QUEENSLAND COMPETITION AUTHORITY

Issues Paper

Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland

August 2012

Level 19, 12 Creek Street Brisbane Queensland 4000
GPO Box 2257 Brisbane Qld 4001
Telephone (07) 3222 0555
Facsimile (07) 3222 0599

general.enquiries@qca.org.au
www.qca.org.au

The Authority wishes to acknowledge the contribution of the following staff to this report

Dan Barclay, Rimu Nelson and Alicia Toohey

SUBMISSIONS

Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). The Authority is releasing this Issues Paper as a first step in its assessment of a fair and reasonable solar feed-in tariff for Queensland. The Authority has identified a number of key issues that it will need to consider in accordance with the Direction for the review. The issues that have been identified are not exhaustive but are provided to assist stakeholders in preparing their submissions. The Authority will take account of all submissions received by the due date.

Written submissions should be sent to the address below. While the Authority does not necessarily require submissions in any particular format, it would be appreciated if two printed copies are provided together with an electronic version on disk (Microsoft Word format) or by e-mail. Submissions, comments or inquiries regarding this paper should be directed to:

Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001
Telephone: (07) 3222 0555
Fax: (07) 3222 0599
Email: electricity@qca.org.au

The **closing date** for submissions is 17 September 2012.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two copies of each version of these submissions (i.e. the complete version and another excising confidential information) could be provided. Again, it would be appreciated if each version could be provided on disk. Where it is unclear why a submission has been marked "confidential", the status of the submission will be discussed with the person making the submission.

While the Authority will endeavour to identify and protect material claimed as confidential as well as exempt information and information disclosure of which would be contrary to the public interest (within the meaning of the *Right to Information Act 2009 (RTI)*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997* (the QCA Act), the Authority must take all reasonable steps to ensure the information is not disclosed without the person's consent, provided the Authority is satisfied that the person's belief is justified and that the disclosure of the information would not be in the public interest. Notwithstanding this, there is a possibility that the Authority may be required to reveal confidential information as a result of a RTI request.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at the Brisbane office of the Authority, or on its website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact the office (07) 3222 0555.

Information about the role and current activities of the Authority, including copies of reports, papers and submissions can also be found on the Authority's website.

TABLE OF CONTENTS

1. INTRODUCTION

On 7 August 2012, the Minister for Energy and Water Supply (the Minister) issued a Direction Notice under section 253AA of the *Electricity Act 1994* to the Queensland Competition Authority (see **Appendix A**). The Direction requires the Authority to investigate and report on:

(a) a fair and reasonable value for energy generated by small scale solar photovoltaic (PV) systems and exported to the Queensland electricity grid;

(b) the mechanisms by which a fair and reasonable value/values could be implemented in Queensland;

(c) a potential retailer contribution to the cost of the Queensland *Solar Bonus Scheme* (the Scheme) that reflects the benefit to retailers of the energy produced by small scale solar PV generators connected to the grid; and

(d) updated costs of the Scheme and any options by which to minimise or more equitably share these costs.

The Authority is to publish a Draft Report no later than November 2012 and a Final Report no later than 22 March 2013.

1.1 Direction Notice requirements

In its investigation into the fair and reasonable value for solar PV energy, the Authority is to have regard to the following factors:

(a) there must be no consequential increase in electricity prices in Queensland or cost to the Queensland Government budget;

(b) the Council of Australian Governments (COAG) first *National Principles for Feed-in Tariffs* and the concept of 'fair and reasonable' value;

(c) the geographical location at which the solar PV energy is generated and value of that energy in the local network;

(d) complementarity with the carbon pricing mechanism; and

(e) consistency with the operation of a competitive Queensland electricity market.

As part of its investigation and report the Authority is also to consider:

(a) the benefit gained by electricity customers, distributors and/or retailers from electricity produced from small scale solar PV, for example in remote areas of Ergon Energy's network where high energy supply costs may be offset, or the value to the distribution business of any network investment deferral in those networks;

(b) the benefit of net versus gross metering arrangements;

(c) the *Renewable Energy Buyback* scheme operating in Western Australia (WA), which from 1 July 2012 offers feed-in tariff rates that vary geographically and include stringent connection requirements; and

(d) other issues the Authority deems relevant.

In its investigations into the mechanisms for implementing a fair and reasonable value for solar PV energy, the Authority is to consider and report on:

(a) implementation options within the Queensland electricity market, including a mandated 'default minimum price' or price range, a recommended (non-mandated) price range, or a market determined price;

(b) support for a competitive electricity market in Queensland and any specific arrangements required/barriers to implementation in the Ergon Energy distribution area;

(c) the need for certainty for small scale solar PV owners;

(d) appropriate review mechanisms and timeframes;

(e) potential transition to a national feed-in tariff if established through COAG processes; and

(f) similar pricing and mechanisms in other jurisdictions and findings from other jurisdictional feed-in tariff reviews.

1.2 Process for the Review

In conducting this review, the Authority will provide opportunities for stakeholder input. To assist stakeholders in preparing their submissions to this review, this Issues Paper sets out a range of matters about which the Authority is seeking information and comment. Submissions are invited in response to this Issues Paper and should be received by the Authority no later than 17 September 2012.

The Authority is required to submit its Final Report to the Minister no later than 22 March 2013. The proposed timetable for this review is as follows:

Task	***Indicative dates***
Release of Authority's Issues Paper	24 August 2012
Submissions on Issues Paper due	17 September 2012
Release of Authority's Draft Report	30 November 2012
Submissions on Draft Report due	21 December 2012
Release of Authority's Final Report	**22 March 2013**

2. BACKGROUND

2.1 Queensland Solar Bonus Scheme

Overview

On 1 July 2008, the Queensland Government introduced the *Solar Bonus Scheme* (the Scheme) to provide eligible customers with credit for the surplus electricity generated by solar PV systems and exported into the Queensland electricity network. The Scheme is available to small residential and business customers who consume less than 100MWh per year, with grid-connected PV systems not exceeding 5kW capacity.

The Scheme was intended to provide an incentive for electricity customers to install PV systems, by providing an opportunity to recover the costs of the unit via a feed-in tariff paid for surplus electricity their PV systems fed back into the network.

How the Scheme works

The feed-in tariff is paid to Scheme participants for electricity exported back into the network when the PV system is generating electricity surplus to the customer's immediate consumption requirements. During times when the PV system is generating less electricity than the customer's consumption, the balance of electricity demanded is drawn from the network.

On 9 July 2012, the Queensland Government reduced the feed-in tariff under the Scheme from 44 cents per kWh to 8 cents per kWh. Existing participants will continue to receive the 44 cents per kilowatt hours (kWh) feed-in tariff for electricity exports until 2028, provided they maintain their eligibility for the Scheme. Eligible customers who connected after 9 July 2012 will receive 8 cents per kWh.

Metering and billing

Customers participating in the Scheme require specialised meters connected between the network, the premises and the PV system. These meters are capable of recording the volume of electricity being drawn from the network (imports) and the volume of electricity fed back into the network (exports). This is known as a 'net' metering arrangement. This is distinct from a 'gross' metering arrangement where the meter separately records the total amount of electricity consumed and the total amount generated by the PV system.

At the end of each billing period, the customer's meter is read to determine the total amounts of surplus electricity exported to and imported from, the network. The distribution business provides this data to the retailer, which then calculates the amount of the 'solar bonus' by multiplying the number of kWh exported by the rate of the feed-in tariff. This amount is then deducted from the customer's consumption charge for imported electricity and is reflected on the retail bill.

If the value of the customer’s exports exceeds the value of energy consumed, the excess amount is applied as a credit to the customer's retail account. If the customer's solar bonus payments exceed their network imported consumption costs over a 12-month period, the customer may request payment of the balance, rather than retaining a credit.

Who pays the feed-in tariff?

The current Scheme is funded by the distribution network businesses, Energex and Ergon Energy. This means the electricity distribution business is currently liable to pay the amount of the feed-in tariff which is then credited to the PV customer by the retailer. As distribution

network charges are regulated, the costs incurred by the distribution business in funding the current Scheme are recovered through higher network charges for all customers. Under the existing arrangements, electricity retailers in Queensland are not required to contribute to the costs of the Scheme, nor are they required to pay for the electricity generated by their grid connected PV customers. This means that retailers are potentially receiving a windfall gain equal to the value of the avoided costs of sourcing that electricity through the National Electricity Market (NEM).

The current (distribution-funded) Scheme is distinct from a retailer funded scheme, where the feed-in tariff amount is credited to the customer's quarterly consumption charge directly by the retailer, with no financial flows from the distributor to the retailer. Unlike a distribution funded scheme, a retailer funded scheme does not rely on subsidisation through network charges, and therefore is not funded by spreading the cost across all network customers.

Voluntary retailer tariff premiums

While retailer contributions to the Scheme are not currently mandatory, the Authority is aware of a number of electricity retailers in Queensland offering a discount, or premium tariff, to customers who export surplus PV electricity, in addition to the feed-in tariff funded by the distributor. The Authority understands that some retailers are offering this additional premium tariff at a rate of between 4 cents per kWh and 8 cents per kWh for net exported electricity.

However, these tariff premiums should be interpreted carefully as they may be accompanied by additional contract terms and conditions potentially affecting the real net value to the customer of the tariff offer.

Outcomes of the Scheme

As at the end of June 2012, the total installed PV capacity in Queensland was estimated at 505.2 MW, up from 9.5 MW in the first year of the Scheme. Over the same period, the number of participants in the Scheme grew from under 6,000 to almost 200,000, with a significant number of additional connection applications pending. As a result, Queensland has the largest rooftop solar generating capacity of any state in Australia.

Table 2.1: Growth in PV installations in Queensland since 2008

	2008-09	*2009-10*	*2010-11*	*2011-12*	*Total*
Number of PV installations	5,926	24,514	66,355	97,042	198,837
Installed capacity (MW)	9.5	42.9	159.5	293.4	505.2
Energy exported (MWh)	1.4	10.6	52.1	214.4	278.5
Solar bonus payments ($m)	0.6	4.7	22.9	94.3	122.5

Source: Queensland Department of Energy and Water Supply (August 2012)

Note: Totals may not add due to rounding

Reasons for this review

As mentioned above, the Queensland Government recently reduced the solar feed-in tariff from 44 cents per kWh to 8 cent per kWh for new applicants.

The Government has stated that the 44 cent per kWh rate was set in 2008 when solar PV prices were substantially higher (around $6,000 per 1.5 kilowatt system installed, with rebates). The installed price of solar panels (inclusive of rebates) has decreased significantly since 2008. The Authority understands that a 1.5 kilowatt solar PV system can now be installed for under $3000 in South East Queensland.

In making its decision to reduce the feed-in tariff, the Government also noted the Scheme's impact on electricity costs for all Queenslanders. In particular, the Government noted that participation in the Scheme had surpassed expectations and, as a consequence, is now resulting in higher than expected feed-in tariff costs for Energex and Ergon Energy. These higher costs are beginning to be passed through to the electricity bills of all customers, impacting on affordability for all Queenslanders.

This raises concerns about the equity of the Scheme because electricity customers who may not be able to afford (or who choose not to invest in) a PV solar installation are forced to pay the solar feed-in tariff to those customers who choose to install PV solar panels, without receiving any benefit in return.

In light of the reduction in PV system costs and the impact on electricity affordability, the Government considered it timely to reassess the feed-in tariff rate to ensure it remains appropriate. The Minister's letter to the Authority notes that the 8 cent tariff will be reviewed by 1 July 2013, and will be legislated to end on 1 July 2014. The outcomes of the Authority's review of a fair and reasonable value for PV energy will be considered by the Government in its review of the 8 cent per kWh feed-in tariff.

2.2 Developments in other jurisdictions

The review of the Queensland feed-in tariff rate comes at a time when many similar schemes across Australia are subject to review and change. The current state of feed-in tariffs across Australia is summarised in Table 2.2 below.

New South Wales (NSW)

The NSW *Solar Bonus Scheme*, which was funded by distributors, was closed to new applications in April 2011, subject to review by the Independent Pricing and Regulatory Tribunal (IPART). In its May 2012 report, IPART recommended that feed-in tariff payments should be funded by retailers, not distributors, but that they should not be mandatory. In June 2012, IPART recommended a benchmark tariff range of 7.7 to 12.9 cents per kWh for a fair and reasonable market-determined feed-in tariff (funded by retailers) during 2012-13. IPART stated that the benchmark range would help customers understand the value of their exported energy and help them find the most competitive market offerings.

South Australia (SA)

SA's distributor-funded feed-in tariff scheme is being incrementally reduced from 44 cents per kWh to 16 cents per kWh and will be closed to all new applicants from 30 September 2013. This scheme runs parallel to a compulsory retailer funded feed-in tariff premium, which was set by the Essential Services Commission of South Australia (ESCOSA) in January 2012. The minimum retailer premium applies for three years, starting at 7.1 cents per kWh in 2011-12, increasing to 11.2 cents per kWh in 2013-14.

Western Australia (WA)

In May 2011, the WA distributor-funded feed-in tariff was reduced from 44 cents per kWh to 20 cents per kWh, before the scheme was closed to new applications on 31 July 2011.

Customers in WA still have access to the *Renewable Energy Buyback Scheme*, which mandates that a buyback rate be paid by retailers to net exporters of PV generated electricity. The buyback rates are set by the retailer and approved by the Public Utilities Office. The rates offered by Horizon Power are set on a locational basis and reflect the cost of electricity generation to each town. These buyback rates currently range from 10 cents per kWh to 50 cents per kWh and are reviewed annually.

Australian Capital Territory (ACT)

In the ACT, the distribution funded feed-in tariff scheme for small and medium scale systems reached its legislated total capacity target of 30 MW and was closed to new applications on 13 July 2011. New customers may still be eligible for ActewAGL's '1 for 1' buyback offer for net energy exports. This is a voluntary tariff offer where ActewAGL pays customers a feed-in tariff for net exports, equivalent to the customer's own energy tariff rate.

Victoria (VIC)

The feed-in tariff arrangements applying in VIC are currently under review by the Victorian Competition and Efficiency Commission (VCEC), which reported to the Victorian Treasurer on 27 July 2012. This report is yet to be publicly released. In its Draft Report of 18 May 2012, VCEC recommended closing the transitional distribution funded feed-in tariff scheme by December 2013, with a move to a competitively determined, retailer funded feed-in tariff by December 2015.

Table 2.2: Current jurisdictional feed-in tariff arrangements

State	*Distributor contribution (c/kWh)*	*Retailer contribution (c/kWh)*	*Metering basis*
ACT	50.05 - 30.16c, nil from 14 July 2011	1:1 at customer's consumption tariff (voluntary offer)	Gross
NSW	60c, 20c , nil from April 2011	6.5c for existing scheme	Gross
		7.7-12.9c from July 2012 (voluntary)	Net
SA	44c, 16c, nil from 30 September 2016	9.8c for 2012-13	Net
	Nil from 1 Oct 2013		
Tasmania	nil	1:1 at customer's consumption tariff (22.64c)	Net
Northern Territory	1:1 at customers consumption tariff 18.48c - 31.7c	nil	Gross
VIC	60c, 25c from 1 January 2012	6-8c - voluntary market offers	Net
Queensland	44c, 8 c, nil from 1 July 2014	6-8c - voluntary market offers	Net
WA	60c, 40c, nil from August 2011	Various location-based tariffs, 10c - 50c	Net

3. FAIR AND REASONABLE VALUE FOR PV EXPORTS

3.1 Defining fair and reasonable

In establishing a fair and reasonable value for energy generated from small-scale solar PV generators and exported into the Queensland electricity grid, the terms of reference require that the Authority should have regard to the following:

(a) the COAG's first National Principle for feed-in tariffs and the concept of fair and reasonable value;

(b) there must be no consequential increase in electricity prices in Queensland or cost to the Queensland Government budget;

(c) the benefit gained by electricity customers, distributors and/or retailers from electricity produced by small scale solar PV customers; and

(d) other issues the Authority deems relevant.

COAG first principle

In November 2008, COAG established a set of national principles to apply to new feed-in tariff schemes and to inform the reviews of existing schemes. The aim of the principles was to promote national consistency of feed-in tariff schemes (see **Appendix B**). Of particular relevance for this review is COAG's first National Principle:

> *Micro renewable generation to receive fair and reasonable value for exported energy - that Governments agree that residential and small business consumers with small renewable (small renewable customers) should have the right to export energy to the electricity grid and require market participants to provide payment for that export which is at least equal to 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*[1].

When a PV customer exports electricity into the grid, its retailer needs to purchase less energy from the NEM to supply its customer base. This includes the amount of energy supplied by the PV customer as well as additional energy the retailer would have needed to purchase to offset network losses incurred had it supplied its customers entirely from the NEM. The retailer may also avoid some other costs (such as environmental scheme fees and NEM fees) that are based on purchases from the NEM. As a result, a retailer with a PV customer avoids some costs that it would otherwise incur in purchasing energy from the NEM. Therefore, a fair and reasonable value for feed-in tariffs consistent with COAG's first National Principal may be interpreted as the value to retailers from electricity exported to the grid by small scale solar PV customers. This is consistent with the interpretation of COAG's first National Principal adopted by IPART for NSW in its most recent determination[2].

No impacts on electricity prices or the Queensland budget

The terms of reference also require the Authority to set a fair and reasonable value for solar PV exports that must not result in an increase in electricity prices in Queensland, or require funding from the Queensland Government budget. These requirements suggest that the feed-in tariff should be subsidy free.

[1] Council of Australian Governments Meeting, Canberra, 29 November 2008.
[2] IPART, *Setting a Fair and Reasonable Value for Electricity Generated by Small-scale Solar PV Units in NSW, Final Report*, March 2012.

As discussed in Chapter 2, the current solar PV Scheme is funded entirely by distribution businesses, which in turn are allowed to recover these costs through higher network charges for all customers. These higher network charges in turn increase electricity prices in Queensland. As a result, it appears a distributor-funded solar PV tariff is inconsistent with the terms of reference.

Similarly, the terms of reference preclude a taxpayer funded scheme, as this would require funding from the Queensland Government budget.

Impacts on customers generally and distributors

The terms of reference also require the Authority to consider the benefits gained by all electricity customers and distributors from electricity produced by small scale solar PV customers. The Authority considers it appropriate to also consider any costs that PV exports may create for customers and distributors.

Customer impacts may arise from changes in network loss factors due to electricity being consumed in close proximity to where it is generated (by PV customers). Any such changes in losses would be accounted for by the Australian Energy Market Operator (AEMO) when setting the loss factors to be applied to wholesale electricity purchases from the NEM[3]. In addition, PV exports may affect the Net System Load Profile to the extent that the timing and volume of solar PV exports influence the timing and volume of electricity that is drawn from the NEM. This in turn may affect wholesale electricity prices, which may impact on retail electricity prices for customers generally.

Impacts of PV exports on distributors are not clear cut. For example, the extent of any cost savings or benefits to distributors will depend on a number of factors, including the characteristics of the network (such as whether the network is nearing capacity and would therefore require augmentation), the location and total capacity of solar PV generation and whether it reduces network peak demand.

In its most recent determination of fair and reasonable feed-in tariffs for NSW, IPART concluded that PV exports are unlikely to create value for distributors because any benefits that arise are likely to be location- and time-specific and that these benefits are likely to be small or offset by system-wide cost increases as a result of the uptake of small-scale PV generators. Similarly, in its recent Draft Report on its review into the design, efficiency and effectiveness of feed-in tariff schemes in Victoria, the VCEC was of the view that the fair and reasonable value should ideally include network benefits, but acknowledged that network value cannot be efficiently captured through existing feed-in tariffs because it is highly location specific.

Regardless of the potential benefits or costs of PV exports to distributors, the Authority questions whether such impacts should be included in a fair and reasonable value for feed-in tariff, given that any such impacts should be reflected in network charges approved by the AER, which retailers can be expected to pass through to customers. ESCOSA expressed a similar view in its most recent determination of a fair and reasonable feed-in tariff for SA.

Based on the discussion above, it seems that the term fair and reasonable value should be interpreted as the value that reflects the benefit to retailers for electricity exported by PV customers to the grid. This is consistent with the interpretation adopted by IPART in its most recent determination to set the upper end of the feed-in tariff range for NSW, the VCEC's definition of the term fair and reasonable in its Draft Report[4], and the definition of

[3] ESCOSA, *2012 Determination of Solar Feed-in Tariff Premium, Final Price Determination*, January 2012
[4] VCEC, *Inquiry into Distributed Generation, Draft Report*, May 2012

fair and reasonable value that ESCOSA was required to calculate in its most recent determination.

To set the lower end of the feed-in tariff range for NSW, IPART used an alternative approach based on the price the exports would earn if they were sold on the NEM at the time they are exported. While this approach would appear to be consistent with the COAG first National Principle, it would seem to underestimate the total value that retailers derive from PV exports. Also, it does not reflect the way in which retailers incur wholesale energy costs, which are a product of AEMO's settlement process based on the NSLP.

The Authority seeks stakeholders' views on the following:

(a) How should the term fair and reasonable be interpreted? Should it be interpreted as a subsidy-free value that reflects the benefits to retailers of electricity generated from small-scale PV generators? If not, how should it be interpreted and why?

(b) Should the Authority include the benefits associated with PV exports to other parties (all customers and distribution entities) in setting the fair and reasonable value? Why?

(c) Are there any other issues that the Authority should consider in interpreting the term fair and reasonable value?

3.2 Estimating the fair and reasonable value of PV exports

Based on the discussion above, it seems that the fair and reasonable value of PV exports should be interpreted as the value that reflects the benefit to a retailer of electricity exported by its PV customers to the grid.

These benefits are achieved when the retailer on-sells the electricity to other customers at the retail tariff. It might seem reasonable to assume that the benefit to the retailer is therefore the variable rate in the retail tariff, because this is the price that it can charge for the on-sold electricity. However, when a retailer on-sells PV exports, there are a number of costs that it is unable to avoid. This suggests that the benefit to the retailer is the difference between the price that it can charge for the on-sold electricity (the variable retail charge) and the costs that it cannot avoid.

In order to determine the appropriate level for the feed-in tariff, it is necessary to assess each of the costs that a retailer incurs in providing retail services and determine whether a retailer can avoid them when on-selling energy from PV exports.

While there are a number of different ways to calculate the costs that contribute to the retail price of electricity, it seems reasonable to adopt the cost estimates determined by the Authority in setting notified prices, on the basis that these are the Authority's best estimates of the retail costs of supplying electricity for the upcoming year.

Wholesale energy costs

Wholesale energy costs are those costs that a retailer is charged by AEMO for electricity purchased out of the NEM. When on-selling energy from PV exports, wholesale energy costs are the most significant costs that are avoided.

For residential consumption, the retailer is charged according to its share of the Net System Load Profile (NSLP) in the local network area, rather than the individual consumption patterns of each household that it services. As such, the benefit to the retailer is the extent to

which the PV exports reduce its share of the NSLP. This does not necessarily reflect the spot prices that the exports would have achieved in the NEM at the time they are exported.

Estimating the value of electricity purchased from the NEM is a complex exercise, but one which the Authority must carry out each year for the purpose of setting notified prices for regulated retail electricity tariffs. For residential customers (Tariff 11), the Authority bases its wholesale energy cost estimate on the cost of supplying the Energex NLSP.

The Authority is attracted by the simplicity of (re-)using the wholesale energy cost estimate that it uses for Tariff 11 as the value of the avoided wholesale energy cost in the feed-in tariff. This estimate is inclusive of carbon and is likely to provide the Authority's best estimate of the value of the PV exports to retailers in Energex's distribution area.

Network costs

Network costs contribute around 50% of regulated retail tariffs. In setting notified prices, the Authority bases retail tariffs for small customers on Energex's network tariffs.

The retailer is charged for network costs according to energy sales, which means that any PV exports that a retailer on-sells will incur the full network tariff. As such, network costs are unavoidable when a retailer on-sells PV exports and should therefore be excluded from a feed-in tariff.

Green scheme costs

Green schemes include the Renewable Energy Target (RET) scheme and the Queensland Gas Scheme.

Under the RET scheme, retailers face costs for all purchases of energy from a grid with greater than 100MW of installed capacity. This would include the vast majority of PV exports in Queensland. As a result, RET scheme costs are unavoidable when a retailer on-sells PV exports and should be excluded from a feed-in tariff.

Under the Queensland Gas Scheme, retailers face costs according to gross energy sales to customers. As a result, costs related to the Queensland Gas Scheme are also unavoidable when a retailer on-sells PV exports and should be excluded from a feed-in tariff.

NEM participation fees and ancillary services charges

NEM participation fees are levied on retailers by AEMO to cover the costs of operating the national electricity market, and ancillary services charges cover the costs of the services used by AEMO to manage power system safety, security and reliability.

NEM participation fees and ancillary services charges are incurred as a proportion of a retailer's electricity purchases from the NEM. Therefore, NEM participation fees and ancillary services charges are avoidable when a retailer on-sells PV exports and should be included in a feed-in tariff.

Energy losses

In delivering energy from a generator to a consumer, some losses occur. Transmission losses occur when transporting energy long distances at high voltages. One of the benefits of distributed generation, including solar PV, is that it removes the requirement to transport energy long distances and therefore bypasses transmission losses. On this basis, it is likely that transmission losses can be avoided when a retailer on-sells PV exports and these losses should therefore be included in a feed-in tariff based on the benefits to retailer.

Distribution losses occur when transporting electricity through the lower voltage distribution network. While it is likely that electricity from distributed generation, including solar PV, would avoid a proportion of distribution losses, the Authority is seeking stakeholder feedback (particularly from the distributors) on what this proportion is likely to be. In setting notified prices, the Authority applies losses from Energex's network area to its cost estimates to account for losses.

Retail operating costs

Retail operating costs relate to the costs of the services provided by an electricity retailer to its customers and typically include customer administration costs (including call centres), corporate overheads, billing and revenue collection, IT systems, regulatory compliance and costs associated with marketing, advertising and sales overheads.

Consideration of how to treat retail operating costs is somewhat secondary to this feed-in tariff review, as under its current approach to setting notified prices, the Authority accounts for these costs with a per customer allowance. While retailers cannot avoid these costs when on-selling PV exports, they do not factor into the calculation of the feed-in tariff because they are accounted for in the fixed charge of a retail tariff rather than the variable charge.

Retail margin and head room

The Authority currently applies a 5.7% retail margin and 5% head room to all cost components in setting notified prices. The retail margin represents the reward to investors for committing capital to a business and for accepting risks associated with providing retail electricity services. Head room is an allowance added to regulated retail tariffs to support the current level of competition in the market.

There are a number of ways that the Authority could treat the margin and head room allowances when considering the feed-in tariff. The full value of the margin and the headroom could be passed on to the PV owner to cover the risks it may face in terms of return on investment. Alternatively, it might be appropriate to allow retailers to retain the full value of the margin and head room on the basis that they face additional risk in servicing PV customers. The Authority could also consider splitting the margin and head room between the PV owner and the retailer.

Given that the margin and head room are currently applied uniformly across all cost categories, it would appear reasonable to adopt the latter approach and split the margin and headroom between the PV owner and the retailer. Potentially, retailers could keep the margin and headroom that applies to unavoidable costs but pass on the margin and headroom that applies to avoided costs. This approach would ensure that retailers receive a return and headroom on any factors that affect their cash flows, and PV exporters would receive the return and headroom on the costs that they enable the retailer to avoid.

Geographical considerations and the Uniform Tariff Policy

The delegation requires that the Authority have regard to the geographical location at which the solar PV energy is generated and the value of that energy in the local network.

Determining geographically specific feed-in tariffs using the approach outlined above (whereby the feed-in tariff is equal to the notified price minus the unavoidable costs faced by the retailer) may be complicated by the application of the Uniform Tariff Policy in Queensland. This is because, under the Uniform Tariff Policy, the notified price that applies across all of Queensland reflects the costs of supply in the Energex network area only. In reality, of course, retailers supplying customers in Ergon Energy's network area will incur

different (in aggregate higher) costs than those in Energex's network area. For example, the feed-in tariff would most likely be negative in Ergon Energy's west pricing zone because network charges are considerably higher than the retail tariff. This would create a strong disincentive to invest in PV in these regions, even though these regions could potentially benefit more from PV investments than more populated areas in South East Queensland.

The Authority seeks stakeholders' views on the following:

(a) Has the Authority correctly determined which costs a retailer can avoid when on-selling PV exports?

(b) Is it reasonable to use cost estimates from notified prices to determine the feed-in tariff? If not, which cost estimates should the Authority consider using?

(c) What proportion of distribution losses are avoided when PV exports are on-sold?

(d) Is it reasonable to split retail margin and headroom between the retailer and the PV exporter? What are some of the considerations in providing a greater proportion of the costs to either party?

(e) Is it fair and/or reasonable to have different FIT based on geographical locations in a market with the Uniform Tariff Policy in place? What are some of the benefits or complications of creating geographically based FIT?

(f) What other issues should the Authority consider in determining the fair and reasonable value of PV exports.

4. IMPLEMENTING A FAIR AND REASONABLE TARIFF FOR PV EXPORTS

As part of its review, the Authority is required to investigate and report on an appropriate means of implementing the fair and reasonable feed-in tariff in Queensland. This will require a review of appropriate forms of regulation, metering arrangements, and mechanisms for ongoing review of the fair and reasonable tariff.

4.1 Form of regulation

Mandated minimum price versus recommended price or price range

If competition in the retail market for electricity appears deficient, such that retailers do not voluntarily offer solar feed-in tariffs, greater regulatory control may be appropriate to ensure that grid-connected PV customers receive a fair and reasonable return for their electricity exports. One option is a mandated minimum feed-in tariff that retailers would be obliged to pay for surplus PV energy exported to the network.

In contrast, in more competitive markets, retailers may be more likely to voluntarily offer solar feed-in tariffs which reflect the fair value of the PV energy exported. In these situations, a light-handed form of regulation, such as publishing a non-mandatory benchmark value (or range of values) may be appropriate. This approach would provide PV customers with the information needed to understand the fair value of their exported energy and seek out the most competitive, market-determined retailer offers.

Another alternative may be to let the market determine the fair and reasonable value of PV energy exports, with no regulatory intervention or guidance. This option might be appropriate if competition in the retail market is found to be healthy, with good levels of consumer knowledge and minimal barriers to switching.

Competition in the Queensland retail electricity market

Determining the best form of regulation requires the Authority to consider the current depth and maturity of competition in the Queensland electricity retail market.

Market depth

For most small customers (consuming less than 100MWh per year), the option to choose their electricity retailer became available with the introduction of Full Retail Competition (FRC) on 1 July 2007. Retail competition for larger customers (consuming more than 100 MWh per year) began to open up in 1998.

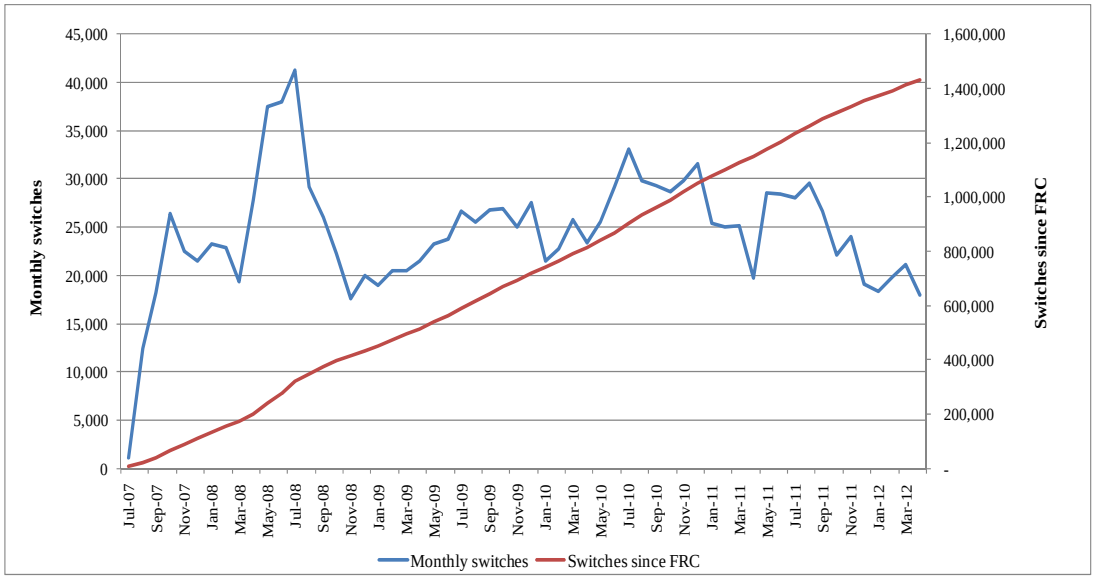
The retail electricity market in Queensland, in particular in South East Queensland, has developed considerably since the introduction of FRC. As at March 2012, there were 18 retailers operating in Queensland – nine servicing both large and small customers, six servicing large customers only and three servicing only small customers. While the Authority does not have access to information on the market offers available to business customers, there are currently over 50 supply offers available to residential customers. These market offers provide customers with a range of contractual terms and conditions combined with potential savings and other incentives.

Customer switching activity

The rate of customer switching is often used to measure the level of activity in an electricity market. While not always the case, a high switching rate typically suggests that retailers are actively marketing in a region and that they are offering customers sufficient savings to incentivise them to switch retailers.

Since FRC commenced in Queensland, the level of customer switching activity has been relatively high. Figure 4.1 shows monthly and total customer switches in Queensland since 2007. While there was considerable volatility in the switching rate over the initial 18 months of FRC, customer activity has typically stayed within the range of 20,000 to 30,000 customer switches per month in more recent years. In comparison to other markets around the world, the level of customer switching activity in South East Queensland is particularly high.

Figure 4.1: Retail customer switching activity in Queensland



Source: AEMO Retail Transfer Statistical Data (Code M57B)

A number of retailers are already offering voluntary feed-in tariff premiums in South East Queensland, in addition to the 44 cents per kWh and 8 cents per kWh distributor funded tariffs. This suggests there is already some competition for PV customers, at least in the Energex network area. The Authority understands that these offers are in the range of 4-8 cents per kilowatt hour for surplus electricity exports. The Authority is not aware of any voluntary feed-in tariffs being offered by retailers in Ergon Energy's network area.

Based on the information available, the Authority currently considers there is a reasonable level of competition in the Queensland retail electricity market, particularly in the South East region. On this basis, it may be appropriate to adopt a light-handed approach to implementing the fair and reasonable feed-in tariff, at least for South East Queensland.

It should be noted that the continued regulation of notified prices for non-market customers in South East Queensland is a distinct issue, separate from any future regulatory controls which may be used to implement a fair and reasonable feed-in tariff[5]. As solar PV customers make significant investments to benefit from feed-in tariffs, they are perhaps more likely than other customers to be well informed and to actively seek out competitive market offers. Given this, there may be a case for light handed regulation of feed-in tariffs to coexist with notified prices for non-market customers in South East Queensland.

Ergon Energy distribution area

Competition in the Queensland electricity retail market has not developed uniformly, and is largely confined to the Energex distribution area. The Authority is not aware of any market contracts generally available to residential customers in Ergon Energy's distribution area.

[5] Notified prices are the electricity prices that a retailer may charge its non-market customers, as defined under section 90 of the *Electricity Act 1994.*

While all retailers are licensed to operate across the State, each retailer will choose the locations in which it is prepared to make offers for supply and the types of customers it is seeking to attract.

Due to the Uniform Tariff Policy, retailers are not inclined to offer market contracts to customers in the Ergon Energy distribution area. This is because the level of subsidisation of Ergon Energy network charges which is implicit in the regulated retail price represents a significant barrier to entry. Without access to the subsidy, non-Ergon Energy retailers are unlikely to be able to offer competitive market contracts to customers in the Ergon Energy distribution area, due to the significantly higher network charges they face.

As at the end of March 2012, approximately 67% of small customers in South East Queensland were supplied through competitive market contracts. In contrast, outside South East Queensland, less than 1% of small customers were supplied through market contracts. Given the lack of competition outside of South East Queensland, it may be appropriate to consider a stronger form of regulatory control such as a mandated minimum feed-in tariff.

The Authority seeks stakeholders' views on the following:

(a) What form of regulation should be applied when implementing a fair and reasonable feed-in tariff in Queensland? Alternatively, should the fair and reasonable tariff be determined by market competition alone, without regulatory intervention?

(b) Which regulatory approach is most appropriate to support competition in the Queensland electricity market, while recognising the need for certainty for small PV system owners?

(c) What evidence is available of the number of solar PV customers receiving voluntary feed-in tariff premiums in Queensland? Does the level of these tariffs represent a fair and reasonable value for the electricity exported by solar PV customers?

(d) What, if any, specific arrangements might be required when implementing the fair and reasonable feed-in tariff in the Ergon Energy distribution area? In particular, should different forms of regulation be used in the Energex and Ergon Energy network areas?

(e) Are there any other factors (besides the competitiveness of the retail electricity market) that the Authority should consider in determining an appropriate form of regulation to apply in Queensland?

4.2 Metering Arrangements

Feed-in tariffs can be applied in either of two ways, based on the way that the solar PV generation output is measured. Each metering arrangement has a different set of implications and incentives which need to be considered.

Under a net metering arrangement, the output of the customer's PV system is first used to meet their own immediate consumption needs at any point in time (while it is generating), with any shortfall imported from the network and charged at the normal retail price. If the generation output of the PV system exceeds the customer's immediate requirements, any excess electricity is fed back into the network and registers on the customer's meter as exported energy. When the customer is billed, the retailer credits the value of the exported

surplus electricity against the total consumption charge for electricity imported. This form of metering is called a net metering arrangement.

Under the alternate gross metering arrangement, the customer exports all of the energy generated by their PV system back into the network, and imports all of the energy they consume from the network. At the end of the billing period, the total amount of exported electricity is multiplied by the feed-in tariff rate and then credited to the customer's retail account to offset the cost of imported electricity which is priced at the normal retail price.

The level of the feed-in tariff relative to the customer's retail price impacts on the incentives of each metering arrangement. If the feed-in tariff rate is set at a premium to the retail price (for example, the old 44 cent tariff), customers have an incentive under the net metering arrangement to reduce their own consumption and export as much energy as possible while their PV system is generating, and to move as much of their consumption as they can to times when their PV system is not generating and consume from the network at the relatively lower retail price. This strategy will earn customers the highest feed-in tariff payment only when the feed-in tariff is set above the retail price. However, this creates a potential concern as the late afternoon/evening drop in PV generation output closely aligns with the start of the evening residential peak demand on the network. When consumption is deferred to this peak period, the load profile is shifted and peak demand is further exacerbated. This can bring forward the need for network capacity upgrades, which further add to network costs.

In contrast, when a feed-in tariff is set at some level lower than the retail price, PV customers have an incentive to consume as much of their PV energy during generating times to offset the (higher) cost of electricity imported from the network. This is because there are greater savings achieved by reducing consumption charged at the higher network retail price than by exporting at the lower feed-in tariff rate. The difference between the retail electricity cost and a fair and reasonable export value can be due to a number of possible factors which are discussed in Chapter 3.

Under the gross metering arrangement, the relativities between the network retail price and the feed-in tariff do not affect customers' incentives to consume or export their PV power because, as all PV power is exported, PV exports are not a substitute for energy imports from the network.

PV customers on a net metered tariff are able to avoid a disproportionate amount of network costs by minimising their reliance on grid-sourced electricity. Whilst they still pay a daily fixed network charge, their liability for volume based network charges may be significantly lower than other customers in the same consumption tariff class. This raises a potential concern because generally the distribution use of system (DUOS) charge components are not typically cost reflective. That is to say, variable network charges tend to overstate the true marginal cost of each customer's use of the network, while fixed components tend to significantly understate the true value of the assets in place to service each customer.

Due to this lack of cost reflectivity in network charges, grid connected PV customers under a net metering arrangement may not be paying the true cost of their supply from the network. If this situation leads to an under-recovery of regulated network revenue, under the current approach to network regulation by the Australian Energy Regulator (AER), the distribution business is able to adjust tariffs for all customers in future years to recover its allowed revenue, leading to higher electricity prices.

As a result, a net metering arrangement may be inconsistent with a number of elements of the terms of reference, including that:

(a) there must be no consequential increase in electricity prices in Queensland

(b) a premium rate should not impose a disproportionate burden on other energy consumers without small renewable generation[6]; and

(c) feed-in tariff policy should not interfere with the regulation of distribution tariffs[7].

In contrast, gross metering arrangements do not suffer from this problem. Gross metered PV customers draw all of their energy requirement from the network and therefore pay a network charge for all of their consumption (fixed and variable components) the same as other, non-PV customers. This approach could be considered more equitable than net metering in circumstances where network charges are not cost reflective, as it reduces the risk of DUOS under recoveries and consequential tariff adjustments that could impact all customers in later years.

To the extent that network charges in Queensland may not currently be fully cost reflective, the Authority considers there is an argument to prefer a gross metering arrangement over a net arrangement, but is open to stakeholder views on this matter.

The Authority seeks stakeholders' views on the following:

(a) Is a net or gross metering arrangement most appropriate in Queensland, and why?

(b) Are the benefits to retailers different under net and gross metering arrangements?

(c) Are there any other factors the Authority should consider when recommending an appropriate metering arrangement?

4.3 Review of the fair and reasonable value

The terms of reference require the Authority to consider appropriate mechanisms and timeframes for future reviews of the fair and reasonable feed-in value. Some possible approaches include:

(a) an annual review of the value(s), to apply for the following 12-month period;

(b) a multi-year review which establishes a fixed value or values for two or more years; or

(c) a multi-year review which establishes a variable value or values for two or more years, updated at defined intervals, or as necessary.

The Authority notes that the first two approaches have been used by jurisdictional regulators in recent times (IPART in NSW and ESCOSA in SA).

In recommending an appropriate review mechanism, the Authority considers it appropriate to seek a balance between:

(a) certainty for PV customers, retailers and other market participants;

(b) flexibility to ensure the value remains representative of the fair and reasonable amount;

[6] COAG, *First National Principles for Feed-in Tariffs, November 2008*, principle 2(d)
[7] COAG, *First National Principles for Feed-in Tariffs, November 2008*, principle 4(b)

(c) costs of the various review options, including administrative efficiency, for all parties; and

(d) timing the review to align with the Authority's determinations on notified prices, if necessary.

Reviewing the value annually is likely to be the most administratively costly option. However, it would allow the fair and reasonable value to be updated to reflect unforseen changes in underlying determinants in a timelier manner than under a multi-year review.

A multi-year review with a fixed path for the fair and reasonable value is probably the most administratively efficient option and would provide some certainty for stakeholders. However, it does impose the risk on customers and retailers of unforseen changes to underlying determinants of the value not being reflected in the price. If the value is inflexible to respond to significant changes, customers and retailers may find themselves locked into a feed-in tariff rate which is higher or lower than the fair and reasonable value, potentially for a number of years.

One possible means of mitigating this risk would be to allow for updates to the estimate, either at defined intervals or in response to certain changes. If this degree of flexibility is adopted, it may also be necessary to develop criteria or materiality thresholds for deciding whether the value should be updated in response to certain unforseen changes.

Transition to a national feed-in tariff framework

The terms of reference require the Authority to consider the potential for transition to a national feed-in tariff scheme, should that be established through COAG processes.

The Standing Council on Energy and Resources (SCER) has announced that it will consider developing guidelines for a consistent national approach to determining and implementing fair and reasonable feed-in tariffs for micro-renewable generation, including solar PV[8]. The SCER has indicated that the framework would provide guidance as to what constitutes a minimum tariff that may be offered by retailers to ensure a fair and reasonable return to micro-generation owners for electricity supplied to the grid. It is anticipated that the framework will allow retailers to offer higher tariffs to consumers, if they choose.

During its review, the Authority will take account of any developments in this area, and their implications for implementing and reviewing the fair and reasonable feed-in tariff for Queensland.

The Authority seeks stakeholders' views on the following:

(a) How often should the fair and reasonable value be reviewed or updated?

(b) Should the Authority recommend a flexible review mechanism which allows updating the value in response to relevant changes and developments?

(c) If a flexible review mechanism is recommended, what criteria should be applied when deciding if an update to the value is necessary?

(d) What are the implications for the current review of a potential transition to a national feed-in tariff established through COAG processes?

[8] Standing Council on Energy and Resources, *Meeting Communiqué*, 8 June 2012.

5. ONGOING COSTS OF THE SOLAR BONUS SCHEME

Although the feed-in tariff under the Scheme has recently been reduced to 8 cents per kWh for new customers, there remains a significant number of PV customers who will continue to receive the 44 cents per kWh feed-in tariff until the statutory end of the Scheme in 2028. This means the Scheme will continue to have an impact on electricity prices for some time.

As part of its review, the Authority has been asked to report on the updated costs of the current Scheme.

5.1 Higher than expected costs for Queensland distribution businesses

Participation in the Scheme has significantly exceeded initial expectations leading to increased feed-in tariff payments being made by both Energex and Ergon Energy. These costs are recovered through increased network charges in subsequent years.

In late 2011, Energex and Ergon Energy submitted cost pass through applications to the AER to recover higher than forecast direct feed-in tariff payments incurred during 2009-10. Both applications were approved and these additional costs are being passed-through to all customers via higher network charges during 2012-13. Table 5.1 shows the extent to which actual feed-in tariff payments exceeded Energex and Ergon Energy's forecasts.

Table 5.1: Cost pass-throughs for direct feed-in tariff payments in 2010-11 ($, 2010-11)

	Forecast payments 2010-11	*Actual payments 2010-11*	*Costs passed through to customers in 2012-13 network charges*[a]
Ergon Energy	2,454,871	6,591,792	4,754,512
Energex	4,798,645	19,351,682	16,725,624
Total	**7,253,516**	**25,943,474**	**21,480,136**

Source: AER

[a] *Pass-through amount includes an allowance for the time value of money on the under-recovery.*

The Authority understands that Ergon Energy and Energex experienced a significant surge of applications for new PV connections in the weeks before the Scheme rate was reduced from 44 cent per kWh to 8 cents per kWh. Ergon Energy reported that it received 32,788 applications in the two weeks leading up to the reduction, compared to 51,000 applications received during the entire 2011-12 financial year[9]. Energex received 76,000 applications in the same two-week period with over 31,000 of those received on 9 July 2012[10].

Given this unprecedented uptake, it is likely that additional cost pass throughs will be sought by the distributors during the current regulatory period, further adding to future network charges.

To estimate the updated costs of the Solar Bonus Scheme, the Authority seeks the advice of Ergon Energy and Energex on the following issues:

(a) Forecast new connections and PV exports under the 8 cent per kWh Scheme and direct tariff payments for 2012-13 through to 2015-16;

[9] http://www.ergon.com.au/about-us/news-room/media-releases/regions/general/demand-for-solar-running-hot
[10] Energex, *Installer Alert Solar PV*, Volume 4, Issue 13, July 2012.

(b) Forecast connections and PV exports under the 44 cent per kWh Scheme and direct tariff payments for 2012-13 through to 2015-16; and

(c) any other information the distribution businesses or other parties consider relevant to this task.

5.2 Equitable sharing of Scheme costs

The Authority has also been asked to investigate options for minimising, or more equitably sharing, the ongoing costs of the Scheme, including a potential retailer contribution.

As discussed in Chapter 2, the existing Scheme is a distributor-funded scheme, the costs of which are ultimately borne by all electricity customers via higher network charges, and therefore higher retail electricity prices. This raises concerns about the equity of the Scheme for non-PV customers. These concerns are heightened by the potential redistributive effects of under-recovered variable network charges in net metering arrangements (as discussed in Chapter 4).

As discussed in Chapter 3, it is clear that retailers are likely to derive some financial benefit from their customers' PV energy exports. As a result, it would seem that requiring retailers to contribute to the future costs of the existing Scheme is one reasonable way to reduce the ongoing impact of the Scheme on network charges and customers' electricity bills.

It would also seem appropriate to estimate any potential retailer contribution to the current feed-in tariff in a manner which reflected the benefits to retailers of the energy produced by small scale, grid-connected solar PV generators, consistent with the approach outlined in Chapter 3.

Any potential mandatory retailer contribution to the costs of the existing distributor-funded Scheme would have to be considered in the context of existing, voluntary retailer feed-in tariff premiums. If a retailer contribution to the existing Scheme was made mandatory, it is likely that any voluntary market offerings would be reduced or withdrawn.

The Authority seeks stakeholders' views on the following:

(a) What factors should the Authority consider to ensure the costs of the Solar Bonus Scheme are equitably distributed?

(b) Is it appropriate for retailers to contribute to the ongoing costs of the existing Solar Bonus Scheme? If so, how should that contribution be estimated?

(c) Are there any other issues that the Authority should take into account in setting an appropriate retailer contribution to the Solar Bonus Scheme?

(d) What other options should the Authority consider for minimising the costs of the existing Solar Bonus Scheme?

APPENDIX A: MINISTERIAL DIRECTION AND COVERING LETTER

QUEENSLAND GOVERNMENT

Office of the Minister for Energy and Water Supply

QLD COMPETITION AUTHORITY

Ref: EWS/001493
MC11288

13 AUG 2012
DATE RECEIVED

Level 13 Mineral House
41 George Street Brisbane 4000
PO Box 15456 City East
Queensland 4002 Australia
Telephone +61 7 3896 3691
Facsimile +61 7 3012 9115
Email energy&water@ministerial.qld.gov.au

7 August 2012

Mr Brian Parmenter
Chairman
Queensland Competition Authority
GPO Box 2257
Brisbane Qld 4001

Dear Mr Parmenter

I refer to the Government's recent decision to change the Queensland Solar Bonus Scheme (the Scheme) to reduce the credit amount for electricity produced by small photovoltaic (PV) generators (known as the feed-in tariff) from 44 cents to 8 cents per kilowatt hour (c/kWh) for new customers of the Scheme from 10 July 2012.

As part of this decision, the Government announced its intention to task the Queensland Competition Authority (QCA) with investigating a fair and reasonable value for exported energy from small scale solar PV system in Queensland.

I now direct the QCA to conduct an investigation into the establishment of a fair and reasonable value for electricity generated from small scale solar PV generators and exported to the Queensland electricity grid, as well as the mechanisms for its implementation. This direction is authorised under section 253AA of the *Electricity Act 1994*.

I attach my direction and the Terms of Reference which impose conditions on the QCA when undertaking the directed function. Consistent with the Terms of Reference, the Authority is required to undertake an open consultation process with all relevant parties and consider all submissions received within the consultation period.

The Authority must publish an issues paper no later than September 2012, its draft report by late November 2012, and its final report by 22 March 2013. The Government will give consideration to the QCA recommendations in a further review of the Scheme by 30 June 2013.

/2

Background

The Solar Bonus Scheme was established in 2008 with the aims of making solar power more affordable for Queenslanders, stimulating the solar power industry and encouraging energy efficiency. The Scheme pays eligible households and other small customers for the surplus electricity generated from solar PV panel systems, which is exported to the Queensland electricity grid. The cost of the feed-in tariff (FiT) is passed through to the electricity bills of Queensland electricity consumers.

Exponential growth in customer connections to the Scheme has escalated its costs well in excess of the allowances in the Queensland Distribution Determination 2010-11 to 2014-15. At the end of June 2012, approximately 504 MW of solar photovoltaic (PV) capacity had been connected to Queensland networks and around 190,000 small electricity customers are participating in the scheme.

Changes were recently made that reduce the FiT to limit the long-term cost of the Scheme and its associated impact on electricity bills. From 10 July 2012, new customers who are eligible for the Scheme will receive a FiT of 8 c/kWh, which will be legislated to end on 1 July 2014.

All Australian States and Territories with solar FiT schemes in place have reviewed their premium FiT schemes and subsequently reduced, capped, or withdrawn them following concerns regarding the high rate of growth of the industry and scheme costs. In 2011 and 2012, South Australian, New South Wales and Victorian Governments respectively tasked the Essential Services Commission of South Australia, the Independent Pricing and Regulatory Tribunal, and the Victorian Competition and Efficiency Commission to determine fair and reasonable FiT rates for household solar PV generation in their respective jurisdictions.

In a communiqué of 8 June 2012, Australia, State and Territory Energy and Resource Ministers announced that the Standing Council on Energy and Resources (SCER) was considering the merits and options for developing guidelines for a consistent national approach to fair and reasonable FiT for micro-renewable generation, including solar PV. SCER has tasked officials to prepare advice on options to achieve a consistent national framework for determining 'fair and reasonable' tariffs that jurisdictions may adopt. The framework would provide guidance to what constitutes a minimum tariff that may be offered by retailers to ensure a 'fair and reasonable' return to micro-generation owners for electricity supplied into the grid. The advice will also cover possible options to implement a national framework.

If you have any questions about my advice to you, Mr Benn Barr, General Manager, Energy Sector Reform of the Department of Energy and Water Supply will be pleased to assist you and can be contacted on telephone 3225 8305.

Yours sincerely

[redacted]

Mark McArdle MP
Minister for Energy and Water Supply

Att

ELECTRICITY ACT 1994
Section 253AA

As the Minister for Energy and Water Supply, pursuant to section 253AA of the *Electricity Act 1994*, I hereby direct the Queensland Competition Authority (the Authority) to conduct review into the establishment of a fair and reasonable value(s) for electricity generated from small scale solar photovoltaic (PV) generators and exported to the Queensland electricity grid, in accordance with the following Terms of Reference.

Terms of Reference

1) Matters to be considered

The Authority is to investigate and report to Government on:

a. a fair and reasonable value for energy generated by small scale solar PV systems and exported to the Queensland electricity grid;
b. the mechanisms by which a fair and reasonable value/values could be implemented in Queensland;
c. a retailer contribution to the cost of the Scheme that reflects the benefit to retailers of the energy produced by small scale solar PV generators connected to the grid; and
d. updated costs of the Scheme and any options by which to minimise or more equitably share these costs.

For the purposes of these Terms of Reference a small scale solar PV system is defined as solar PV embedded generators which complies with the Australian Standard AS4777, with an inverter with ratings up to 10 kilovolt-ampere (kVA) for single phase units, or up to 30 kVA for three-phase units. The Queensland electricity grid encompasses the Queensland distribution networks of Energex, Ergon Energy and Essential Energy.

In its investigations into (a) the QCA should have regard to the following factors:

- there must be no consequential increase in electricity prices in Queensland or cost to the Queensland Government budget;
- the Council of Australian Governments (COAG) First National Principle for Feed-in Tariffs, and concept of 'fair and reasonable' value;
- the geographical location at which the solar PV energy is generated and value of that energy in the local network;
- complementarity with the carbon pricing mechanism; and
- consistency with the operation of a competitive Queensland electricity market.

As part of its investigation and report, the Authority is also to consider:

- the benefit gained by electricity customers, electricity distributors and/or electricity retailers from electricity produced from small scale solar PV, for example in remote areas of the Ergon Energy network where high energy supply costs may be offset, or the value to the distribution business of any network investment deferral in those networks;
- the benefit of net versus gross metering arrangements;
- the renewable buyback Scheme operated by Horizon Power in Western Australia, which from 1 July 2012 offers feed-in tariff rates that vary geographically and include stringent connection requirements; and
- other issues the Authority deems relevant.

In its investigations into (b), the QCA is to consider and report on:

- implementation options within the Queensland electricity market, including:

  - as a mandated 'default minimum price' or price range;
  - as set by the market;
  - as a recommended price range.
- support for a competitive electricity market in Queensland, and any specific arrangements required / barriers to implementation in the Ergon Energy distribution area;
- the need for certainty for small scale solar PV owners;
- appropriate review mechanisms and timeframes;
- potential transition to a national feed-in tariff if established through COAG processes; and
- similar pricing and mechanisms in other jurisdictions and findings from other jurisdictional feed-in tariff reviews.

2) Consultation

The QCA should consult with stakeholders, and consider submissions, within the timetable for investigating a fair and reasonable FiT and publishing the issues paper, draft and final reports. The Authority must make its reports available to the public.

3) Timing

a) *Issues Paper*

The Authority must publish an issues paper outlining the issues associated with its investigation no later than September 2012.

b) *Draft Report*

The Authority must publish a draft report on its investigation into a fair and reasonable value for electricity generated from small scale solar PV generators no later than November 2012.

The Authority must publish a written notice inviting submissions about the draft report. The notice must state a period (the *consultation period*) during which anyone can make written submissions to the Authority about issues relevant to the draft report. The Authority must consider any submissions received within the consultation period and make them available to the public, subject to normal confidentiality considerations.

c) *Final Report*

The Authority must publish a final report on its investigation into a fair and reasonable value for electricity generated from small scale solar PV generators no later than 22 March 2013.

MARK McARDLE

APPENDIX B: COAG'S NATIONAL PRINCIPLES FOR FEED-IN TARIFF SCHEMES

COUNCIL OF AUSTRALIAN GOVERNMENTS MEETING

CANBERRA

29 November 2008

National Principles for Feed-in Tariff Schemes

Micro renewable generation to receive fair and reasonable value for exported energy

1. That Governments agree that residential and small business consumers with small renewables (small renewable consumers) should have the right to export energy to the electricity grid and require market participants to provide payment for that export which is at least equal to 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 small renewable 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;
    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 small renewable 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 small renewable generation.

MCE to continue to advance fair treatment of small renewables

3. That the Ministerial Council on Energy (MCE) should continue to implement the regulatory arrangements for small renewable customers, consistent with the objectives of the relevant electricity legislation, whereby the:
    a) terms and conditions for PV 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 small renewables;
    b) connection arrangements for small renewables customers should be standardised and simplified to recognise the market power imbalance between small renewable customers and networks; and
    c) assignment of tariffs to small renewable consumers should be on the basis that they are treated no less favourably than customers without small renewables but with a similar load on the network.

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

4. That the arrangements for PV consumers by the MCE 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 PV customers;
    b) in relation to jurisdictions in the National Electricity Market, should not interfere with the regulation of distribution tariffs or operation of the national electricity market 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.