



**Navitus Solar** PTY LTD  
**Harnessing the Sun's Energy for you!**

1 Alfred Road, West Croydon, Adelaide SA 5008

ABN: 51162794685

## RETAILER FEED-IN TARIFF DRAFT PRICE DETERMINATION

Public Consultation Submission

Written by: Peter Cockburn  
31/10/2013

# RETAILER FEED-IN TARIFF DRAFT PRICE DETERMINATION – Public Consultation Submission

## Introduction

The Essential Services Commission of South Australia (**Commission**) is an independent economic regulator of the electricity, gas, ports, rail and water industries in South Australia. The Commission's primary objective is the *protection of the long-term interests of South Australian consumers with respect to the price, quality and reliability of essential services*.

With the above statement in mind, the following submission is in relation to the proposed R-FiT and the relationship this has in delivering the environmental and economic security for the people of South Australia.

## The Proposed R-FiT

The proposed R-FiT of 7.6 c/kWh for electricity consumers that consume less than 160MWh of electricity per year is simply put a joke.

When the wholesale price is quoted, in most industries the retail mark-up is around 30%. Some industries the retail mark-up is much lower than 30%.

With the wholesale price set at 7.6 c/kWh, and the average retail price of 35c/kWh the average profit that electricity industry is making is about 522%. This is a nice mark-up and I don't know of another industry that archives such mark-ups by selling their product.

## Pricing Transparency

On the surface the profit electricity retailers are making out of energy feed back into the grid is 522%. This figure falls into either one of two categories;

1. This figure is a true representation for the profit
2. Other costs reduce the %522 profit figure.

## ***True Representation of Profit***

If the 522% is a true representation of the profit that electricity retailers make, this is an un-acceptable margin, and ESCOSA has failed it's core duty to the people of South Australia.

## ***Other Cost***

If other costs are at play and reduce the profit from 522% to a much lower figure, this has not been fully explained in the listed publications.

1. The AEMO fees 2013 – 2014 market indicate a total of \$0.34 per MWh, or 0.034c/kWh.
2. The SAPN service fee, this covers transmission costs for electricity consumers that use less than 160MWh of electricity per year.

The additional costs to the wholes price need to be explained to the general public, as the current information provided by ESCOSA does not support the price difference between the wholesale price and retail price of electricity.

## **The FAIR Price**

The question of the fair price is a hard one, with many parties wanting to place their case forward;

### ***Things to Consider***

Climate change is the issue we can't escape from, for decades now in general governments have not been able to achieve a great deal until a price / incentive was placed on action. This for South Australia was the FiT of 44c / kWh. It got people thinking about doing something for climate change. Most people were only interested in their back pocket. This is the problem, unless you affect the back pocket or the bottom line of companies, nothing will change.

To meet the reduction in targes by 2020 for emissions, can the R-Fit be as low as 6.7 c / kWh when just over 3% of South Australia electricity is generated by roof top solar.

For consumers that are not on demand tariffs, the network transmission charge is applied to all electricity regardless for where it comes from. The fact that surplus energy is feed into the network from one house and travels the path of least resistance to the nearest house that is consuming power has been forgotten.

The efficiency of Solar PV electricity generation and distribution to the local LV transformer secondary (houses down the street) is far greater than the same amount of power being transported from remote power stations. As such, solar PV energy should be valued much higher than power coming from coal / gas power stations. The additional benefits is Solar PV generated power does not produce green house gasses. Considering that the energy contained in coal by the time it is converted into electricity and delivered to the home the process is only about 30% efficient. Where as Solar PV energy delivered to the nearest consuming house is more around %95 efficient.

SEG owners don't get to charge network transmission fees, nor do they receive peek prices during summer that other generators in the NEM receive.

As such, the SEG owner that exports surplus energy to the grid receives a small fraction of what their power is really worth once the environmental, efficiency in transmission / distribution factors are taken into account.

The statement that 6.7c / kWh would help encourage electricity retailers to offer a voluntary additional payments to get customers is sadly misguided, when you look at Solar PV customers in general get put on plans that have import tariffs as much as

20% more than customers with out PV. The retailers will do the minimum they have to by law and will not offer additional payments.

As the retail electricity cost increases, electricity consumers are looking for options, if the feed in tariff is too low, the incentive to stay connected to the grid will be greatly reduced. As battery technology is all ready hear that the cost of off grid power is nearly parity with the latest retail summer prices.

More and more people are discussing about how to get off the grid, what will it cost, how long do batteries last. It is all ready starting to happen.

The question ESCOSA has to ask is, what can we do to prevent the death spiral of the grid and ending up with a standard asset, that no one can afford to be connected to any more.

## **The Price**

The owners of SEG should be paid a fair price for the investments they have made and are making. To save the environment and reduce carbon emissions, some one has to pay. This needs to be a fair price for people to feed power into to the grid, and want to stay connected to the grid.

### ***160MWh or less per year***

For consumers that use less than 160MWh per year, should have a minimum feed in tariff of 50% of their import rate.

That is to say, if the retail rates are 30c / kWh for the frist 300kWh, then 35c / kWh for the next 700kWh and 40c / kWh for the rest. The feed in rates would be 15c / kWh for the first 300kWh, 17.5c / kWh for the next 700kWh they export and the remainder is 20c/kWh for what ever is exported beyond 1000kWh during the billing period.

As some customers may have good rates, as such will not require to earn as much to off set their usage as apposed to a customer that has more expensive rates.

This will encourage retailers to ensure PV customers don't get put on more expensive plans, as they will have to pay more for exported energy.

The maximum of 45kWh export per day on average over the billing period to be removed, so that customers can export as much as required to offset their bill.

### ***More than 160MWh per year***

Customers that consume more than 160MWh or more per year should have a feed in tariff equal to their consumption tariff (1:1 net). Considering their consumption tariff only forms a small part of their bill, as other fees and network charges are also added. No limit to export per day. This will usually involve large PV system greater than 100kW in size, and thus would be classed as a generator in it's own right under the NEM. Also would have input from SAPN to control the generation and meet their installation requirements.

### ***160MWh or Less with Solar PV and Storage System***

For consumers that use less than 160MWh per year, should have a minimum feed in tariff of 50% of their import rate for new installation. For existing PV systems, their current feed in tariff should remain as long as;

1. The storage system shall be of approved type.
2. When Solar PV is in surplus to consumption needs, power is export
3. System programming by manufacture prevents export of stored energy from the storage device (batteries or other storage system).

### ***More than 160MWh with Solar PV and Storage System***

Customers that consume more than 160MWh or more per year should have a feed in tariff equal to their consumption tariff (1:1 net). Considering their consumption tariff only forms a small part of their bill, as other fees and network charges are also added. No limit to export per day. This will usually involve large PV system greater than 100kW in size, and thus would be classed as a generator in it's own right under the NEM. Also would have input from SAPN to control the generation and meet their installation requirements.

The storage system is all about reducing the peek loads in the network, and as such, should be valued by SAPN and ESCOSA.

## **Peek Load Reduction**

The technology is all ready here to allow SAPN to control storage system remotely, as such storage systems that could store energy from renewable sources such as Solar PV and Wind for export to the grid at peek times would be a valuable asset to SAPN and ESCOSA in managing peek demand on the network.

As such, the cost of these systems is still very high, it is anticipated that within the next 10 years the cost of storage will go the same way as the cost of Solar PV.

To prevent the death spiral of the grid, and allow investments by electricity consumers in storage that will benefit all South Australians, a feed in tariff for storage system that are controlled by SAPN should also be included.

This has to be planned with know drop down dates that could be varied as the cost of equipment drops. If a 10 year plan was formulated for the introduction of feed in tariff and the triggers that would be in place to cause a reduction. The electricity consumers can plan for such systems and have certainty of payback for their investment.

### ***160MWh or Less with Renewable and Storage System – SAPN Controlled***

The feed in tariff be based on 1:1net on their peek rate. As export would be made during the peek period.

## ***More than 160MWh with Renewable and Storage System – SAPN Controlled***

The feed in tariff be based on 1:1 net on their peak rate. As export would be made during the peak period.

Network charges would also be credited at a 1:1 net export rate. As these system would be large systems, and would have great benefit to electricity consumers in South Australia and SAPN in reduction of peak loads in the network.

## ***Virtual Net Metering***

A reasonable % of potential SEG customers don't have sufficient roof space, or suitable roof space or live in areas that the local council prevents the installation of Solar PV systems.

This would also include people that rent their accommodation as well as business that lease their buildings.

All of these customers are precluded from installing a Solar PV system. As such have no way to offset their electricity bills.

Virtual Net Metering has been used in at least 10 American states for some time. This allows for a Solar PV system (renewable generator) to be installed at a location other than the customer's premises. The meter data from the remote solar PV system is combined with the meter data from the customer's premises to generate net meter data. The NET export / import figures are generated and a bill issued the same as if the Solar PV system was installed on the customer's premises.

This system would allow for large solar PV farms to be built that the output be split between many consumers of electricity. The effects of intermittence in the network would be better controlled as SAPN would have control over the solar farm's output.

This would be a great boost to small business and consumers that are struggling with large electricity bills with no means to offset them.

A number of different reports and studies in Australia have all ready indicated Virtual Net Metering has many benefits not only to consumers of electricity but to SAPN and network operators as well.

Discussion paper by CSIRO;

The Virtual Power Station – achieving dispatchable generation from small scale solar  
<http://solar.org.au/papers/12papers/PV13Ward.pdf>

Institute for Sustainable Futures;

Virtual NET metering in Australia: Opportunities and Barriers

[http://www.tec.org.au/images/reports/ISF\\_TEC\\_VNM\\_paper\\_20130627.pdf-1.pdf](http://www.tec.org.au/images/reports/ISF_TEC_VNM_paper_20130627.pdf-1.pdf)

## **WIND Generation**

Currently there is no feed in tariff for surplus energy generated by wind generators. The system is classed as a hybrid by SAPN, and customers would lose their Solar PV feed in tariff.

The feed in tariff for wind should be the same as for Solar PV.

In most cases very few sites in suburban areas will be suitable for wind turbine installation. This generation will be limited to areas where the average wind speed is at least 5m/s to 6m/s.

Utility sized wind generation is all ready generating much of South Australian power, and the addition of SEG wind will help increase this % along with give many South Australian's more of an appreciation for what is achievable with renewable generation.

The advantages of wind is that base load can be supplemented, and with wind forecast all read being acted upon by network operators to cope with SA's wind farms, the addition of SEG wind would not be a problem.

## **Summary**

The review of R-FiT is only part of the puzzle that will ensure the continuance of the grid for this century.

If ESCOSA does not address the feed in tariffs that are paid for renewable energy exported to the grid and give a fair price for that energy. ESCOSA will ensure that the grid becomes stranded, and electricity consumers where possible leave the grid in droves.

The next 10 years will be the deciding factor. Navitus Solar gets inquiries at about one a week currently with people asking, how do I go off grid, what does it cost and what are the benefits.

The tidal of people leaving the grid can only be prevented by ESCOSA setting a fair price for renewable energy exported to the grid and taking on board virtual net metering and incorporating storage as part of the overall solution.

Electricity consumers are hurting with high prices, they are now willing to take action to reduce their bills, a fair price for environmentally friendly energy in need now.