanian economy. A FIT which reflects the true value of the power generated by PV owners is one which must not only involve no cross subsidy, but also must not penalise a PV owner for contributing to the power system in Tasmania.

In conclusion, save our solar tas.org urges Aurora, the Government, Treasury and the Regulator to ensure that all information provided and used is factual and free from fundamental errors. We cannot have a decision based on flawed information jeopardise the solar industry and impact the investments of thousands of Tasmanians.