Benchmark Retail Cost Index for Electricity: 2011-12

AGL submission to the Queensland Competition Authority

Date: 13 October 2010

1. Executive Summary

AGL welcomes the opportunity to provide feedback on the Benchmark Retail Cost Index for Electricity: 2011-12 - Interim Consultation Notice.

AGL is pleased that the QCA has proposed to adopt the same methodology for calculating the BRCI for 2011 – 12 as it applied in its 2010-11 BRCI Final Decision, given the limited time that would have been available to establish a new price setting methodology.

In this submission AGL has addressed a number off issues which arose as part of the BRCI 2010-11 and additional issues which AGL believe should be addressed in the BRCI 2011-12 process. AGL consider the most significant of these issues is that of the pass through of the SRES compliance costs, and AGL would welcome an opportunity to discuss these issues further with the QCA.

AGL's submission highlights the following issues:

Enhanced RET Scheme Compliance Costs

AGL has identified a number of key issues associated with the enhanced RET Scheme for consideration by the QCA:

- Due to the uncapped nature of the SRES and recent market developments, AGL is becoming increasingly concerned that the compliance cost over the 2011-12 period will be significantly higher than previously anticipated. Further, these costs will be incurred by retailers from 1 January 2011. AGL is of the view that in so far as the mechanism of the BRCI allows, retailers must be permitted to recover the costs incurred from 1 January 2011 through to 30 June 2012 under the 2011/12 BRCI.

- AGL notes that the SRES compliance cost allowance and the LRET compliance cost allowance should be based upon ORER published STP and RPP for 2011 and ORER's 2012 forecast - both of which will be published by ORER before 31 March 2011.

- The LRET compliance cost allowance should be calculated on the basis that the LRMC of renewable generation is the appropriate large-scale generation certificate (LGC) price. The split of current eligible RET activities between SRES and LRET means that historical REC prices do not provide an appropriate indication of future LGC prices

Long Run Marginal Cost (LRMC) Methodology:

- AGL would encourage the QCA to use the most up-to-date publicly available data for the calculation of the LRMC i.e. data produced by ACIL Tasman as part of the Energy White Paper process conducted by the AEMO/Commonwealth Government Department of Resources, Energy and Tourism.

- As noted by AGL in respect of the 2009/10 BRCI, the forecast of the relevant loads is a key matter for consultation. AGL looks forward to working with the QCA and any consultant engaged by the QCA to consider this matter further.

Network Costs

AGL understands the constraints imposed by the BRCI legislative provisions. AGL remains concerned that:

- In using the average Energex and Ergon aggregate annual revenue requirement (AARR), the BRCI will not accurately capture the changes incurred in Energex's patch over the period.

- The BRCI makes no allowance for the ability of Energex to re-balance its tariffs with the AARR increase

Retail Costs

AGL continues to support a 'benchmarking' approach to calculate retail costs. AGL is of the view that a retail margin of 5%, as used in the BRCI 2010-11, is too low to cover the associated costs and risks of being an electricity retailer in Queensland with an obligation to supply regulated customers.

2. General Comments

AGL welcomes the opportunity to provide feedback on the *Benchmark Retail Cost Index for Electricity: 2011-12 - Interim Consultation Notice*. AGL looks forward to continuing to work closely with the QCA through this year's BRCI process to ensure that the views of stakeholders are addressed as part of the process. To that end, AGL suggests that it would be appropriate for the QCA to convene a stakeholder workshop for electricity retailers and other relevant stakeholders to provide their views to the QCA in regards to the BRCI 2011-21 process.

3. Cost of Energy

3.1. Long Run Marginal Cost Methodology

AGL supports the continued use of the LRMC in setting the wholesale energy cost component of the regulated tariff in all jurisdictions.

3.1.1. LRMC Data

AGL would encourage the QCA to use the most up-to-date publicly available data for the calculation of the LRMC. AGL note that ACIL Tasman produced a set of electricity generation costs for the as part of the Energy White Paper process conducted by the AEMO/Commonwealth Government Department of Resources, Energy and Tourism (***DRET***). This work was done in conjunction with the Electric Power Research Institute (***EPRI***) and received significant feedback from a diverse stakeholder reference group. The work resulted in updated cost assumptions for a complete range of generation technologies for Australian conditions.

AEMO has published some of the input datasets within the context of consultations relating to its 2010 National Transmission Network Development Plan. DRET have also indicated that it is likely that the full dataset will be made public early in 2011. AGL has been in consultation with DRET to make this data available to State regulators for the purpose of regulated electricity pricing reviews, and would welcome further discussion about how this dataset might be used as part of the BRCI 2011-12.

3.1.2. LRMC Load Forecast

AGL would welcome further opportunity to be consulted on the load forecasts used for the purpose of the WEC forecasts. . AGL note the following changes in AEMO's projections of the QLD load since the previous BRCI decision:

- Projected growth in annual energy demand over the next 10 years has grown from 3.2% in 2009 to 3.9% in 2010 (medium growth scenario); and
- Projected growth in summer 10% POE Maximum Demand (MD) over the next 10 years has grown from 3.6% in 2009 to 4.1% in 2010.

AGL is of the view that the load forecast used for LRMC calculations should reflect these updated projections of load growth over the next 10 years.

3.2. Energy Purchase Cost Methodology

As noted in its submissions in respect of the 2010/11 process, AGL was broadly satisfied with the approach used to calculate energy purchase costs (***EPC***) in the BRCI 2010-11. AGL welcomed the provision of the data developed by the QCA's consultants to stakeholders, as it provided stakeholders with the ability to analyse in detail the data and make informed comment on the approach adopted by the consultants. AGL requests that the same level of detailed data be provided again, as this facilitates an open and transparent consultation process.

3.3. Enhanced RET Scheme Compliance

AGL notes recent changes to the Commonwealth Government's Renewable Energy Target (***RET***) legislation will significantly change the approach used to estimate the costs associated with scheme compliance in the BRCI: 2010-11.

AGL has identified a number of key issues for consideration by the QCA associated with the enhanced RET Scheme:

- Costs associated with the changes to the RET scheme will be incurred by retailers from 1 January 2011. Costs for 2011-12 should reflect the total costs incurred over the period of 1 January 2011 to 30 June 2012;

- Due to the uncapped nature of the SRES and recent market developments AGL is concerned that the compliance cost over the 2011-12 period is significantly higher than previously anticipated. SRES compliance cost allowance should be based upon ORER published STP for 2011 and ORER's 2012 forecast.

- LRET compliance cost allowance should be calculated on the basis that the LRMC of renewable generation is the appropriate LGC price. The split of current eligible RET activities between SRES and LRET means that historical REC prices do not provide an appropriate indication of future LGC prices;

  Attached at Annexure 1 is a detailed note outlining AGL's suggested approach to addressing the issue of forecasting the costs associated with compliance with these amended provisions.

3.3.1. Scheme Commencement 1 January 2011

As detailed in Annexure 1, AGL is of the view that the costs of compliance with the SRES will be of such a magnitude that retailers cannot absorb these costs from 1 January 2011. AGL's vast preference would be for the pass-through of SRES costs from 1 January 2011. However, AGL understands that the QCA are bound by the legislative provisions that govern the BRCI, and AGL has not yet identified any provision which would permit the adjustment of the regulated tariff from 1 January 2011.

AGL would welcome an opportunity to discuss with the QCA the options that are available to the QCA and to retailers to best capture the costs incurred by retailers in complying with the SRES. AGL is of the view that at the very least the BRCI must capture the costs incurred from 1 January 2011. AGL's suggested methodology is outlined in Annexure 1.

4. Network Costs

AGL acknowledges the constraints imposed on the QCA by the legislative provisions which govern the application of the BRCI. AGL notes that in the BRCI 2010 – 2011 network costs contributed 8.21% to the change in the BRCI (i.e. 61% of the total increase). Due to the significant contribution of the network component to the calculation of the BRCI, AGL remains concerned that:

- In using the average Energex and Ergon aggregate annual revenue requirement (AARR), the BCRI will not accurately capture the changes incurred in Energex's patch over the period. Whilst AGL acknowledge that this approach is a requirement of the Electricity Act 1994 and the Certificate of Delegation, it still remains that this approach will not provide the most cost-reflective outcome for retailers and consumers.

- The BRCI makes no allowance for the ability of Energex to re-balance its tariffs with the AARR increase

5. Retail Costs

5.1. Benchmark costs

AGL continues to support a 'benchmarking' approach to calculate retail costs. AGL note that in March 2010 IPART determined a retail margin of 5.4%. This figure was determined as the mid-point of three methodologies used to estimate the margin. The benchmarking approach used in this review estimated a 6.7% retail margin. AGL believes that an appropriate regulated retail margin should be in excess of 6%, which is consistent with the range put forward by IPART.

AGL remains of the view that a retail margin of 5%, as used in the BRCI 2010-11, is too low to cover the associated costs and risks of being an electricity retailer in Queensland with an obligation to supply regulated customers.

6. NEM Load

The QCA notes that it proposes to adopt the same approach to determining the NEM load as it adopted in calculating the 2010-11 BRCI. This means that for the Draft Decision the QCA will rely on actual load data for the first three quarters of 2010 and a forecast for the December quarter 2010 load. The December quarter 2010 data will then be replaced by actual data for the Final Decision.

AGL is of the view that the process used for the 2010-11 forecast of the NEM load was appropriate. Any forecast loads should be in line with the findings of the AEMO Electricity Statement of Opportunities (SOO) 2010. AGL request that the QCA provide data on load forecasts used for the purposes of the BRCI are made available to electricity retailers through the BRCI consultation process.

Annexure 1

Enhanced Renewable Energy Target

In June 2010, the Federal Government passed legislation to enhance the 20% Renewable Energy Target which effectively split the target into two components; a Large-Scale Renewable Energy Target (***LRET***) and a Small-Scale Renewable Energy Scheme (***SRES***). The new scheme begins 1 January 2011. On 24 June 2010 the Commonwealth Parliament passed enhancements to the *Renewable Energy (Electricity) Bill 2010* which subsequently received Royal Assent on 28 June 2010. These enhancements included:

- Splitting the existing Renewable Energy target (***RET***) into the SRES and LRET; and
- Setting a fixed small-scale technology certificate (***STC***) price of $40 under the SRES. STCs can be created from small-scale electricity generation, that is Solar PV systems (***SPV***) and solar hot-water systems (***SHW***).

The Draft Regulations which provide further insight into how the scheme might operate were released for comment on 7th October 2010.

AGL has developed an approach which seeks to capture the costs incurred by a retailer in complying with the amended compliance regime. This approach is largely based on that proposed by AGL in respect of the Review of Regulated Electricity Prices in South Australia, which is seeking to determine the regulated price of electricity for small customers as of 1 January 2011. AGL does however acknowledge that the legislative provisions which govern the application of the BRCI will need specific consideration.

AGL would welcome an opportunity to discuss this matter further with the QCA.

Small-scale Renewable Energy Scheme

As an electricity retailer AGL will be deemed a 'liable entity' under the SRES. This requires AGL to surrender an amount of STCs equivalent to a proportion (i.e. Small-scale Technology Percentage ***STP***) of our 'relevant' electricity acquisitions. The 'relevant' electricity acquisitions are calculated less the partial exemption for those customers deemed to be Emissions-Intensive Trade-Exposed (***EITE***).

This note sets out:

- Background for calculating the STP;
- Recent market developments affecting the forecast of the STP & AGL's current view of the 2011 STP; and
- Issues to consider in forecasting SRES compliance costs for 2011 – 12.

Small-scale Technology Percentage (STP)

The STP is determined by the Office of the Renewable Energy Regulator (***ORER***) based on a projection of the amount of STCs that will be created in the year divided by the 'relevant' electricity acquisitions from the market.

The STP is the percentage of the forecast amount of STCs that will be created in a year of the 'relevant' electricity acquisitions over the period:

$$\text{STP} = \frac{\text{STC Creation}}{\text{('Relevant' electricity acquisitions – Partial Exemption Certificates)}}.$$

For a liable entity, such as an electricity retailer, in order to forecast the STP to determine what costs are likely to be incurred three factors need to be considered:

- 'Relevant' electricity acquisitions – that is, the volume of electricity bought by retailers to be sold to their customers. The total amount of acquisitions can be estimated using data published by AEMO.
- Partial Exemption Certificates (***PECs***) – ORER provides PECs, on application from prescribed entities conducting eligible EITE activities. Currently, no published data is available on the amount of PECs that will be available for the 2011 SRES compliance period.
- STC Creation – ORER estimates the amount of STCs that will be created over the period. As described, STCs are created through SPV and SHW installations and are awarded on the basis of 1MWh of electricity to 5 STCs for SPV installs (referred to as the *multiplier*) and 1 STC for SHW installs. There is no cap on the amount of STCs that can be created over a year. In addition, STCs are deemed up-front. That is, a customer will receive up to 15 years worth of STC's upon installation of the unit.

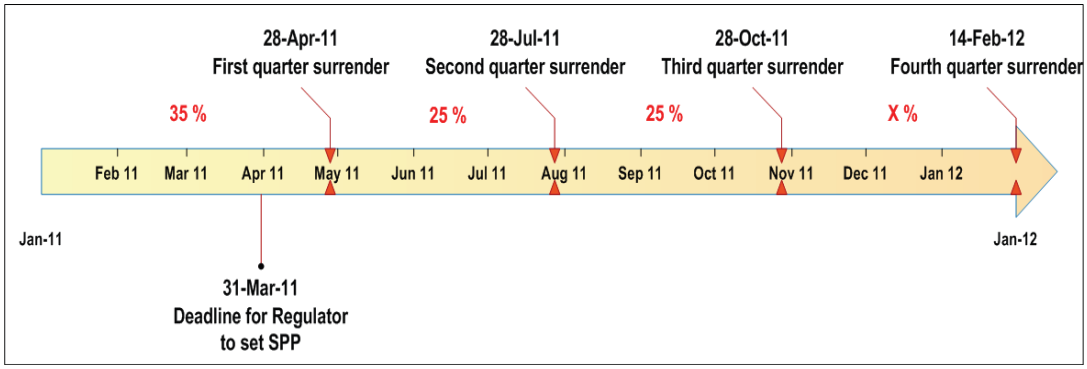
The SRES is scheduled to commence on 1 January 2011. Current legislation states that that the STP for 2011 must be published by ORER by 31 March 2011. At the same time, the ORER will publish a non-binding forecast for the next two years. AGL is aware that ORER is planning that for 2011 only, to publish the STP early - in November 2010. However, this has not been confirmed.

It should be noted the Regulator (ORER) can make changes to the amount of STCs created from eligible activities by adjusting the Solar credits multiplier.

SRES Compliance for Electricity Retailers

In 2011, electricity retailers will be liable for a quarterly surrender of STCs – 28 days after the completion of each of the first 3 quarters, and 14 Feb 2012 for the final quarter ending in December 2011. Further, the quarterly surrender is front-loaded. That is retailers will pay for 35% of their 2011 SRES costs on 28th April 2011. Figure 1 below shows when retailers will be obliged to surrender their STCs.

Figure 1 - Timetable for STC Surrender



Source: Department of Climate Change and Energy Efficiency, Enhancing the Renewable Energy Target – Discussion Paper, March 2010

Liable parties can purchase STCs from either:

- STC Clearing House at the value of $40 (plus GST). The STC Clearing House will be managed by ORER to ensure that there is a reliable demand for the purchase of STCs from parties creating them, and a relaible supply for liable parties looking to purchase them; or
- eligible sellers of STCs such as registered agents or owners of solar water heaters and small generation units.

If there are no STCs in the STC Clearing House and the liable entity has made an application through the Clearing House to purchase STCs the Regulator must create a STC for the liable party.

Recent Regulatory Developments

On 7 October 2010, the Department of Climate Change and Energy Efficiency (DCCEE) released for consultation draft regulations to be made under the *Renewable Energy (Electricity) Act 2000* and the *Renewable Energy (Electricity) Amendment Act 2010*. These draft regulations set out a number of changes affecting key elements of the SRES including:

- the process for calculating PECs;
- the conditions on which ORER can adjust the Solar Credits multiplier, thereby reducing the amount of STCs which would be created over the period.

AGL has based its forecasts on the information in the Draft Regulations where possible.

Recent Market Developments Affecting Forecast STP

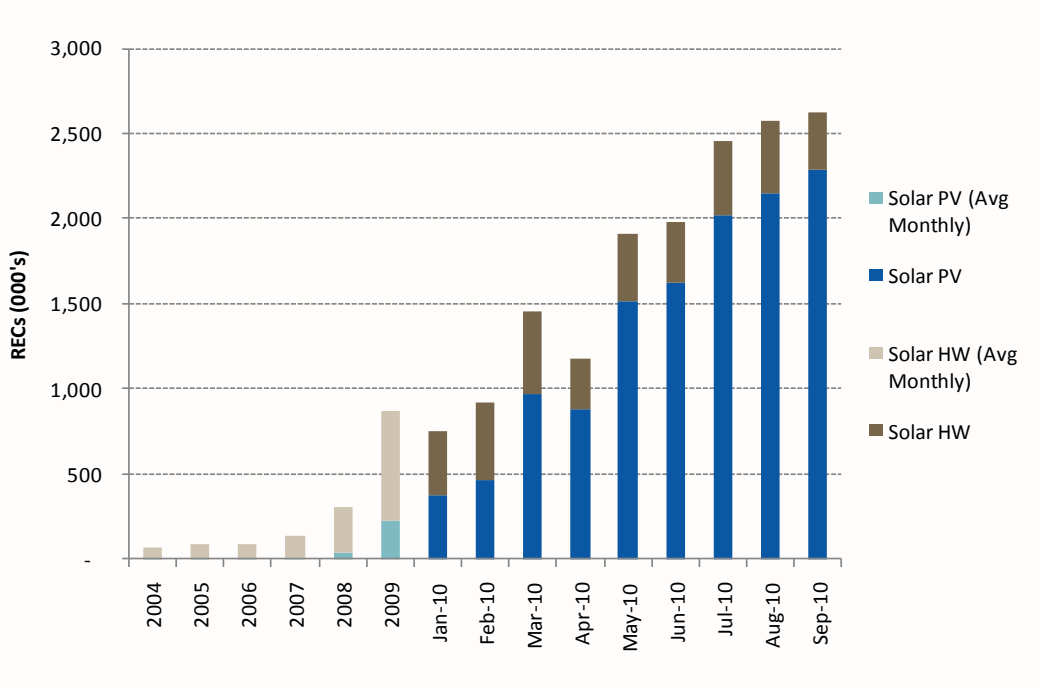
In recent months there have been a number of indicators in the existing REC market which suggest that the amount of STCs that will be created in 2011 is greater than previously expected, and therefore a higher STP.

Solar PV REC Creation

There has been a significant increase in the amount of RECs created under the existing REC market which has impacted upon AGL's forecast of the amount of STC's that will be created in 2011.

Figure 1 shows annual deemed REC creation for 2004 – 2009 and monthly creation in 2010. Growth in solar PV installation during the first six months of 2010 was driven by the Commonwealth Government's Solar Homes and Communities Program (SHCP) (rebate of up to $8,000/installation) and various state based subsidies. The replacement of the SHCP in June 2009 (with a 1 October 2010 cut off date for the completed installation reports for the rebate to be submitted to DCCEE) with the Solar Credit Multiplier and an increase competition in the solar PV market has seen a marked increase in REC creation from June to August 2010.

Figure 2 - Monthly Deemed REC Creation 2004 - 2010



In August and September 2010 approximately 2.1 million RECs were created from solar PV activities which is equivalent to the installation of 1.5 kW systems in around 13,500 households[1]. Assuming this level of activity in 2011 and installation of solar hot water systems at current rates (approx. 400,000 RECs/month in 2010) total STC creation in 2011 is projected to be in the order of 30 million STCs.

AGL expects the volume of STCs created from solar PV to continue to remain at least at the levels seen in July – September 2010. In fact, AGL are of the view that SREC creation from solar PV will in fact increase in 2011 given:

- the declining cost of PV systems;
- the increased marketing activity from solar PV suppliers; and
- the higher (and certain) SREC price.

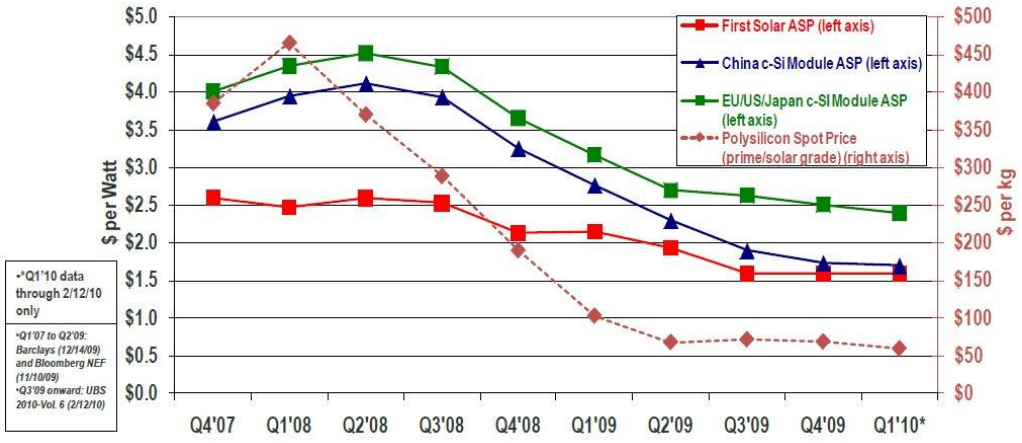
[1] Assumes 1.5 kW solar PV system located in Sydney and RECs deemed upfront for 15 years. Installation is eligible for Solar Credit multiplier.

Cost of Solar PV Systems

Since the middle of 2008, solar PV pricing has substantially declined worldwide. The main reasons behind these declines include reduced input costs and strong world-wide supply of PV systems.

The trajectory of PV prices (as analysed by the U.S. Department of Energy) is shown in the figure below, which depicts the price of various solar PV technologies from Q4 2007 through Q1 2010.

Figure 3 – Solar PV Costs 2007 - 2010



As shown above, over the past 12 months PV systems have declined in cost. If this trend continues, it will be likely to have an impact on the attractiveness of installing solar PV.

Increased Market Activity

AGL is aware the number of solar PV installers and the number of PV offers to customers has increased over the past year or so. For example, AGL has recently established a solar PV installation business which it intends to roll out across the east coast of Australia.

In addition we understand the Commonwealth Bank (in partnership with Lend Lease) has recently announced its offer of solar PV to its mortgage customers:

> *"The Commonwealth Bank has announced an alliance with Lend Lease Solar to use its network of over a million home loan customers as part of a project to offer premium solar electricity systems to Australian households. Available from November this year, the Bank's retail customers will have the option of financing the purchase of a solar energy system through their existing home loan by redrawing or topping up the balance."*[2]

This increased market activity is very likely to lead to an increased number of solar installations.

STC price in 2011

The STC price in 2011 is currently fixed at $40. Under recent Draft Regulations the Minister has the power to amend the STC price (upon certain conditions), however at this stage it is unclear how this would be applied. AGL consider that in any consideration of

[2] http://www.thefifthestate.com.au/archives/16124

SRES compliance costs that $40/STC is the most appropriate STC cost that should be used.

AGL forecast of 2011 STP

In considering the impacts of the SRES introduction AGL has developed a forecast of the likely 2011 STP in order to prepare for the scheme's introduction.

The 2011 STP forecast has considered the following inputs:

- Volume of STCs to be created in 2011 – Based on recent deemed REC creation volumes AGL estimates STC creation in 2011 will range from 30 – 40 million STCs;
- 'Relevant' electricity acquisitions – AGL has assumed to match historical demand from the National Electricity Market (NEM) and the South Western Interconnected System (SWIS) for 2009 allowing for 1% load growth; and
- Amount of the Partial Exemption Certificates (PECs) thereby reducing the amount of 'relevant' electricity acquisitions - As no published data is available on the current amount of electricity load eligible for a PEC AGL has undertaken to forecast the amount of load that will be exempted to determine the STP. AGL estimate the exempt load associated with PECs could range from 35 to 43 TWh.

The resulting 2011 STP range is summarised in Table 2.

Table 1 – 2011 STP Range

STC Creation	Relevant Electricity Acquisitions (GWh)	PEC Exemption (GWh)	STP
30,000,000	223,812	35,000	15.9%
40,000,000	223,812	43,000	22.1%

Forecasting 2011-12 SRES Costs

In order to estimate the cost associated with LRET over the 2011-12 period AGL suggest that a process be developed to calculate an SRES STP covering the period from 1 January 2011 to 30 June 2012.

AGL suggest that an STP covering 1 January 2011 to 30 June 2012 could be calculated as part of the BRCI 2011-12 Final Decision based on the ORER 2011 published figure and the 2012 STP forecast. STC cost should be based on the current published rate of $40/STC.

Large-scale Renewable Energy Target

As of 1 January 2011 liable parties will be required to comply and surrender certificates for the LRET liability. Annual targets have been determined for 2011 to 2030 in accordance with section 40 of the Act. In general, the annual targets are 4,000 gigawatt hours (GWh) per year less than the previous RET targets, reaching 41,000 GWh by 2020.

Liable parties will be required to purchase and surrender LGCs from eligible renewable energy power stations or participants in the market. The Renewable Power Percentage (RPP) is required to be set by the 31 March for the given year.

In forecasting the cost incurred by an efficient retailer in complying with the LRET over the price path period, it is necessary to analyse the Renewable Power Percentage (***RPP***) and the large-scale generation certificate (***LGC***) price. The RPP value determines the volume of LGCs a retailer has to acquire to satisfy its compliance obligations.

LRET Renewable Power Percentage

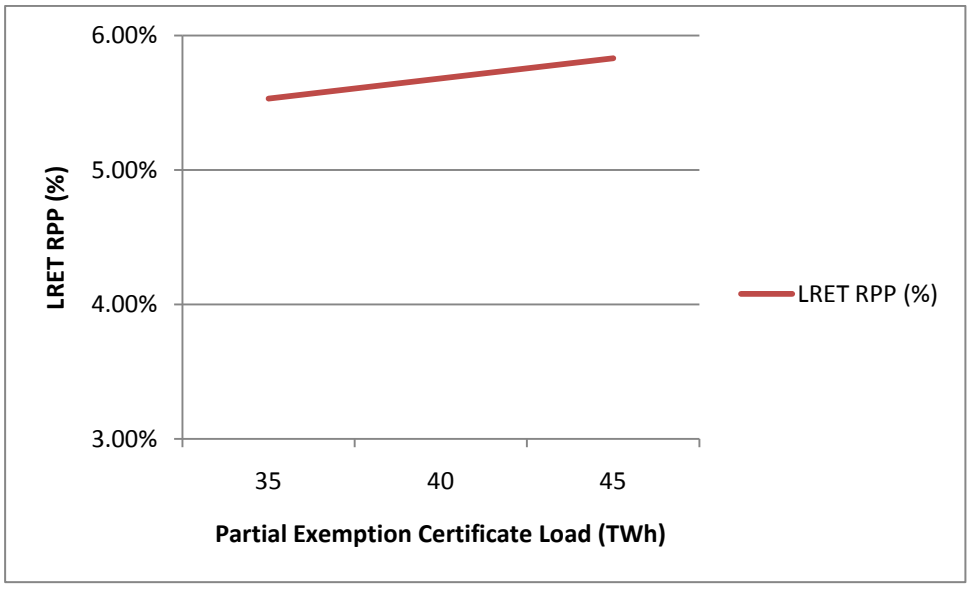
The RPP establishes the rate of liability for LRET and is set to achieve the interim targets specified in the legislation. The RPP must be published in the Regulations prior to 31 March of the year in which it applies. If this does not happen the Regulations provides a default formula to calculate the RPP. 2010 RPP is set at 5.98%.

Impacts of Exempt Load on 2011 RPP

The 2011 RPP is yet to be set however the published default is 4.98%. The RPP is calculated by ORER based on the anticipated 'relevant' electricity acquisitions and the amount of exempt load. Industries which carry out activities that are deemed to be emissions intensive trade exposed (EITE) can apply for a partial exemption certificate (PEC).

It is possible that an increase in PECs could decrease the amount of electricity acquisitions used to calculate the RPP. As the LGC target is fixed then this would have the effect of increasing the RPP. Figure 4 demonstrates the effect of the PECs on an assumed RPP.

Figure 4 – Relationship between Exempt Load and LRET RPP



RPP Calculation 2011-12

In order to estimate the cost associated with LRET over the 2011-12 period AGL suggest that a process be developed to calculate an equivalent LRET RPP covering the period from 1 January 2011 to 30 June 2012.

In order to calculate a 2011-12 a methodology would need to consider:

- RPP 2011 - RPP for 2011 will be published by ORER prior to the 2011-12 period. ORER is required to publish the RPP prior to 31 March of the year in question, and AGL consider it likely that the 2011 RPP will be published prior to the end of 2010; and

- RPP 2012 – RPP for 2012 will not be available prior to the 2011-12 BRCI Final Decision. In order to estimate the 2012 RPP the QCA would need to consider:
    - LRET Target – The LRET target is published by ORER for 2011 – 2030. The LRET target will likely be adjusted in line with provisions under the legislation for adjusting the 2012 target for LGCs valid at the end of the 2010 calendar year. The legislation states that this LGC volume will be published as soon as practicable following 2010 year ;
    - Electricity Acquisitions – The methodology would need to consider the amount 'relevant' electricity acquisitions in 2012 less exemptions for customers with PECs (i.e. for activities which qualify as EITE). Accounting for total load growth and having the amount of load associated with PECs documented for 2011 should provide a reasonable basis on which to make these forecasts.

LRET LGC Price

In terms of the cost of LGCs, there are three key ways a retailer could obtain LGCs and thus comply with its LRET obligations:

- Directly investing in renewable power generation. This is particularly attractive for large retailers which require price certainty;

- Writing long-term PPAs to facilitate new entrant generation; and/or

- Acquiring LGCs from the traded market.

In the current REC (i.e. current equivalent to an LGC) market AGL employs all of the above strategies. As one of the largest energy retailers in Australia, AGL operates as a significant investor in renewable technologies in order to satisfy its REC requirements in the long term and underwrite new entrant generation.

For the reasons outlined below, AGL believes the QCA should calculate LRET costs using the LRMC of renewable generation as a proxy for the LGC price.

Historical REC Prices and LRET

The split of the existing RET into two separate schemes (i.e. LRET and SRES) results in effectively two new and separate renewable energy markets in Australia. Historical REC prices under this scheme reflected the least-cost method for scheme compliance based upon the type of activities eligible to create RECs. Consequently the change between the existing RET and the LRET means that this underlying cost of compliance will change.

The BRCI 2010-11 Final Decision relied on the use of historical REC prices in combination with the change in RPP to determine the REC cost for 2010-11. AGL is of the view that due to the difference between the existing RET and the LRET that this approach would not be appropriate to estimate LGC costs for the 2011-12 period.

Allowing LRMC encourages generation investment

Retailers are significant underwriters of investment in renewable generation assets, either by entering into contracts with renewable projects under long term Power Purchase Agreements (***PPAs***) to underwrite plant development or through direct investment.

However, investors are only able to make long term investments in generation in circumstances where they are assured of obtaining a return on their investment, usually through a PPA. This means that investors will sell their PPAs at the long run marginal cost of the plant. AGL notes that long-term PPAs are required before investors obtain project finance to build new plant. This issue was subject to a recent paper by Finon[3], who found that in energy only markets long-term contracts are essential for new entrant generation projects to proceed.

Accordingly, where retailers are either acquiring LGCs under long term PPAs, or are in fact directly investing in the renewable generation, the value of the LGCs will reflect the LRMC of generation. Retailers supplying a small customer will be more confident in underwriting investment if the regulated price reflects this cost.

Retailers require price certainty

In order for retailers to have price certainty they enter into long term PPAs, or invest directly in renewable plant so that they can secure the volume of RECs required at a known price.

Figure A4 below illustrates the price variability experienced since the Scheme began. As shown, the REC market price is particularly sensitive to a change in government policy. This was most recently seen following the announcement in late February to changes to the LRET. As a direct result of the announcement, the REC price jumped nearly $10, or 25%.

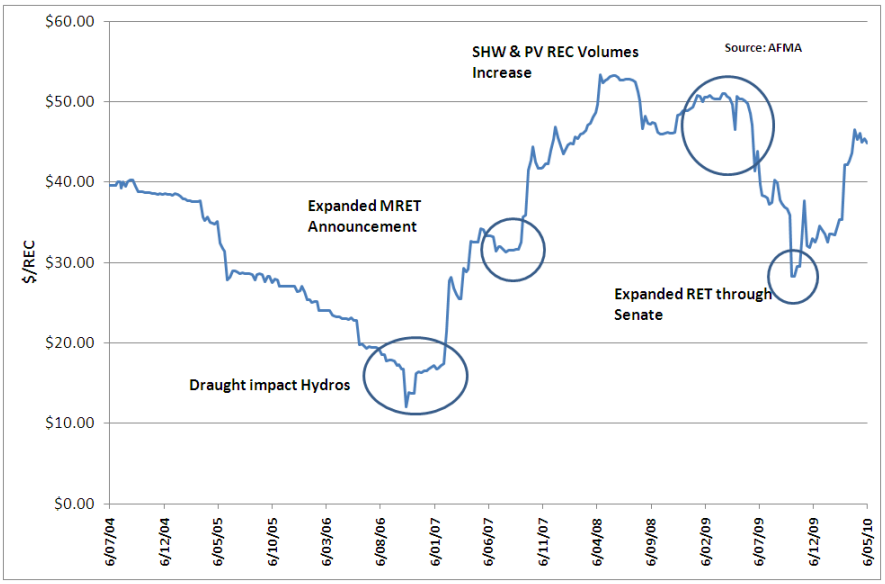
Other examples of policy changes impacting the REC market price are:

- in response to the October 2007 Labour party announcement of an expanded RET, the market price jumped nearly 20%;
- the introduction of the Solar Homes and Communities Plan $8,000 rebate followed by the Solar Credit scheme multiplier for solar PV and expanded capital rebates for solar hot water (SHW) resulted in a significant drop in the market price; and
- the passing of the ERET legislation in August 2009 led to an increase in the REC price.

This market price variability driven by complementary policy changes creates significant risk for retailers in achieving their long term compliance obligations at a reasonable cost. Accordingly, it's important for large retailers to diversify their risk by investing in large-scale renewable generation.

[3] Finon, D. (2008), "Investment risk allocation in decentralised markets: the need of long-term contracts and vertical integration", OPEC Energy Review, 32(2): 150-183.

Figure 5 – Spot and Forward Price of RECs (source: ICAP)



In assessing the LRMC value of a LGC, it is assumed that

- The owner of the generation asset will need to recover the LRMC of the plant;
- The owner will recover some of that LRMC through the 'black energy price', by selling energy into the pool, or under hedge contracts; and
- The owner will then need to recover any residual amount not recovered through the pool or contracts, by the sale of the LGCs.

In this way, the value of the LGC can be assumed to be the difference between the LRMC of the renewable generation plant, and the value that the investor can derive from the 'black' energy market.

LRMC of Renewable Plant

In July 2009, an independent consultant completed a confidential report for AGL[4] on the cost of renewable generation technologies. In the report to AGL, the independent consultant concluded (amongst other things):

- the LRMC of renewable generation is $110-120/MW;
- the LRMC of wind generation is in the range of $110-155/MWh in $2009;
- wind power plants are one of the lowest cost sources of renewable energy generation, and have been used extensively for REC creation; and
- the expanded RET scheme is likely to lead to a rapid uptake of wind generation. By 2020, wind generation should comprise around 40% of total eligible renewable generation under the expanded RET scheme. Assuming geothermal does not become

[4] Report to AGL Limited, July 2009.

commercialised, wind is likely to comprise 50% to 70% of the total eligible renewable energy generation by 2020.

AGL believes given that wind generation is, and will likely continue to be, the most popular source of new renewable generation for electricity retailers for the purposes of creating LGCs, it should be used as the basis for the LRMC LGC calculation. Accordingly, AGL proposes that the QCA use the cost of wind (i.e. $110-155/MWh) in its LRMC LGC calculation.

AGL notes that the independent consultant's conclusions regarding the LRMC cost of a wind farm is consistent with the off-take agreement AGL recently entered into with the buyers of the Hallet 4 Wind Farm in South Australia. In this arrangement, AGL's offtake price for total energy from the wind farm is $117 (2011 dollars)[5]. AGL has used this price as the relevant LRMC of wind generation for the purposes of this proposal.

Black Energy price and the value of the REC

In calculating the LRMC of renewable generation, consideration is given to costs associated with construction of a particular technology (in this case a wind generator) as well as the fixed and variable operating expenses. In order to determine what component of the long run marginal costs of a renewable generator need to be recovered from government policy such as LRET, it is necessary to determine what revenue a renewable generator might expect to earn from the production of electricity (the "black" component).

This revenue can be generated in several ways, i.e. through:

- PPAs;
- bilateral/futures contracts; or
- selling into the pool.

As the sources of black revenue in points 1 and 3 above are difficult to determine, the best method to determine the black revenue is related to point 2 above. There are 2 reference points to use as a proxy for black contract prices:

- market based prices which are publicly available; or
- LRMC of a thermal (non renewable) generator that has a capacity factor of 100% (which was discussed in respect of the existing price path as being equivalent to a flat contract).

Whichever source of data is used to estimate black revenue, this needs to be discounted to reflect that a renewable generator is non-firm and is only able to operate a proportion of the time that it will need to in order to manage the risk of selling flat contracts.

AGL suggest the QCA utilize the LRMC modeling carried out for the energy cost to determine the LRMC of a thermal generator as described above.

[5] AGL media release: AGL to earn $88 million in development fees from the sale of Hallett 4 Wind Farm, 1 October 2009. The $117 is the equivalent of $111/MWh in 2009 dollars referenced in AGL's ERET pass-through submission dated 23 March 2010.