



SAVEOURSOLARTAS.ORG

SUBMISSION to Dept of Treasury and Finance

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Submission outline

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Introduction

This is a submission to the Department of Treasury and Finance, by the lobby group Save our Solar Tas.org, in response to the issues paper released in May 2013. It shows 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. It will show important factors to be considered by the government when formulating it principles for a fair and reasonable Feed-in Tariff (FIT). **Whatever the correct and fair FIT is .**

While we acknowledge we may not be experts in preparing submissions (and we ask for you indulgence there), we are experts in our field and represent a majority of PV owners and installers. Supplied with this submission is a petition asking for support in legislation for 1:1 feed in 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.

Who is save our solar tas.org?

The organisation "Save Our Solar Tas" was formed in response to the proposal to reduce the current 1:1 feed-in tariff (FIT) 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 as well as other groups such as "Solar Citizens" and the large and growing number of ordinary Tasmanians who have invested in solar power on the rooves of their homes. We have the **xxx** support of the Clean Energy Council and their members as well as the Australian Solar Council. We also have the **XXXXXX** 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 2300 "likes" and the petitions have well over 3,000 signatures **Even as we has very limited funds to reach the vast numbers of P.V. owners and potential future adopters of P.V. Grid connect Solar.**

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

When the solar industry first began, most systems were only 1.0 k.w. 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 1-1 rate being the same they pay for power they purchase from Aurora.

The reality is that almost all of households use more power than they generate, thus are nett customers of energy providers.

Whilst the sun is shining and little power is being consumed at the home, power is being fed into the electricity grid. So early A.M. in the late afternoon when solar gain is low, TVs etc, they will consume most of their power and purchase from Aurora, as their systems are not producing power whilst the sun is in low or no solar Gain.

The effect of this is that the electricity being produced by home solar systems is being fed in to with the grid. 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. But primarily we see that Hydro's fully downstream processing odn "Smile Energy" can opportune maximum opportunity to sell our Clean Power , and Carbon tax free to interstate customers for currently the premium of 25 cents per k.w. hr. Electricity being produced by home solar systems is mostly generated at a time which coincides with the times of peak demand on mainland states in summer when we obviously have the most sunlight hours thus maximum solar gain, and mainland homes, businesses and offices require power to operate power-hungry air-conditioning systems. We have data that shows some 68% of annual solar generation occurs in the summer half of the year, well matching Victorian peak demands .

This allows Hydro to reserve water in the dam as kinetic storage to sell to the mainland at peak times through Basslink and attract higher for energy, but not only this , Hydro is in a unique position in the National Energy Market. As we are more flexible in energy output and can manipulate maximum advantage within the N.E.M. plus with Momentum Energy can deliver higher levels of consistent energy demands to maximum premium downstream high value retail energy contracts with Mainland exported clients.

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 from the department, the Minister Bryan Green, The Greens, Liberal party and from Aurora.

Potential Cost of FIT

“If the current 1:1 FIT remained in place, Aurora projects an asserted cost of the scheme could potentially rise to almost \$10 million in 2013- 14, based on their evaluation of forecasted 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 seen as beneficial to Hydro as less demand locally increases maximizing interstate opportunities to meet high value market demands interstate instead of future opportunity for new volume power users within the state as also a premium opportunity benefit.”

Now let's look at the impact examples as depicted by 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. This size system operates at a ratio of 53% used off roof and 47% fed into the grid. The only systems that operate with ratios of 70:30 are small systems and not realistic in outcome as Aurora itself state the average SYSTEM WAS 4.5 Kw last year against the popular 1 kw system previously some few years ago.. A 9.75 kw as typical at the top end of installation to keep under the 10 kw limit, system installed on a home with an average power bill will operate at around 90% fed in. A typical 3kw system operates on a ratio of around 45% used off roof and 55% fed in.(our market analysis sees such figures from customer

feed back and figures drilled out from Aurora confirmed data.) The Issues Paper statements above are incorrect. The y value for the vvv PV owners is directly related to the full value of yield from their system production that involves the Feed in portion that is very significant, as the credit they receive for the FIT. Is of vital importance This, once again, shows a lack understanding 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 order the regulator to consult with industry properly, not just speak to one installer and take that word for gospel as it seems , and where no actual proof oi data has been sought! Our figures displace such claims and the aforementioned businesses have failed to offer proof of data, when pressed, We see that their data is way off factual and reliable market data.

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 x 16.757c)
	Total: \$148.18
Credit for exported electricity	\$83.35 (300kWh x 27.785c)
Actual electricity bill	\$297.71 (total saving of \$231.53)

This is by far the worse blunder in the facts put forward by the government in the issues paper. The examples are showing that offset consumption on tariff 41/2 is \$70.38 @ 16.757c. There are no installed solar systems which are connected to tariff 41. In order for this figure to be true the solar installation needs to be connected to tariff 41~2 and tariff 31. This is incorrect. 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 work and unwillingness for 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 be directed by the relevant bodies to make sure that they learn and understand the technology before any level of feed-in is determined. As we see that the Minister has been fundamentally misled by such incorrect and biased data.

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.”

Please see our data drilled out of reasonable competent data to reveal the outcomes from such data as correct, however the data moving forwards reveals obvious impossible outcomes , given the constraints of system installation criteria.

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 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 mistake from Aurora here. This assumption is carried through all the figures and has been taken by the Government as gospel. 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 the power retailer with regae our drilled out numbers using the basic believable known data and extrapolated the unknown figures , but such as revealed by the maths in a spreadsheet process

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 **nett** 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 cannot 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 usable **premium** format in that neighbourhood. More information on this is provided in the section head “What is a Fair and Reasonable FIT?”

Who is paying for the FIT?

At the moment, Tax payers through Aurora, the power retailer bears the **asserted** 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, in itself, would be a larger contributing factor to reduced consumption of electricity, Not to mention the vast waste of millions of dollars with the inefficient retail model that currently exists. When a government owned entity needs to ensure it makes no more than some 3.8% nett profit, we see that major waste/ over expenditure occurs , No better example is that from 5 years ago when Aurora moved to cost cut and n]model to be a valid retailer in an open market , we see that some 1080plus employees were paid a healthy \$87 Million in remuneration, yet some 5 years alter just 996 employees were paid some \$137 plus million and overall over the five year premium some 540% higher wages costs were incurred ! We see that this alone has accelerated energy costs, that normal businesses would not exhibit.**

What are the guidelines for a Regulated feed in tariff?

While they are not binding by any stretch of the imagination, 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.
position

Indeed Nick McKim stated to us that this is merely a listed position but not a binding outcome as simply each state Government can direct it’s own outcomes and are not bound by this positionally nice outcome.

What grandfathering arrangement should be made for existing PV owners if moving under a from 1-1 position.

There are some serious legal issues that should be considered when making a decision on grandfathering. Aurora, it would appear, has made some mistakes with regard to contracts (or lack thereof) **with PV owners. Recently, it has been revealed that no contracts have been specifically issue because they were “implied” contracts since last June 2012,. This we understand has some legal implications for Aurora and contracts need to be issued again , said the officer in charge of this area in recent discussions as the position was deemed “Illegal” in her words. And contracts needed to be issued to cover same !.** We understand that there are a number of PV owners who are seeking advice as to the merits of a class action, should the FIT be lower than the current one. With a “no contract” situation for recent times and the fact that the website for Aurora states that customers will receive the same for feed in as they pay, there are possibly some 3000 customers in this situation. We see that this can be easily avoided if there **was at perhaps 9 years** grandfathering arrangement in place. 9 years also gives the

existing PV owners the opportunity to achieve on average their return on investment breakeven point before the feed-in may be reduced. Also, when Aurora created the Renewable Energy Preferred Suppliers scheme, the participants were never trained or even informed as the contractual situations of their customers, thus leading further to confusion as to the exact situation with the feed in situation.

This saw at situation evidenced by emails by at least one such preferred supplier , in an effort to qualify same. It indeed through the process evidenced that even Andre Winch , the senior in charge of the scheme od Renewable Energy Preffered Supplier , did not himself have the capacity to directly answer the query and saw it referred to lat a later date email a reply confirming finally the actual feed in system .

We see the Government's 3 year suggestion and the Greens 2 year suggestion as purely political, with no real regard or understanding for the situation of current solar owners. We understand that a political game will play out with the Government suggesting one thing and then another political party may up the bid then we then get a result based on a game rather than real figures and impact assessments.

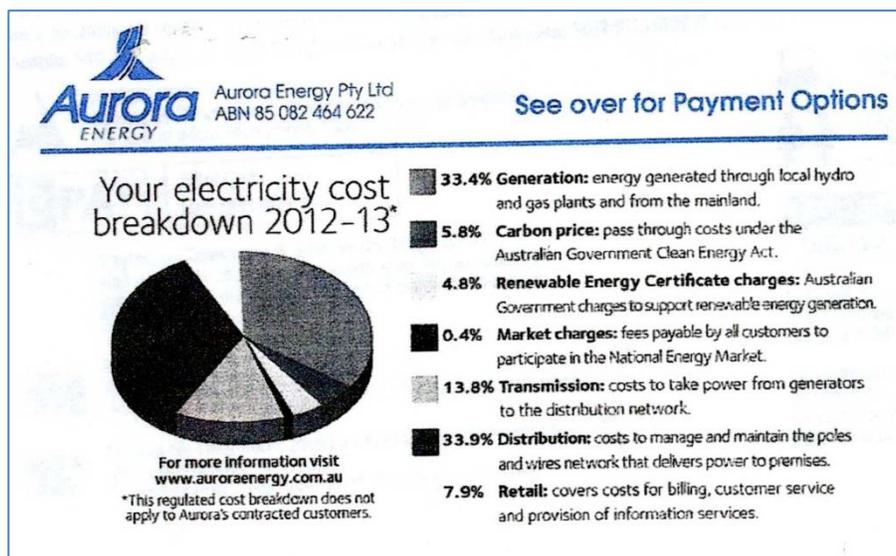
What is a 'Fair and Reasonable' FIT?

A fair and reasonable Feed-in tariff should correctly reflect the value of the electricity, and the **free boost to infrastructure to** the retailer / Hydro 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. **Plus it should reflect the true value to the overall N.E.M. and local network. So far in the debate, there has been no proper scrutiny of the costs on the system incurred by feed in, nor the true value of P.V. investors installing equipment and self providing to variable degrees, thus releasing capacities to the generators to play the mainland market, and also decrease the overall pressure on the need to invest in new energy generations offset by p.v. solar simply installed voluntarily by savvy private roof top investors..** 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. **We submit the opposite effect.**

The government, in its legislation, must stipulate that the regulator must apply the **correct costs and benefit credit values to PV owners.**

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.



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. **But Again we now mistrust information , due to data in the Issues papers"**

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, along with the value of benefit through feed in should be taken into account.

They are:

Generation

Carbon Price

Transmission Charges

Part of the distribution charges

Benefit of no cost added infrastructure provided by private pv grid connect solar

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 than 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 actual gross 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 should not (and appears to 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 Transend. Electricity is 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. Or merely travel either straight across the meter box to the p.v. owners own 41'2 or off peak demand, or then a short distance to their neighbours. And is indeed refined at export from local sites. Therefore this cost must be credited as part of the feed in tariff at fair value.

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 to bear the cost for distribution not used. The right thing to do in this situation is to ask PV owners to 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 or off peak meter. There, the power feeds not into the grid but straight across the meters in house, for electric heating and hot water (tariff 41, 42) etc. 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, which is impossible to determine exactly without very expensive system metering equipment upgrades, which are unrealistic to set about achieving against a fairer FIT outcome like 1-1 perhaps. Such determination should be credited to the PV owner as a correctly reflected 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 is 5%-10% even 20% losses when power is transmitted over the lines from the power station to the home due to resistance in the wires and losses through sub stations and boosted voltage via transformers etc. Power from roof-top solar is already refined and ready for use and no losses occur when power is transported. Indeed pv solar exports at a slightly higher voltage to push back

over the maximum allowable 254 volts as incoming voltage. to the local neighbourhood. Therefore the FIT for the PV owner must reflect this. It is imperative that the regulator be concerned 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. By holding Kinetic storage by way of water in the dams, This saving to 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 customer by Momentum Energy. This is the retail power company run and owned by Hydro Tasmania. This business down stream processes to achieve full retail price returns through this model to the exported market in Victoria and is of premium value to Hydro Tas and thus Tasmania as a whole. Such an avenue simply allows the p.v. added capacity to fulfill higher opportunity of such kw 's directly to the mainland market. While we note that the issues paper specifically down plays the reduction in network load and the need to upgrade infrastructure, it cannot be denied that a kw/h produced in one area creates the opportunity to add premium opportunity of full retail value add at the other end

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 that reflects the value then passes the value cost down to the wholesaler. The guidelines that the regulator should follow must to include a directive to reflect this ACTUAL value of the power fed into the power system and the overall value of same.

How will a reduced FIT affect the solar industry?

In short, a reduction in the FIT to 8, 10 or even 14 cents or indeed less than 1-1 as is current, will decimate the industry. Jobs will be lost, people will go bankrupt and down the line businesses will suffer. Current P.V. owners will directly suffer cash flow problems and in some cases the determined 9 year balance of R.O.I. will cause severe household stress and bankrupt some as the stray that breaks the camels back, which is the direct opposite reason to invest in the first place. Frankly, usually one partner devalues and asserts the value of investment and then if the investment goes sour, such relationships are strained also be placed on sensible outcomes that preserve community stability. The value overall to both economic fair value and social benefits should be fully understood and considered at full value in determining the FIT.

We all recall the another "pink bats" scenario. Just in the past 2 months where this issue has been in the public domain has seen a thriving solar industry come to a virtual standstill. Many solar businesses are reporting dramatic fall or next to no sales because of the uncertainty surrounding the feed-in tariff issue. Below is an extract from just one of the letters we have received from businesses in the solar industry.

"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.

Our Business has transformed from an appliance retail operation that has demised due to many factors but primarily need ed to evolve . We evolved in to a new model after some 70 years , and secured our position in energy efficiency solutions for the very energy concerned market place , as some 64% hike in power prices over the last 5 years oportunes a dedicated retail advise and solution retailer. We have seen tough conditions with our heat pump division and the solar hot water side has evaportared due to a combination of lower rebates , slight product increases, but the halving of solar power pricing has made the option to make power on the roof far cheaper than upgrading to solar hot water by on average half the investment value to do so for all but large families.. So for the last 18 months particularly we have seen our business rely on solar P.V. as some 85% of our business, this also has seen a near doubling of staff numbers as a direct result, Not that they were all involved in solar p.,v. but P.V. afforded the business to develop into both Smart Phone repair with 3 staff added and also furthering our Service division on Heat-pumps, along with directly employing our own p.v. solar installers instead of suffering the less reliable and more costly sub contractor situation, that also delivers premium outcomes to customers and better efficiencis to the Business model.

Now all this is under threat as solar installations has virtually ceased since late April and the total viability of our business is under serious that , not to mention that I am currently unable to meet intermediate supplier payments as stock is dormant in the warehouse and cash flow has dried up. John Thirgood Jessups Solar squad.

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 and in then same media release We commented that at 8 cents we have a disaster for both current investors and future of solar investment. which leads to public to believe that 8 cents is a future reality in outcome for the FIT. A few businesses have already panicked and moved to low standard equipment with lost sell prices, but when the numbers are exposed, this is a disaster for both consumers and said retailers alike.

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 for solar consumers were installing solar for environmental reasons first and foremost and economical reasons when the \$8000 grant delivered a “Too good a deal to refuse” situation.. This meant that mainly 1kw systems were installed. The feed in tariff was 1-1 and the worst in the country, but also most of the power it produced was used with low feed in outcomes. And against severs price rises so most found that the 1 kw systems merely countered the price rises over that 18 months to 2 year period back then.

The demand for solar systems increased in the following years, matched by severe energy price hikes that the public reasonably foresaw may double in a few years again. Coupled with the dramatic fall in solar system prices that made the numbers crunch over a reasonable payback period with the support of the FIT , even at the lowest in Australia 1-1 rate.. This also combined with generous, government multiplied, rebates caused a significant rise in the number of installations. So at the same time the reasons for installing solar systems changed. It changed from and environmental decision by a few, to an economic decision, again driven by ferocious power cost increases that had seemingly no end in sight , and proven so still today as we see yet another predicted 7% increase shortly.. Larger systems became more affordable and the huge rises in power prices drove huge demand for solar systems in Tasmania. The FIT has always been a fundamental 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?” and it simply would be totally smart to secure ones cost of living with p.v. solar investment.

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*. Then also we hear of another r7% increase shortly, even against Aurora and Minister Green assurances of merely CPI

increases in future. 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 a ridiculous statement! Because the purchase price of a solar system is cheaper than installing LED lighting, cheaper than window double glazing, cheaper than solar hot water, and a solar grid system helps to reduce the cost of living more than any of these. The only reason this is the case is because the current feed-in situation supports the generation timing issue, and together the numbers crunch, again even when until recently Tasmania had the worst Feed in tariff in the country, Burt still the ACT and others enjoy a reasonable tariff. Whilst others have locked in long term outrageous Feed in contracts that seem to have forced Mainland energy retailers to hack feed in tariffs to 8 cents or even zero in some cases.

assistance for solar purchases, the systems are still cheaper to buy than with the previous In the last 6 months the purchase prices for solar grid systems has fallen dramatically again. Even with the cancelation of government rebates. Take out

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 in retirement. Many companies in the solar industry report that most of their customer databases are retirees and Normal mum and dad 's families on medium incomes that simply are motivated of reduced living costs and the shorter time for the investment to pay for itself that makes it viable for pensioners and retirees and struggling families. A reduced feed in will remove both of those reasons to buy a solar grid system. Investors look to other to get the return they need to sustain a reasonable lifestyle and hedge against ferocious energy prices hikes as demonstrated and seemingly continuing by demonstrated outcomes.

A drastically reduced FIT will also remove those motivations for young people to use solar as a way of achieving the energy efficiency ratings for their new home builds. This is another significant portion of the solar grid market. New home builds are also heavily diswaded from investment thus seeing poorer outcomes than desired in new homes to the market and adding further to electricity demands and thus creating infrastructure increases in demand that otherwise would be softened.

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

Now we should look at who will be affected by a drastically reduced FIT. How can we quantify the cost to Tasmania and who will be effected.

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 work force under then or perhaps five times this number directly. Using the data provided by Aurora regarding the number of installations and the average size for the current year we can assert the following figures.

There were 6000 installations performed between June 2012 and March 2013.

The average size for those installs was 4.5kw (overall average is 2.31kw for the 12,000 odd installs to date.).

There was around 30,000 full works days used to perform the 6000 installs including sales staff, back office and installers only.

Around \$6.5 Million minimum was paid in wages.

Around \$87 Million minimum in revenue for the solar industry.

Plus the huge multiplier effect this incurs.

Generally we don't see the price of solar grid systems dropping any further based on the information from the international market, **apart from some events caused by cash flow fall out in short term events**. Huge losses to the solar panel producers have result in companies closing or exiting from the market. We see a leveling out of pricing to allow the companies to catch up and stabilize moving forwards.

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, but only with FIT stabilization at near 1-1 rates as reasonable. **steady increases from there**.

Should there be a large reduction in the FIT and the demand for solar is effected then 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 any solar based on **an unfair and non economic** FIT. Also many people who recently purchased have said they wouldn't have done so if they knew **that an uneconomic** FIT was coming into place. We see the only opportunity for domestic solar to move forward is for people to go back to the purchase reasoning of 5 years ago, where consumers were buying for reasons of environment and to offset their daily usage. This means that purchases will only be for small systems and by people who use their power during the day more. Our experience and feed-back from many solar businesses shows that there will be a huge reduction in sales, **as well as the dramatic reduction in system size**, and therefore jobs will be lost in the industry.

We project the following possible outcome for the domestic market:

1200 installs at and average of 1.5kw resulting in around \$4.8 million in revenue.

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. **With their business models seriously under threat**. As you can see this represents a significant reduction in output by the industry. Jobs would be lost and many businesses will lose significant gross **profit opportunity that cannot be recovered. Such businesses will have no option but cut back severely in an attempt to survive in an already tough market place, Some will simply have to exit the market and also face bankruptsy..**

What are the benefits of having a thriving solar industry?

What would happen if this solar industry and opportunity was appropriately supported? 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. Add new data reflecting spread sheet outcomes now proven

To achieve 20% distributed generation systems in Tasmania at the projected growth by Aurora it would take around 10 years to complete. If the industry growth continued at last year's rate, it would be half that. 20% of the grid is around 55,000 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 held therefore in the dams. If 291gwh is produced from an alternative source other than the hydro system then the water needing to be released in the dams has to be reduced. Over 10 month period prior to the April 2008 event the solar industry could have produced the equivalent savings in water. To add to that, the argument in the issues paper where the timing of the production of solar generated electricity does not coincide with the peak demand times in Tasmania is not correct. The production of solar power during the daylight period does have an effect. But first the industry must be allowed expand appropriately.

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

With our spreadsheet using Aurora projections and current data we prove that cumulatively within 4 years , or simply in years 13 , Solar privately paid for and invested p.v. would have save such an event as this with change left over. Thus debunking the Issues paper 's absurd and defamatory attack on the benefit of solar tax savings of writing off such 4% plus higher costs added to the cost of standstill by Hydro coupled with all extra costs incurred in importing the 291 gw of power , particularly in a summer period when Mainland states are maxing out demand of their own. Such burden of cost we demonstrate as offset again, should be considered in the value of the FIT Again Privately owned solar not only drives an industry and jobs, and then delivers viable outcomes to Tasmanian families whom should be continued to be encouraged to invest at no cost to the Tasmanian or Australian Taxpayer indeed the reverse applies in net outcome. Whilst seeing Hydro and sundry avoid more expenditure for expansion, whilst enhancing their business models.

A significant growth in Tasmania's solar industry will only enhance Tasmania's clean and green image. The significant opportunity to increase our sales of 'Smile Power' through Momentum Energy cannot be ignored. The export industry in Tasmania can use a expanded solar industry example to promote their products as come from a low emitting state. We already have this image. If we were to discourage the

solar uptake by implement a very low 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 is there.

Other Jurisdictions.

The issues paper gives a comprehensive overview of the Fit arrangements in other jurisdictions. A re-occurring theme in the reading is that these jurisdictions is that they had 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 in 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 customers. 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 them join the world trend and offset carbon whilst reducing the need for more carbon based energy generation or the unpalatable Nuclear option. 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. A sustainable FIT which reflects the costs avoided by the retailer and avoids any cross subsidy will ensure that no burden of debt is developed here in Tasmania to secure a solid benefit and also adding security for energy for Tasmania that otherwise would fall entirely on the generators , which would continue ti impact severely on consumer energy costs.

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 as a premium retail outcome though Momentum Energy and their ‘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.

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.” – 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 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.

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 stance on the following

How the solar industry impacted the grid.

The potential of the industry to grow.

How much the FIT contributes to the price of power?

How much the FIT could contribute to the cost of power if solar power installation were encouraged?

The decision by government and the regulator to encourage or discourage the use of renewable energy in Tasmania.

Ultimately what level of FIT should be installed in Tasmania.