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TASMANIAN ENERGY REFORM

Feed-in Tariffs: Transition to Full Retail Competition – Issues Paper

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CONTENTS

GLOSSARY

COAG	Council of Australian Governments
ESCOSA	Essential Services Commission of South Australia
FiT	Feed-in Tariff
IPART	Independent Pricing and Regulatory Tribunal
kWh	Kilowatt Hours
MWh	Megawatt Hours
NEM	National Electricity Market
NMBS	Net Metering Buyback Scheme
PV	Photovoltaic
QCA	Queensland Competition Authority
SRES	Small-scale Renewable Energy Scheme
STCs	Small-scale Technology Certificates
VCEC	Victorian Competition and Efficiency Commission

1. INTRODUCTION

The Tasmanian Government is reforming the Tasmanian electricity supply industry to introduce choice in electricity retailing for all customers and to simplify and increase the efficiency of the portfolio of electricity businesses owned by the Government.

The Government has four high-level policy objectives for its electricity reform package:

1. Lowest sustainable electricity bills.
2. Long-term safe, secure and reliable supplies of electricity.
3. Maximise the value of Tasmania's low carbon advantage and the brand benefits of clean Tasmanian electricity.
4. Financially viable state-owned electricity businesses that run efficiently and effectively and maximise the overall economic benefit to Tasmania.

In May 2012, the Government announced the following key features of the reform package:

- the introduction of full retail competition (FRC) from 1 January 2014, facilitated by the sale of Aurora Energy's customers to private sector retailers;
- independent regulation of Hydro Tasmania's wholesale market activities by the Tasmanian Economic Regulator; and
- the integration of Aurora Energy's distribution network and Transend Network's transmission network to form a single combined network business.

Key legislation required to implement these major elements of reform was passed by both Houses of Parliament in April this year.

With the introduction of FRC on 1 January 2014 and the exit of Aurora Energy from the Tasmanian electricity retail market, the Tasmanian Government must put in place new feed-in tariff (FiT) arrangements to ensure that existing and new customers who export electricity to the grid will receive a fair and reasonable rate for this energy through the transition phase and into the future.

This Issues Paper provides factual information regarding the current feed in tariff arrangements (including how they work and the costs) and what the arrangements are in other jurisdictions. It also outlines a set of issues the Government is considering in order to determine future FiT arrangements, which would apply from 1 January 2014, and supporting transitional arrangements for existing customers.

The Government is seeking to ensure there are FiT arrangements in place that are fair and equitable for all Tasmanian electricity customers. Further, the Government wants to provide certainty for Tasmania's solar customers (existing and potential) and industry and is committed to establishing supporting arrangements that ensure any transition is managed in a sensible and equitable way.

The Government welcomes comments on the issues raised in this Paper.

2. EXECUTIVE SUMMARY

Since July 2000, Aurora Energy has voluntarily offered the 'Net Metering Buyback Scheme' (NMBS) to residential and business customers who use solar panels and other types of small-scale, renewable generation under 10kW (e.g. micro hydro and wind installations) to feed excess electricity into the grid.

The NMBS offers these customers a 'one-for-one' FiT at the relevant regulated light-and-power tariff (for residential customers) or general supply tariff (for small business customers) for their net exported energy.

Under this scheme, the FiT only applies to the rate that is paid for electricity exported back to the grid that is in excess of the customer's own consumption. 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 used. The financial benefit and economic value of this electricity is not affected by the FiT rate.

A significant number of Tasmanian electricity customers, particularly in recent years, have installed distributed generation systems and currently access the scheme. There are currently close to 12 500 grid-connected customers and this number continues to grow, driven in large part by the falling price of solar panels, the availability of Commonwealth incentives and customers' desire to reduce their power bills.

Elsewhere across the country, all mainland Australian state and territory governments have mandated FiTs in order to encourage more customers to install distributed generation systems. Most jurisdictions have now, however, either closed or are in the process of phasing out premium FiT arrangements after higher than expected subscriptions rates, and the growing cost to Government and/or electricity customers.

There are some important issues that need to be considered in establishing new FiT arrangements to apply under a competitive retail electricity market in Tasmania. A summary of these issues follows below.

2.1 Providing certainty for customers, industry and market participants

Aurora Energy offers the NMBS on a voluntary basis only. Unlike other Australian jurisdictions, there are no, and have never been any, legislative, regulatory or contractual arrangements in Tasmania that require Aurora Energy to pay these customers a set rate for the energy they export for a defined term.

With the commencement of full retail competition and new private sector retailers from 1 January 2014, these customers will not have access to a guaranteed FiT for their exported energy once Aurora Energy exits the market unless the Government acts to introduce a legislatively mandated scheme.

It is important that these customers, as well as industry and other market participants, are provided with clarity and certainty with regard to the regulatory arrangements, including for FiTs, that will apply in Tasmania in the future.

In seeking to provide certainty, the Government is considering legislation that would:

- Require the Tasmanian Economic Regulator to determine a fair and reasonable FiT ahead of FRC commencement, via a process that will be subject to substantial public and stakeholder consultation; and
- Mandate that the retailers who purchase the Aurora customer base must from 1 January 2014 pay the new minimum FiT on every kWh of net exported electricity produced by residential and small business customers (less than 150MWh annual consumption) on mainland Tasmania who have a grid-connected renewable generation system of up to 10kW capacity.

This mandated FiT would be reviewed annually by the Regulator and work in a similar way to retail price regulation under FRC, where customers will continue to be able to access a regulated 'fallback' contract, but can, if they choose, enter into market offers that may have lower prices or more attractive conditions for that customer, for example a higher FiT rate.

This means that the legislatively mandated FiT will act only as a 'safety net' for customers to ensure that they can always access a fair price for their exported energy. A number of retailers in other jurisdictions already offer feed-in tariffs on a voluntary basis – often on top of minimum government-mandated rates – to attract solar customers.

2.2 Managing the Transition to new FiT arrangements

The introduction of FRC and Aurora's exit from the retail electricity market will necessitate the closure of the current NMBS offered voluntarily by Aurora in order to establish new arrangements.

The Government recognises that this is an issue of concern for many existing customers and industry participants, and is committed to establishing arrangements to manage the transition to the new FiT arrangements that will apply under the competitive market environment.

In this regard the Government is considering placing a requirement on the purchasing retailers to continue to pay all existing Aurora Energy NMBS customers a 1:1 FiT for a period of three years from 1 January 2014.

As part of the transition, the Government considers that where retailers are required to pay eligible customers the 1:1 FiT during the transitional period, they will be entitled to recover from the State-owned network business the difference between this rate and the 'fair and reasonable' rate set by the Regulator. The cost to the network business will be explicitly and transparently reported as a non-commercial activity.

The Government would also request that Aurora Energy continue to offer the NMBS to new and existing customers until the transition to the new arrangements from 1 January 2014.

An important transitional issue that requires further consideration is the way in which the current scheme is closed. The Government is particularly keen to receive specific feedback from interested parties as to how this might be best managed.

2.3 Robust and Transparent process

In determining a fair and reasonable FiT rate ahead of the commencement of FRC, the Regulator would be required to follow a robust process that would involve substantial public and stakeholder consultation. As described in Attachment B, it is expected the Regulator would:

- Prepare and publish a Draft Report and Draft Determination, which would be made available for public comment;
- Publish notices in daily newspapers generally circulating in Tasmania that the Draft Report and Draft Determination are available for public comment;
- Provide no less than six weeks for interested parties to make submissions on the Draft Report and Draft Determination; and
- Take into account submissions received in preparing its Final Determination.

For the Regulator's first FiT determination, the Regulator would be required to prepare and publish a Final Report and Final Determination as soon as possible before the end of the 2013 calendar year.

Further, in order to expedite the process for establishing the new FiT, given legislation will need to be drafted and debated in the Parliament, the Government could direct the Tasmanian Economic Regulator using existing powers under the *Electricity Supply Industry Act 1995* to commence preliminary investigative work in advance of the introduction of legislation.

2.4 Fairness, equity and consistency

The Government is committed to future FiT arrangements that strike a balance between the fair and equitable treatment of customers who have invested in the installation of renewable generation systems under Aurora Energy's current arrangements and ensuring that those customers who are unable or cannot afford to do so do not have to pay a subsidy through higher electricity bills to fund the scheme into the future.

Appropriate consideration must also be given to current policy practice in other jurisdictions, other relevant schemes or policies (including the national carbon pricing scheme), and national commitments made by the states and territories through the Council of Australian Governments (COAG) to phase out schemes that mandate the payment of FiTs that are in excess of the fair and reasonable value of exported electricity.

SUMMARY OF ISSUES UNDER CONSIDERATION

ISSUE	POTENTIAL APPROACH
Grandfathering arrangements	• All existing Aurora Energy Net Metering Buyback Scheme (NMBS) customers - including all intending customers who have paid a deposit on a distributed generation system - would continue to receive the 1:1 rate for their net exported electricity until 1 January 2017, on the condition that the customer remains on their existing retail contract.
Fair and reasonable feed-in tariff rate	• The Tasmanian Economic Regulator would determine a fair and reasonable feed-in tariff that would apply from 1 January 2014. • The Regulator would undertake substantial public consultation in setting the new rate. • The feed-in tariff rate would be reviewed by the Regulator annually.
Mandatory requirement to offer FiT	• The retailers who purchase Aurora Energy's customer contracts would be required by law to offer the feed-in tariff set by the Regulator to all eligible customers. • These retailers would also be required to offer the 1:1 rate to all eligible 'grandfathered' NMBS customers. • The retailers would be entitled to recover any amount paid to customers, under the grandfathering arrangements that is in excess of the regulated feed-in tariff, from the Government-owned network business.
Bass Strait Islands	• The existing arrangements would continue to apply on the Bass Strait Islands, where solar installations displace the need for diesel generation and the 1:1 FiT rate is below the wholesale cost of electricity.

CONTACT

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or by post to:

Feed-in Tariffs: Transition to Full Retail Competition Issues Paper
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The closing date for comments is 7 June 2013. Comments will be published on the Electricity Reform Project website: www.electricity.tas.gov.au

3. WHAT IS THE PURPOSE OF THIS 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.

More specifically, it provides:

- a brief background description of how FiTs operate, including the difference between 'net' and 'gross' metering arrangements;
- a summary of the current net FiT offered by Aurora Energy, including the number of current connections and installed capacity, the estimated cost of the scheme and how (and by whom) this cost is currently borne;
- a brief analysis of the efficiency and effectiveness of premium FiTs in delivering carbon abatement, network savings and renewable industry development benefits;
- an overview of FiT arrangements in other Australian jurisdictions, including how they have changed in response to issues of oversubscription and growing concerns relating to cross-subsidies;
- an explanation of what a 'fair and reasonable' FiT takes into account, with reference to 2012 COAG National Principles; and
- a more detailed explanation of the issues being considered by the Tasmanian Government, including how they would be implemented and potential impacts on customers.

4. BACKGROUND AND KEY ISSUES

4.1 Customer support for renewable electricity generation

The Tasmanian electricity supply industry provides support and incentives for investment in renewable electricity generation through a range of measures. The principal measures are:

- Tasmania's historically strong level of investment in renewable generation through Hydro Tasmania, in hydro-electric generation and more recently in wind generation;
- The Australian Government's carbon pricing mechanism;
- The Renewable Energy Target scheme, which comprises the Large Renewable Energy Target (LRET) scheme and the Small-scale Renewable Energy Scheme (SRES); and
- Aurora Energy's 1:1 feed-in tariff scheme.

The Australian Government's carbon pricing scheme is designed to internalise the societal costs of emitting carbon into the generation of electricity. This means that, over time, electricity markets will invest in generating technologies that have a lower carbon footprint.

The RET scheme is a complementary scheme with the aim of encouraging a minimum level of investment in specified renewable technologies within a set period of time. The scheme operates by requiring electricity retailers to acquit carbon certificates in proportion to the amount of electricity that they sell, with eligible renewable electricity generation creating certificates that can be traded and acquitted. Larger renewable schemes generate certificates through the LRET scheme while smaller, distributed generation systems, including solar PV, generate certificates through the SRES scheme, which has seen the electricity produced by smaller systems valued at a premium.

Under the RET scheme, Tasmanian households and small business customers have been paying for RET certificates since the scheme was introduced in 2001. In 2012-13, the Tasmanian Economic Regulator approved costs of more than $21 million incurred by Aurora Energy under the RET scheme to be passed through to Tasmanian customers. This equates to a mandatory contribution of about 3.5 per cent of Tasmanian household and small business electricity charges for investment in renewable electricity generation, including solar PV.

4.2 What are Feed-in Tariffs and how do they operate?

A FiT is a pricing mechanism whereby an electricity utility pays a customer for electricity that is generated by the customer and exported (i.e. 'fed-in') to the grid. Historically, FiTs have been based on a premium price being paid to the customer that is in excess of the normal wholesale cost of electricity generation, and sometimes in excess of the retail price of electricity.

The electricity produced by grid-connected customers is generally referred to as 'distributed generation', the most common form of which is small-scale, solar photovoltaic (PV) panels. Distributed generation systems are typically connected to the grid through 'import/export' meters. These meters record the quantity of electricity drawn from the grid separately from the amount that the solar electricity system feeds into the grid.

Net or Gross Metering

The price paid to customers for the electricity that they export can be offered to customers either on a 'gross' or 'net' arrangement, depending on how the customer's electricity generation and consumption is metered.

With **net metering**, the FiT applies only to the electricity that is exported in excess of what is consumed by the customer. Whenever a customer's system produces more electricity than the customer is consuming at any given time, the meter will record some electricity 'exported' to the grid. When a customer is consuming electricity at a greater level than the capacity of their distributed generation system, then electricity generated from the system is used on-site to off-set consumption of energy from the grid and therefore reduces that customer's power bill. Therefore, for each kWh a customer generates and consumes on-site in a billing period, they save the relevant tariff rate that they would normally pay their retailer for consuming this energy.

For example, assume a household uses 2000 kWh of electricity over a quarterly billing period. Over the same period, the household's 3kW solar PV system generates 1000 kWh, of which 700kWh is used by the household as it is being generated and 300kWh is exported to the grid during those times when the system is generating more than the household is using. The household's consumption is therefore off-set by 700kWh, meaning that they only have to pay for 1300kWh of electricity from their retailer. This means that the customer effectively receives the relevant tariff rate (i.e. some combination of light and power and hot water/heating) for the 700kWh they generate and use on-site, because that is the price the customer avoids paying to their retailer for this energy. With net metering, the 300kWh that was exported to the grid during the quarter is credited to the customer at the FiT rate.

Under **gross metering**, customers receive the FiT rate for all the electricity they generate, regardless of how much of that electricity is consumed by the customer on-site. Using the example above, the generation of 1000 kWh of electricity over a quarterly period would generate a direct payment for that full amount of generation at the FiT rate to the customer, not just the net exported amount after consumption. However, the customer would also still be required to pay their retailer for the full 2000kWh of electricity consumed. The customer's quarterly bill would then be calculated on the difference between the retailer's charges for the consumption of the full 2000kWh and the total amount paid for their generation.

Where the FiT is set at the retail rate for electricity, there is little if no difference between net and gross models in terms of the total credit and/or savings to the customer. However, where the FiT is **greater** than the retail tariff, then under a gross metering model the credit to the customer for the electricity generated could be equivalent to, or possibly even higher, than the cost of the electricity consumed by the household, even if the household consumes more electricity than it generates. Conversely, where the FiT is **lower** than the retail rate, the customer does not receive the effective retail rate for the energy they consume on-site and is therefore likely to be worse off than under a net metering arrangement.

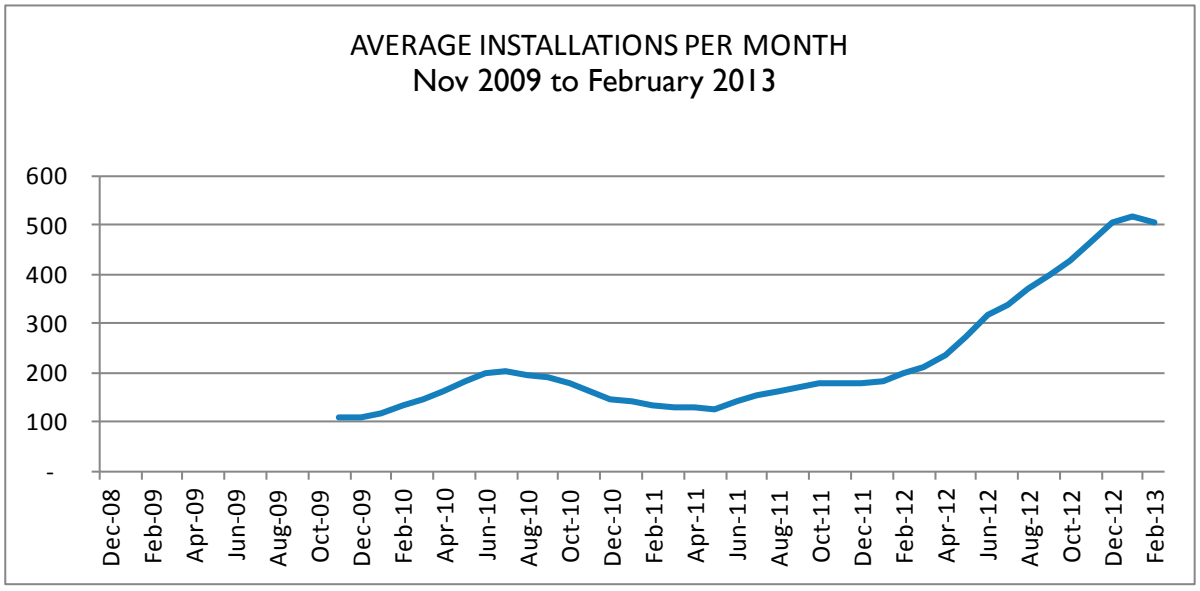
4.3 Aurora Energy's Current Feed-in Tariff Arrangements

The NMBS offers customers a 'one-for-one' (1:1) FiT at the relevant regulated light-and-power tariff (for residential customers) or general supply tariff (for small business customers) for their net exported energy. The current tariffs are 27.785c per kWh for residential customers and 37.897c per kWh (up to 500 kwh and 27.82c thereafter) for business customers.

Because the NMBS is based on net metering, customers only pay for the net electricity they use over and above what their power system produces. If the amount of electricity a customer produces exceeds the amount of electricity they use at any given moment in time, the difference – or the 'net export' to the grid – is credited to the customers' quarterly account at either the regulated light and power or general supply tariff, depending on whether the customer is a residential or small business customer, respectively. Where a customer's account results in a net credit, this can be carried forward to off-set charges in the next billing period.

Unlike other Australian jurisdictions, there are no legislative or regulatory arrangements in place that require Aurora to pay customers a set rate for the energy they export to the grid. Further, customers with distributed generation systems of less than 10kW – which comprises the vast majority of FiT customers – in most instances, do not currently have any contractual arrangements supporting their receipt of the regulated retail price under the NMBS, meaning that Aurora could, in theory, change the current arrangements at any time.

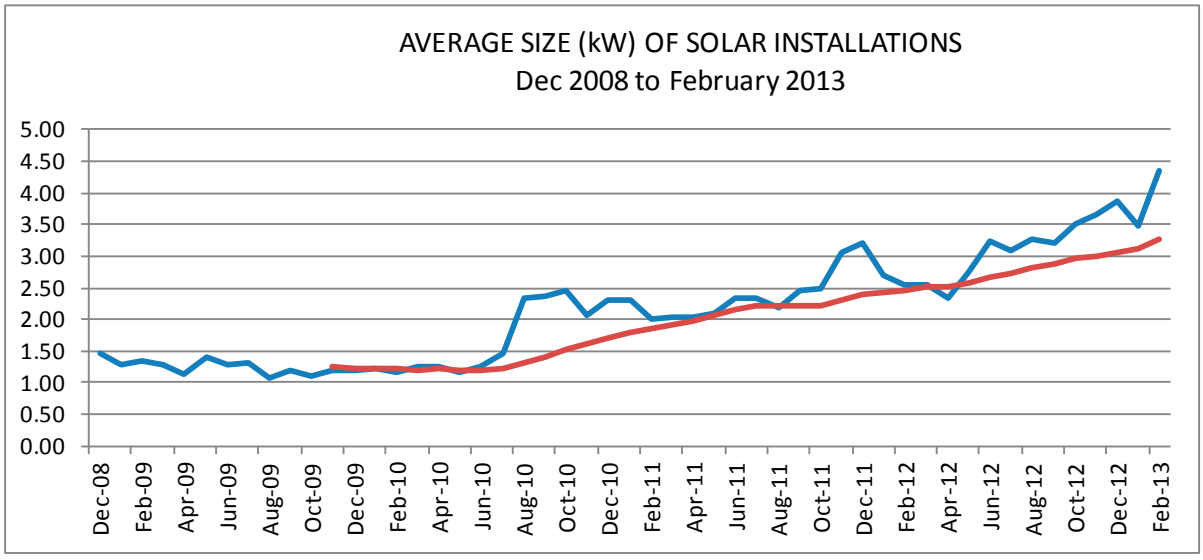
Figure 1: Installations of small scale distributed generation systems



There are currently close to 12 500 Tasmanian customers with distributed generation systems connected to the grid and receiving the FiT. As Figure 1 shows, the rate of installations has increased significantly over the past 12 months from approximately 200 per month in February 2012 to around 500 per month in February 2013.

In addition to the increase in the number of installations over the last few years, there has also been an increase in the average capacity of installations. As shown in Figure 2, between December 2008 and June 2010, the average capacity of installations in each month remained relatively stable at between 1kW and 1.5kW. Since June 2010 the average size of installations has been steadily increasing and between June 2012 and February 2013 the average capacity of systems installed in any given month ranged between 3kW and 4.5kW. The average system capacity across all installations currently sits at around 2.3kW.

Figure 2: Average size of solar installations



While the NMBS has been available since 2000, installed capacity has only increased significantly since 2009. This suggests that the FiT has not been the most important investment driver for most customers installing their solar systems. Other important factors include:

- **Dramatic and ongoing reductions in system costs** – for example, the cost of an average solar PV system fell from $12 000 per kW in 2008 to $3 900 per kW in 2011 and is currently closer to $3 000 per kW;
- **Commonwealth incentives that reduce the upfront capital installation costs** – the Small-scale Renewable Energy Scheme (SRES) provides up-front access to Small-scale Technology Certificates (STCs) at generous multiplier rates in recent years;
- **Increasing electricity prices** – which have increased the value of household demand that can be met by solar PV.

Aurora Energy data shows that in 2011-12, the NMBS is estimated to have cost its retail business around $1.1 million.[1] This estimate does not take into account any revenue foregone as a result of energy generated by customers for their own use that is not purchased from Aurora, as this is not a cost to Aurora Energy.

The cost of the scheme has grown significantly with the continued installation of solar PV systems. Aurora Energy figures indicate that the cost of the NMBS for 2012-13 is likely to be between $3.4 million and $3.5 million, depending on installation rates for the remainder of the financial year. 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 cost of the NMBS is currently borne entirely by Aurora Energy's Energy Business (retail). The Government does not reimburse Aurora for any of the cost of offering the NMBS, nor is the cost passed through to customers via electricity bills.

Effectively, the Government – and hence Tasmanian tax-payers – fund the NMBS indirectly through foregone returns that may have otherwise been provided by Aurora Energy to the Government as Shareholder on behalf of the Tasmanian community. There is no formal arrangement in place that recognises the cost of the NMBS via a reduced return to Government. This means that the relative value of Government support to the NMBS has never been assessed against other possible uses of these public funds, including other potential ways to reduce carbon emissions or household electricity bills.

[1] Aurora Energy NMBS cost estimates are based on the following assumptions:
- customers export on average 30 per cent of the energy they generate and use the balance on-site;
- the current average system size is 2.31kW;
- solar systems receive 5.8 hours of sunlight per day, averaged across a year (based on Bureau of Meteorology data); and
- the value to Aurora Energy of this energy is 8c per kWh, which would be the cost of purchasing wholesale electricity from an alternative source.

5. ARGUMENTS FOR A 'PREMIUM' FEED-IN TARIFF

The current 1:1 FiT offered by Aurora Energy – while not as generous as some schemes that have been offered in other jurisdictions – can still be considered a 'premium' FiT. This is because the price paid to customers significantly exceeds the value of that energy to the retailer and distributor.

In simple terms, the value to a retailer of the electricity produced by solar PV and other distributed generation installations is derived from the avoidance of having to purchase that electricity from the wholesale National Electricity Market (NEM). This is in addition to other factors such as the avoidance of losses that occur when electricity is transmitted through the grid (this is discussed further below). It is important to remember that retailers purchase their electricity at the wholesale rate, not the retail rate, so a FiT at the retail rate still means the retailer is purchasing electricity at a much higher price than it could otherwise.

The simple objective of premium FiTs is to encourage the installation of renewable distributed generation. There are a range of potentially legitimate policy reasons for why governments might provide such incentives, including:

1. Reducing greenhouse gas emissions by lessening the reliance on non-renewable energy sources;
2. Reducing load on the network – particularly at peak times – and therefore deferring the expensive capital investment required to service increasing demand. Distributed generation also reduces distribution losses; and
3. Supporting the development of, and innovation in, the renewable energy technology sector.

In developing future FiT arrangements for Tasmania under FRC it is important to consider whether a premium FiT is the most efficient or effective way of achieving any or all of these objectives.

Reducing greenhouse gas emissions

Tasmania's existing emissions profile for electricity purchased from the grid is already the lowest of all Australian jurisdictions by a significant margin, reflecting the dominance of renewable hydro-electric and wind generation (see Table 1, below).

Table 1: State and Territory electricity emissions factors, 2012

State, Territory or grid description	Emission factor kg CO_2-e/kWh
New South Wales and Australian Capital Territory	0.88
Victoria	1.19
Queensland	0.86
South Australia	0.65
South West Interconnected System in Western Australia	0.82
Tasmania	0.26
Northern Territory	0.71

Source: Australian National Greenhouse Accounts, July 2012.

However, any additional generation of electricity within Tasmania from renewable resources may reduce the need for imports over Basslink, particularly during times of drought and attendant low water storages. Electricity imported over Basslink is primarily generated from non-renewable resources on mainland Australia, mostly coal. Accordingly, any additional renewable generation in Tasmania will displace reliance on non-renewable energy resources and consequently further reduce CO_2 emissions nationally.

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 up front investment in the order of $7.2 billion to replace the capacity for electricity imported over Basslink for that relevant period. Another way of putting this in context is that if every household in Tasmania were to have a 3 kW installation, the installation cost would still be close to $2 billion, with capability to displace only around one sixth of the total import capacity of Basslink. Additionally, this energy would not be available 'on-demand' like Hydro generation or Basslink for use during early winter morning or evening Tasmanian peak periods, as it is only generated when the sun is shining.

Cheaper forms of CO_2 abatement can be achieved, at a household level, through other energy efficiency measures, such as improved insulation, more efficient heating (including solar hot water heating), and lighting. All of these measures also reduce household electricity bills.

Further, the introduction of a national carbon pricing scheme provides appropriate incentives for efficient measures to be pursued, without the Tasmanian Government needing to implement inefficient complementary schemes. The SRES component of the RET scheme also provides incentives for the take-up of renewable generation, including solar PV.

At the generation level, investment in other renewable or low emissions generation, including wind, or further research into geothermal, tidal or wave generation, are likely to provide more cost-effective long term benefits for the Tasmanian community than the expanded roll-out of rooftop solar PV.

Reducing Peak Demand and Network Costs

Solar PV generation can potentially offer peak demand reduction benefits in mainland jurisdictions where peak demand is driven by the use of air conditioners during hot summer afternoons, where solar PV can be operating at 28-38 per cent of capacity.[2]

However, the actual network value of distributed generation in deferring or reducing investment augmentation is, at best, unclear. For example, the Victorian Competition and Efficiency Commission (VCEC) has noted that no reliable estimates of this value currently exist and, further, that any value that is derived cannot be efficiently captured through a FiT.[3]

The Essential Services Commission of South Australia (ESCOSA) also notes that "...it is unclear as to whether or not there are additional net benefits from solar PV (e.g. possible net benefits to networks from deferred augmentation and indirect benefits to retailers)".[4]

[2] Australian Energy Market Operator, *Rooftop PV Information Paper – National Electricity Forecasting 2012.*
[3] VCEC (2012) *Power from the People: Inquiry into distributed generation, Summary Report*, p.1
[4] ESCOSA (2012) *2012 Determination of Solar FiT Premium, Final Price Determination*, p.48

In its recent FiT determinations, the NSW Independent Pricing and Regulatory Tribunal (IPART) went further, suggesting that network benefits of distributed generation were negligible. It notes that:

> *…PV exports are unlikely to provide system-wide benefits that will materially reduce either distribution network or transmission costs in NSW. Any benefits that arise are likely to be location and time-specific, however at current levels of PV installation these benefits are likely to be small. In addition, these benefits may be offset by system-wide cost increases as a result of the uptake of small-scale solar PV.*[5]

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.

This is likely to be the case in Tasmania, where peak demand is driven by cold winter mornings or evenings when solar PV output is negligible. Peak generation for solar PV systems occurs on sunny summer days, when Tasmanian demand is not as high.

It is also worth noting that increased penetration of distributed generation can also increase network charges for customers who do not have distributed generation systems. This can happen because customers with distributed generation can use the electricity they produce themselves and hence avoid paying the full retail price, which under current tariff structures includes a contribution to the cost of providing network services through the variable charge.

The consequence is that the largely fixed cost of providing the network is spread across a smaller level of consumption, increasing per unit costs for customers without distributed generation systems, who cannot avoid paying the full retail price. Distributed generators still need to access the grid, for both their imports and exports, but make a smaller contribution to the cost of providing this system.

Supporting development and innovation in small-scale renewable energy

The use of premium FiTs to stimulate greater innovation in renewable technologies will only be of ongoing benefit if, as a result of the increased interest, new industries and technologies are developed which are likely to provide products that become more cost effective, and that can be adopted more widely in the market without the need for continuing taxpayer or consumer subsidy. This may be due to improvements in design, or to efficiencies of scale due to increased production. This is the 'infant industry' argument.

However, solar photovoltaic electricity generation is now a mature technology that has been used for a number of decades. Over time there have been advances in photovoltaic technology that have reduced costs and increased efficiency significantly, and photovoltaic cells are now mass-produced both in Australia and overseas.

Further, the marginal impact of a Tasmanian premium FiT to encourage the development of solar technology would appear to be very small when set in the context of the global solar PV market.

Given this it can be argued that there is little rationale for a premium FiT from an innovation or industry development perspective beyond a straight subsidy to support the local solar installation industry.

[5] IPART (2012) Solar FiTs: Setting a fair and reasonable value for electricity generated by small-scale solar PV units in NSW, p66

6. FEED-IN TARIFFS IN OTHER NEM JURISDICTIONS

Within the past five years, all mainland Australian state and territory governments have mandated FiTs in order to encourage more customers to install distributed generation systems. Mandated FiTs have typically been paid to customers by distributors, with the costs then passed through to electricity customers via their retail electricity bills. In some instances, the FiTs have been set well above the retail rate, with New South Wales, Victoria and Western Australia offering 60c per kWh.

However, most jurisdictions have now either closed or are in the process of phasing out premium FiT arrangements after higher than expected subscription rates, and the growing cost to Government and/or electricity customers. A brief summary of arrangements as they have evolved in recent years in other NEM jurisdictions is provided below.

Victoria

In 2009 the Victorian Government introduced a 60c per kWh FiT for net exports (until 2024), which was closed in December 2011 and replaced with a 25c FiT until 2016. In response to a review conducted by VCEC, the Victorian Government closed the 25c FiT to new connections from 30 September 2012 and has now mandated a minimum rate of 8c per kWh from 2013, with annual review and adjustment by the Regulator until 2016. Customers under the legacy schemes will continue to receive their respective FiTs until 2024 and 2016 respectively.

Queensland

The Queensland Government introduced the Solar Bonus Scheme from 1 July 2008, which paid eligible customers (solar PV only) a FiT of 44c per kWh for electricity exported to the grid under a net metering arrangement. The rate offered was almost double Queensland's general domestic use tariff at that time. On 25 June 2012 the Queensland Government announced that it would be closing the existing 44c FiT to new connections from 9 July 2012, and offering in its place an 8c per kWh FiT. The Government has suggested that, if retained at 44c per kWh, the Solar Bonus Scheme would have cost every household $54 a year by 2014-15, costing Queensland about $1.8 billion by 2028. Existing customers continue to receive the legacy 44c per kWh rate.

The 8c per kWh scheme is due to end in mid 2014 and will be replaced by the fair and reasonable rate set by the Queensland regulator, which is 7.55c per kWh.

South Australia

The South Australian Government introduced a premium FiT in July 2008 under which customers were guaranteed 44c per kWh from ETSA Utilities (the distributor) for a period of 20 years (until 2028). The FiT was reduced from October 2011 to 16c per kWh, offered until 2016. Customers also receive the retailer contribution – known as the 'FiT premium' – in addition to the relevant payment from the distributor that they are entitled to (i.e. 44c or 16c). The FiT Premium is set by ESCoSA as part of its determination of the regulated standing contract electricity price. The retailer contribution is currently 9.8c per kWh (1 July 2013 to 31 December 2013).

The generous distributor contributions are being phased out over the next two years after which time new customers will receive only the regulated retailer contribution.

New South Wales

The New South Wales Government's Solar Bonus Scheme commenced in November 2009 and offered payments of 60c per kWh on a gross basis for customers with solar and wind installations. This was reduced to 20c per kWh for new connections after midnight, 27 October 2010.

The NSW Government closed the Solar Bonus Scheme to all new participants on 1 July 2011. It then asked IPART to recommend a fair and reasonable value for a FiT for customers who are not in the Solar Bonus Scheme, and also a regulatory or other mechanism by which this value could be implemented in NSW. IPART recommended that a fair and reasonable rate would be in the range of 5.2c to 10.3c per kWh in 2011-12.

IPART also recommended a very light handed regulatory approach to the implementation of the FiT based on publication of the benchmark rate to allow customers to assess FiT offers from retailers. Retailers are not, however, required to offer a rate within the benchmark range. Solar Bonus Scheme customers continue to receive their existing 'legacy' FiTs.

On the request of the Government, IPART also recommended that retailers be required to make a contribution to help fund the legacy costs of existing Solar Bonus Scheme customers. IPART recommended a statutory obligation on retailers to offer to each of its customers under the Solar Bonus Scheme 6.5c per kWh.

Australian Capital Territory

In July 2008 the ACT Government introduced a gross 'micro generator' FiT of 50.05c per kWh for systems up to 10kW capacity and 40.04c per kWh for systems up to 30kW capacity. The program was revised in April 2010; from 50.05c per kWh to 45.7c per kWh for all systems up to 30kW capacity installed from 1 July 2010. All contracts are valid for 20 years from the date of contract.

The FiT scheme was closed to new customers from July 2011. However, following the October 2012 ACT election, the Renewable Generator Guarantee (RGG) was introduced. The RGG is a guaranteed 20-year payment for homes and businesses that install solar PV systems up to 200kW. The scheme will commence with a rate set by the Independent Competition and Regulatory Commission (ICRC) – estimated to be around 20c per kWh – for those who sign up in the first year. The rate will be decreased annually for new applicants, however, and may be reduced significantly in 'boom years' when the total capacity of installations exceeds a yearly target of 10MW.

ActewAGL also continues to offer its own voluntary 1:1 FiT.

7. WHAT IS A 'FAIR AND REASONABLE' FEED-IN TARIFF?

As noted above, most jurisdictions that have previously offered generous FiTs have moved to close these schemes after it was found that they provided an unnecessarily high incentive for installations and that the cost of these schemes was being heavily cross-subsidised by non-FiT customers through higher electricity prices.[6]

The cross-subsidy is also regressive in nature, because those electricity customers who either cannot afford or are unable (i.e. renters) to install a solar PV system effectively subsidise those who can and do install such systems.

In response to directions from governments, the economic regulators in a number of other jurisdictions have recently conducted investigations to determine a fair and reasonable FiT that more accurately reflects the value of electricity that is fed into the grid by customers with distributed generation and which avoids cross-subsidisation between feed-in and non feed-in customers or ongoing subsidy by government.

But what does 'fair and reasonable' actually mean? In making their determinations, regulators have variously taken into account:

1) The output value (unit price) of the electricity produced, which can include:
   - the reduction of electricity that must be purchased on the wholesale energy market;
   - avoided network charges;
   - greenhouse gas reduction (e.g. due to the operation of a carbon price);
   - the ability for distributed generation to displace higher marginal cost electricity (e.g. gas) with lower marginal cost renewables in the generation dispatch merit order and therefore reduce the average wholesale price.
2) The network value of the electricity produced, which can include:
   - Deferral of network augmentation costs (if any); and
   - Costs of network reinforcing that is required to allow for the safe and reliable connection of distributed generation.

The determination of a fair and reasonable rate in other jurisdictions has therefore been based on the fair and reasonable assessed value of electricity generated by distributed generation systems, rather than on a target payback period for the system or a target return on investment (ROI). These issues have typically been dealt with through grandfathering and transitional measures, at the same time as the fair and reasonable economic rate has been introduced for new installations.

Taking all these factors into account, regulators have broadly determined that a fair and reasonable FiT is closer to the wholesale price of electricity than the retail rate. For example:

- The Victorian Competition and Efficiency Commission recommends that an 'efficient and fair' market price in 2013 is in the range of 6-8c per kWh;
- The Independent Pricing and Regulatory Tribunal (NSW) has determined a fair and reasonable tariff of 5.2 to 10.3c per kWh;
- The Essential Services Commission of South Australia has determined a tariff of 9.8c for 1 July 2013 to 31 December 2013; and
- The Queensland Competition Authority has determined that a fair and reasonable (cost reflective) value of exported PV electricity is 7.55c per kWh.

[6] See for example IPART (2012) Solar FiTs: Setting a fair and reasonable value for electricity generated by small-scale solar PV units in NSW

In summary, most jurisdictions are now moving away from market distorting incentives, funded by cross-subsidies between customer classes, and instead are implementing economically efficient, subsidy-free FiT regimes that capture and reflect the true market value of the electricity being exported by customers.

This approach is also consistent with national principles agreed by the Commonwealth and all State and Territory Governments at the 7 December 2012 Council of Australian Governments (COAG) meeting. The Principles provide, among other things, that any decision to legislate rights for micro-generation customers to receive more than the value of the electricity they produce (i.e. a premium FiT) should be transitional and should be closed to new participants by 2014.

The 2012 COAG National Principles are provided at Attachment A.

8. A NEW FAIR AND REASONABLE FEED-IN TARIFF FOR TASMANIA – ISSUES FOR CONSIDERATION

In order to ensure fair and equitable outcomes for all Tasmanian electricity customers, and certainty for Tasmania's solar customers (existing and potential) and industry, a number of issues need to be considered in determining new FiT arrangements, and supporting arrangements that ensure any transition is managed in a sensible way.

The Government is taking the following matters into account:

- Moving to a mandated fair and reasonable FiT is consistent with approaches in other jurisdictions and commitments made under the new COAG National Principles;
- The introduction of a national carbon pricing scheme and the operation of the SRES scheme provide incentives for the most efficient investments to be made at both the household and generation levels, without the Tasmanian Government needing to implement inefficient complementary carbon reduction schemes;
- Recent demand trends suggest that a premium FiT is no longer necessary to encourage the installation of distributed generation systems, given both the dramatic and continued price reductions of solar PV technology and that the primary benefit of these installations to customers remains the power bill savings achieved through reduced demand for electricity supplied by their retailer;
- The net cost to Aurora Energy of the current 1:1 tariff is currently in the order of $3.5 million per year and would continue to rise with additional installations. With Aurora's exit from the market, this cost would need to be borne directly either by Tasmanian taxpayers or by customers without distributed generation systems via retailer pass-throughs;
- The experience of other jurisdictions suggests that premium FiTs eventually result in significant (and regressive) cross-subsidies between customer classes;
- There is little evidence of any significant benefits in Tasmania relating to the reduction of peak demand or deferred network augmentation, principally because Tasmanian peak demand is driven by cold winter mornings and evenings when solar PV output is negligible; and
- There is little rationale for a premium FiT from an innovation or industry development perspective beyond a straight subsidy to support the local solar installation industry.

Establishing a new Fair and Reasonable rate

The Government is considering the introduction of legislation this year that would place an obligation on the retailers that acquire Aurora's customer contracts (the 'Regulated Offer Retailers') to pay to eligible customers a fair and reasonable FiT – to be determined by the Tasmanian Economic Regulator – on every kWh of net exported electricity.

Under this legislation, eligible customers would be those customers who:

- have a grid-connected renewable energy generation system (including solar PV, wind or hydro) up to a maximum capacity of 10kW;
- are residential or small business customers who use less than 150MWh per annum; and
- live on mainland Tasmania (including Bruny Island).

These eligibility criteria effectively mirror those that apply under Aurora's current NMBS. As is the case presently, customers who wish to connect systems with a capacity greater than 10kW in the future will need to negotiate an individual power purchase agreement with their retailer, as will business customers who use more than 150MWh per annum.

The legislation would require the independent Tasmanian Economic Regulator to determine the new fair and reasonable FiT to replace the 1:1 rate currently offered by Aurora voluntarily. The Regulator would review the FiT annually and undertake all future FiT determinations. The first FiT determination would be made as soon as possible before the end of this calendar year and would commence from 1 January 2014, to coincide with the introduction of FRC.

It is contemplated that the legislation would set the broad approach and principles that the Regulator must have regard to in making a FiT determination. A set of principles that the Regulator would be required to take into account are provided at Attachment B.

As part of the determination process, the Regulator would be required to publish for public comment an Issues Paper and a Draft Determination and provide a reasonable opportunity for interested parties to make submissions. The Regulator would be required to take into account submissions received in response to the Draft Determination in preparing its Final Determination.

To expedite the process for establishing the new FiT arrangements, existing powers under the *Electricity Supply Industry Act 1995* could be used to direct the Tasmanian Economic Regulator to commence preliminary investigative work – including the publication of an Issues Paper for public comment – in advance of the introduction of legislation.

Transitional Arrangements for Existing Customers

The Government wants to ensure that customers who have installed solar systems under the current Aurora scheme are treated fairly and equitably as part of the transition to new arrangements.

In the event that the Regulator's FiT Determination resulted in a rate less than the current retail rate, which is quite possible particularly given the outcomes in other jurisdictions, the Government is considering legislation that would require the purchasing retailers to continue to pay all current NMBS customers a 1:1 FiT for a period of three years from 1 January 2014.

Where retailers are required to pay eligible customers the 1:1 FiT during the transitional period, they would be entitled to recover from the State-owned network business the difference between this rate and the fair and reasonable rate set by the Regulator. The cost to the network business would be explicitly reported to ensure transparency, given it would not be a decision that would be taken as part of the ordinary course of business acting commercially.

As part of the transitional arrangements, customers would remain eligible to receive the 1:1 rate for so long as they remain on the contract that they transfer to their new retailer on at FRC commencement. If a customer elects to take another market offer with a retailer, they would no longer be eligible for the 1:1 rate, although retailers may voluntarily elect to continue to offer the FiT arrangements. Customers would therefore need to make a judgment as to whether or not to take up a market offer by balancing benefits that they may wish to access under a particular retailer contract against the value to that customer of the 1:1 FiT.

The Government would also request that Aurora Energy continue to offer the NMBS to new and existing customers until the transition to the new arrangements from 1 January 2014.

With the introduction of FRC and Aurora's exit from the retail electricity market, the current NMBS will need to be closed. An important transitional issue that requires further consideration is the way in which this closure is managed. The Government is seeking specific feedback from interested parties as to how this might be best approached.

Potential Impacts on Customers

It is impossible to publish what the overall impact of the new FiT arrangements would be on each individual customer, principally because the new fair and reasonable rate is not yet known.

Predictions around individual customer impacts are also inherently problematic because of significant differences between customers with regard to:

- System capacity;
- System efficiency – i.e. the capacity factor based on hours of sun received due to siting, orientation, quality of solar panels, etc;
- The customer's load profile and the amount of total electricity generated that is used on site, compared to the excess amount that is exported;
- The customer's existing mix of retail tariffs; and
- When the customer installed their system and the installation cost – i.e. how much of the capital installation cost of the system has already been recovered through avoided consumption and FiT credits.

However, it is also important to remember that the changes would only apply the rate that is paid for electricity exported back to the grid that is in excess of the customer's own consumption. 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.

This is important because it means, for instance, that customers who have installed solar PV systems as a 'safeguard' against future electricity price rises and to offset their electricity bills still get that benefit regardless of the FiT rate.

It should be noted that a legislatively mandated FiT would act as a 'safety net' for customers to ensure that they can always access a fair price for their exported energy. It would not prevent retailers offering higher FiT rates in an effort to capture customers as part of their overall market strategy. Retailers in other jurisdictions already offer feed-in tariffs on a voluntary basis – often on top of the minimum government-mandated rates, where they exist – to attract solar customers.

Further, a legislatively mandated fair and reasonable FiT would ensure that customers who **do not** have solar PV systems are not unfairly impacted. As the Queensland Competition Authority notes[7] , when it comes to electricity prices, unfortunately there is no 'magic pudding'. If one group of customers receives a benefit in excess of the true savings they make, or enjoys prices below the cost of their consumption, these benefits must be funded either by other electricity customers or by taxpayers.

Particularly in a competitive market environment, the retention of a premium 1:1 tariff would unfairly impact on those electricity customers who cannot to afford to install solar systems by putting upward pressure on their electricity prices over time, as installation numbers increase. Alternatively, the Government would need to direct taxpayer funds to cover the cost of the difference between the true value of exported electricity to retailers and the retail rate, which would come at the expense of other essential services provided by Government.

[7] Queensland Competition Authority (2013) *Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland – Final Report,* p.iv

Changes to the net FiT: Potential Customer Impact Examples

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 examples compare the savings to the customer under current 1:1 FiT arrangements to those that would be delivered:

1. where there was no FiT for net exports; and
2. where the FiT was set at a rate that reflected the wholesale allowance in the current regulated retail price.

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)**

EXAMPLE B – NO 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	**$0 (300kWh x 0c)**
Actual electricity bill	**$381.06 (total saving of $148.18)**

EXAMPLE C – 7C FIT (BASED ON CURRENT REGULATED WHOLESALE PRICE)	
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	**$21.00 (300kWh x 7c)**
Actual electricity bill	**$360.06 (total saving of $169.18)**

Arrangements on the Bass Strait Islands

Momentum Energy retails electricity to customers on King Island and Flinders Island. Momentum Energy offers customers with small-scale distributed generation, including solar PV, a 1:1 FiT rate.

The situation on the Bass Strait Islands is very different to the situation on mainland Tasmania. Electricity supply on the Bass Strait Islands is subsidised by the Tasmanian Government and customer prices are well below the cost of supply. In particular, the retail energy rate paid by customers on the Bass Strait Islands of 26.82c per kWh is below the cost of electricity generation, which is estimated to be above 30c per kWh.

This means that the current 1:1 arrangements represent a FiT that is slightly below the level that would be set as a fair and reasonable rate under the COAG Principles, which would be greater than 30c per kWh. However, this is appropriate given the level of subsidy that BSI customers already enjoy and the fact that these customers do not pay the full cost of supply for electricity consumed.

The existing arrangements on King Island and Flinders Island will therefore be maintained.

ATTACHMENT A

Council of Australian Governments Meeting
Canberra - 7 December 2012
National Principles for Feed-in Tariff Arrangements

Micro generation to receive fair and reasonable value for exported energy

1. Governments agree that residential and small business consumers with grid connected micro generation[8] should have the right to export energy to the electricity grid and market participants should provide payment for exported electricity which reflects the value of that energy in the relevant electricity market and the relevant electricity network it feeds in to, taking into account the time of day during which energy is exported.

Any premium rate to be jurisdictionally determined, transitional and considered for public funding

2. That any jurisdictional or cooperative decisions to legislate rights for micro generation consumers to receive more than the value of their energy must:
   a) be a transitional measure (noting that a national emissions trading system will provide increasing support for low emissions technologies), with clearly defined time limits and review thresholds and be closed to new participants by 2014;
   b) for any new measures, or during any reviews of existing measures, undertake analysis to establish the benefits and costs of any subsidy against the objectives of that subsidy (taking into account other complementary measures in place to support micro generation consumers);
   c) give explicit consideration to compensation from public funds or specific levies rather than cross-subsidised by energy distributors or retailers; and
   d) not impose a disproportionate burden on other energy consumers without micro generation.

SCER to ensure fair treatment of micro generation

3. That the Standing Council on Energy and Resources (SCER) should maintain regulatory arrangements for micro generation customers, consistent with the objectives of the relevant electricity legislation, whereby the:
   a) terms and conditions for compliant micro generation customers should be incorporated into the regulation of the minimum terms and conditions for retail contracts such that they are no less favourable than the terms and conditions for customers without micro generation;
   b) connection arrangements for micro generation customers should be standardised and simplified to recognise the market power imbalance between micro generation customers and networks; and
   c) assignment of network tariffs to micro generation consumers should be on the basis that they are treated no less favourably than customers without micro generation but with a similar load on the network.

FiT policy to be consistent with previous COAG agreements (particularly the Australian Energy Market Agreement and COAG complementary principles)

4. That the arrangements for micro generation consumers by SCER and jurisdictions:
   a) should not deter competition for their business from electricity retailers in jurisdictions where there is full retail contestability and innovation in the tariff offerings available to micro generation customers;
   b) in relation to jurisdictions in the National Electricity Market (NEM), should not interfere with the regulation of distribution tariffs or operation of the NEM under the National Electricity Law or duplicate the regulatory arrangements that are part of that Law;
   c) should be subject to independent regulatory oversight according to clear principles; and
   d) should be consistent with implementation of other intergovernmental agreements relating to energy, competition policy or climate change.

[8] These national principles apply to grid connected micro generation compliant with the relevant Australian Standard (AS4777).

ATTACHMENT B

Fair and Reasonable Feed-in Tariff Determination – Principles

1. The Regulator is to determine a fair and reasonable per-kWh rate to be paid to small customers with small-scale distributed generation systems of less than 10kW for the net electricity that these customers export to the network (i.e. a 'feed-in tariff') in a fully contestable market. Small customers are defined as customers located on mainland Tasmania (including Bruny Island) who use less than 150MWh of electricity per year.
2. In making a feed-in tariff determination, the Regulator must have regard to the fair and reasonable value to retailers of the electricity fed into the network by eligible customers by quantifying the net financial benefits to retailers of this electricity.
3. The Regulator should consider the net financial benefits to retailers of exported electricity with respect to retailers' controllable costs, including (but not limited to):
   - the price that the retailer pays for wholesale electricity; and
   - the costs a retailer incurs in running its retail business.
4. The Regulator may also consider any broader, indirect costs or benefits of distributed generation to the electricity market (e.g. impact on wholesale prices), as well as any impact on the transmission and distribution networks (either costs or benefits). Where such externalities are identified and can be quantified, the Regulator should consider how these are best captured.
5. In making a feed-in tariff determination, the Regulator must have regard to:
   - The 2012 COAG National Principles for Feed-in Tariff Arrangements;
   - The principle that feed-in tariffs should not result in any cross-subsidies between customers or customer classes; and
   - Relevant approaches and methodologies for determining fair and reasonable feed-in tariffs in other jurisdictions.
6. The Regulator must:
   - Prepare and publish a Draft Report and Draft Determination, which is to be made available for public comment;
   - Publish notices in daily newspapers generally circulating in Tasmania that the Draft Report and Draft Determination are available for public comment;
   - Provide no less than six weeks for interested parties to make submissions on the Draft Report and Draft Determination;
   - Take into account submissions received in preparing its Final Determination; and
   - Prepare and publish a Final Report and Final Determination as soon as possible before the end of the 2013 calendar year.