

2<sup>nd</sup> March 2009



## ATA Advocacy Report – Project 302

For the 4-months from November 2008 to February 2009

This report outlines advocacy activity undertaken by ATA, under funding from the National Consumers Electricity Advocacy Panel funded project #302. This activity was undertaken for the four-month project period commencing in November 2008 and continuing through the end of February 2009.

### Advocacy Completed:

- Provided submissions to the following policy inquiries:
  - AEMC's *Review of Energy Market Frameworks in light of Climate Change Policies*. In considering the impact on the NEM of the Federal Government *Carbon Pollution Reduction Scheme* and expanded *Renewable Energy Target* policies, ATA highlighted the importance of progressing the host of demand side participation and demand management policy reviews that are currently in various stages of development across the NEM. ATA advocated that these aligned policy reviews were critical to better defining the role of DSP and DM across the NEM and in helping to ameliorate risk from an increasing share of renewables.
  - The *New South Wales Solar Feed-In Tariff Taskforce Inquiry*. In maintaining its role as a lead advocate on feed-in tariffs around the country, ATA forwarded a submission and presented before the NSW Department of Water and Energy on its proposal for a state-based feed-in tariff scheme. Key design features advocated included gross measurement and metering, an 80c / KWh rate (based on ATA no longer supporting the Federal Government's newly proposed *'Solar Credits Scheme'*) and eligibility for all system owners, including those existing ones who have not sold their RECs to gain a benefit from the federal MRET scheme.
  - The Federal Department of Climate Change release of *Exposure Draft Legislation for the Renewable Energy Target*. In its submission and subsequent meeting with senior DCC policy advisers, ATA argued strongly against the inclusion of the newly proposed *'Solar Credits Scheme'* in its current form. Given the significant increase in uptake of small scale renewable energy over the past three years, ATA argued that the Solar Credits Scheme had the potential to undermine the annual targets proposed for the RET between mid 2009 and mid 2015.
  - The Federal Department of Climate Change's *National Carbon Offset Standard Discussion Paper*. As a representative of householders and individuals seeking to make a material difference on climate change through investment in small scale renewable technologies, GreenPower and other energy efficiency measures, ATA strongly argued for the ability of such additional investments to influence the Carbon Pollution Reduction Scheme targets. In particular, with investment in GreenPower and small

scale renewables experiencing significant increases in recent rates of uptake, ATA conducted research with its members regarding their motivations and found that a significant number would not continue to invest in such technologies should they not be able to influence the overall CPRS cap.

- AEMC's *Review of Energy Market Frameworks in light of Climate Change Policies – 1<sup>st</sup> Interim Report*. ATA was a signatory to a joint submission prepared by the Consumer Roundtable on Energy to the 1<sup>st</sup> Interim Report.
- Consumer Advocacy Panel's *2009/10 Draft Budget*. ATA was a signatory on a joint submission prepared by the National Consumer's Roundtable on Energy to this budget review.
- Participated in two teleconference meetings of the *Consumer Roundtable on Energy* discussing issues and responses to:
  - AEMC's *Review of Energy Market Frameworks in light of Climate Change Policies*;
  - AER draft decision on WACC parameters;
  - SCO exposure draft legislation on National Energy Customer Framework;
  - MCE exposure draft of National Electricity Law AEMO and Smart Meters;
  - Dept Climate Change – exposure draft of legislation for carbon pollution reduction Scheme;
  - Dept Climate Change – exposure draft of legislation on Renewable Energy Target;
  - Smart Meters: National SM Program;
  - AEMC review of the use of total factor productivity for determination of network pricing and revenue;
  - AEMC draft report on the review of demand side participation (DSP) and draft decision on TEC rule change;
  - SCO policy response – national frameworks for electricity distribution network planning, connection and connection charge arrangements;
  - AEMC review of national distribution planning;
- Preparation for *National Smart Meter Steering Committee* participation on the Business Requirement Working Group to commence in March 2009.
- Responded to enquiries from public and ATA members regarding queries and information relating to the above policy processes from the perspective of small-scale renewable generators.

Accompanying this report are copies of any submissions mentioned above.

Should the Advocacy Panel have any further queries regarding this report or any of the work aforementioned, please do not hesitate to contact ATA's Energy Advocate, Damien Moyse on (03) 9631 5417 or by email [Damien.Moyse@ata.org.au](mailto:Damien.Moyse@ata.org.au).



**Submission by**  
**Alternative Technology Association**

**on the**

**AEMC Review of Energy Market Frameworks  
in Light of Climate Change Policies**

**14<sup>th</sup> November 2008**

**By Email to:** [submissions@aemc.gov.au](mailto:submissions@aemc.gov.au)

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## 1. Introduction

The Alternative Technology Association (ATA) welcomes the opportunity to contribute to the Australian Energy Market Commission's (AEMC) *Review of Energy Market Frameworks in Light of Climate Change Policies*.

ATA is a not-for-profit organisation established in 1980 to empower our community to develop and share sustainable solutions for the way we live and to promote the uptake of sustainable technologies in order to protect our environment. The organisation provides service to over 4,500 members, who are actively promoting sustainability in their own homes by using good building design and implementing water conservation and renewable energy technologies.

As Australia's peak member-based organisation representing early-adopters of renewable energy systems, ATA is in a unique position to highlight the needs and concerns of this important sector of our community.

### 1.1 The CPRS / RET & NEM Risk

ATA is a strong supporter of the introduction of both the *Carbon Pollution Reduction Scheme* (CPRS) and the expanded national *Renewable Energy Target* (RET).

Whilst neither policy will provide the 'silver bullet' solution to Australia's climate change challenge, once implemented they will become the most significant policy drivers in this area. Each policy also offers the opportunity to further transform the national electricity and gas markets from their current inefficient state to one that maximises investment efficiency *'in the long term interest of consumers'*.

ATA has reviewed the *scoping paper* as set out by the AEMC. Much of the discussion in the scoping paper appears to be focussed on the potential 'risks' in any future transformation of the electricity network to one that includes an increasing share of renewable and low emission energy supply. These risks are framed around the issues of reliability, efficient investment and the management of a network containing increased intermittent generation.

Whilst ATA represents consumers of renewable energy technologies, technical arguments relating to the improvements in reliability and efficiency of large scale renewable energy technologies, such as wind power, is not ATA expertise. There exists a host of other organisations that ATA has previously worked with that can provide substantial technical arguments, in relation to reliability and intermittency, in favour of large scale renewable energy technologies. Indeed, ATA anticipate a number of these organisations preparing detailed submissions on such issues to this review.

From ATA's perspective however, it is the role that demand management and demand side participation can play in off-setting the risks from an increasing share of large scale renewable energy, from both an investment and reliability point of view, that is of importance to this review. It is critical that these demand-side measures are given proper consideration in future network planning, in order to both complement large scale renewable and low emission electricity generation and to achieve greater efficiency in future network investment.

## 1.2 *The CPRS / RET and Demand Management*

There are numerous demand management and demand side policy reviews and initiatives currently active within both the AEMC and at various levels of government. Equally, there are a number research studies and on-the-ground pilot projects currently being carried out by numerous organisations across Australia attempting to better understand the potential value of demand management and demand side participation to the National Electricity Market (NEM).

These include, among others:

- Review of Demand Side Participation (AEMC);
- TEC Demand Management Rule Change Proposal (AEMC);
- ACT, QLD and SA Feed-in Tariffs for embedded generation (State Govt);
- Victorian and WA proposed Feed-in Tariffs for embedded generation (State Govt);
- Senate Inquiry into the Renewable Energy Amendment (Feed-in-Tariff) Bill 2008 (Senate Standing Committee on Environment, Communications and the Arts);
- CSIRO's Intelligent Grid Cluster program;
- A host of state-based energy efficiency programs in South Australia, QLD, NSW and Victoria.

Of particular importance are the AEMC's *Review of Demand Side Participation* and the *TEC Demand Management Rule Change*. ATA has previously submitted to both of these policy initiatives and it has been disappointing to note that their finalisation has been postponed indefinitely on the basis of the commencement of this current review. In the scoping paper the AEMC state that its rationale for taking this decision was '*because the CPRS will impact on the potential costs and benefits of demand side solutions in the market*'.

Whilst such a timely assessment of the impacts of the CPRS and RET as initiated by the AEMC is to be commended, ATA maintains that such a review will not provide further quantitative evidence of specific costs and/or benefits to the NEM of demand side measures. Such evidence can only be ascertained at the network planning stage, with specific constraints identified and a thorough cost / benefit analysis of demand side response and augmentation options considered.

Given the current state of Australia's energy mix, ATA contends that it is highly likely that the impact of the introduction of the CPRS and the RET will strengthen the arguments in favour of demand side measures. However, as established by significant research into this area<sup>1 2</sup>, such a comprehensive assessment of the demand side measures at network planning stage will not occur under the current bias of the NEL and revenue incentives toward network augmentation.

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<sup>1</sup> Institute for Sustainable Futures, 2008. "*Win, Win, Win: Regulating Electricity Distribution Networks for Reliability, Consumers and the Environment - Review of the NSW D-Factor and Alternative Mechanisms to Encourage Demand Management.*" Total Environment Centre, NSW.

<sup>2</sup> Headberry Partners & Bob Lim & Co, 2008. "*Does Current Electricity Network Regulation Actively Minimise Demand Side Responsiveness in the NEM?*" Total Environment Centre, NSW.

The Minister for Climate Change, Penny Wong, has stated that there will be further public consultation on the Government's CPRS *White Paper*, due for release in December 2008. ATA is therefore concerned that this will mean the finalisation of this climate change policy review, along with the TEC Rule Change and the Demand Side Participation review, will not occur until late in 2009 or potentially even later.

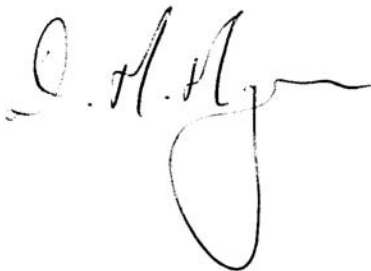
Given that network planning for the NSW and ACT 2009 – 2014 regulatory period is occurring now and with Victoria due to commence in 2009, there is a significant risk that the next round of regulatory phases will occur without due consideration of demand side measures, leading to significant inefficiencies in future NEM investment.

ATA therefore call on the AEMC to progress both the *Review of Demand Side Participation* and the *TEC Rule Change* proposal in order to properly assess the potential of demand-side measures in achieving greater NEM investment efficiency.

### 1.3. Further Contact

Feel free to contact me should you have any questions regarding the content of this submission. I am available directly on (03) 9631 5417 or via email at: [damien@ata.org.au](mailto:damien@ata.org.au).

Yours sincerely,



**Damien Moyse**  
Energy Advocate  
ATA



**Submission by**  
**Alternative Technology Association**

**on the**

**National Carbon Offset Standard  
Discussion Paper**

**27<sup>th</sup> February 2009**

**By Email to:** [offset@climatechange.gov.au](mailto:offset@climatechange.gov.au)

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## 1. Introduction

The Alternative Technology Association (ATA) welcomes the opportunity to provide comment on the *National Carbon Offset Standard Discussion Paper*, prepared by the Department of Climate Change.

ATA is a not-for-profit organisation established in 1980 to empower our community to develop and share sustainable solutions for the way we live and to promote the uptake of sustainable technologies in order to protect our environment. The organisation provides service to over 5,000 members, who are actively promoting sustainability in their own homes by using good building design and implementing water conservation and renewable energy technologies.

As Australia's peak member-based organisation representing early-adopters of renewable energy systems and individuals and organisations who undertake voluntary action to reduce their carbon emissions, ATA is in a unique position to highlight the needs and concerns of this important sector of our community.

## 2. Voluntary Action & the CPRS

As a representative of individuals and communities seeking to make a difference with respect to climate change, ATA is concerned by the inability of the Carbon Pollution Reduction Scheme (CPRS) to respond to individual or community voluntary action – particularly where this action is clearly measurable, verifiable and additional to any mandated Government targets or price signals.

ATA highlighted this particular issue in its response to the Department of Climate Change's *Green Paper* in mid 2008. In response, it has been disappointing to note that the Department of Climate Change's *National Carbon Offset Standard Discussion Paper* does not address this particular aspect of the CPRS. Indeed the Discussion Paper states:

*"... as the Scheme places a cap on aggregate emissions from covered emissions sources it breaks the link between individual action and aggregate emissions".*

ATA believe this to be an inadequate design feature that will disempower individuals and local communities wishing to be directly engaged in the climate change challenge and will ultimately build cynicism toward the CPRS more generally.

### 2.1 Motivations for Voluntary Action

ATA has conducted specific research with its members in regards to their motivation for taking voluntary action such as installing solar PV systems and/or purchasing GreenPower. Ultimately, there is little doubt that the main motivation of most people undertaking these activities is to make a difference with respect to Australia's overall emissions profile.

A 2007 survey by the ATA of over 1,300 individuals' motivations for installing solar PV systems found that 78% cited the desire to have a positive impact on the environment<sup>1</sup>.

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<sup>1</sup> ATA (2007) *The Solar Experience - PV System Owners' Survey* [Available online at: <http://www.ata.org.au/projects-and-advocacy/solar-system-owners-survey>]

A 2009 survey of 520 ATA members who are currently purchasing GreenPower found that 93% stated that either their *primary* reason, or one of their main reasons for doing so was to reduce carbon emissions<sup>2</sup>. Results of this survey are included in **Attachment A**.

The 2009 survey also found that 33% of respondents who already purchased GreenPower would cease doing so if it did not make a difference to Australia's overall net emissions. A further 49% of those who were considering purchasing GreenPower stated that they would not do so should their efforts not make a difference.

Awareness of the design of the CPRS and its implications for voluntary action is growing, both within ATA's membership base and throughout the broader community. On this basis, ATA believes that these statistics are preliminary and likely to grow as more people become aware of the impotence of additional voluntary action under the CPRS.

## *2.2 Role of Voluntary Action*

The Government has stated<sup>3</sup> that there has been a misunderstanding of the role of voluntary action undertaken by households in relation to the CPRS:

*"Strong household action also helps make it easier for governments to set even more ambitious targets in the future."*

This line however is inconsistent with the Government's own National Carbon Offset Standard Discussion Paper which categorically states that once announced, CPRS targets will not change:

*"Scheme caps will not be adjusted once announced except where Scheme coverage is expanded."* (National Carbon Offset Standard Discussion Paper, 2008, pg 7)

In addition, it is also inconsistent with the position stated in the *White Paper*, whereby the CPRS trajectory is locked in for the following five year period. Either way, the implication is that for either the first five or ten years, no amount of additional action undertaken by households and communities in CPRS covered sectors will make a net difference to Australia's aggregate emissions.

This is at a time when the Government is specifically seeking to increase the number of Australian's who source their energy from renewable sources. The only possible outcome of such action over the next decade is indeed to free up carbon permits within the CPRS system and place downward pressure on the carbon price.

Given the already proposed assistance measures to carbon intensive industries under the CPRS (who will be passing on the full cost to consumers in any case), the lack of recognition of investing in GreenPower or small scale renewable energy represents a further cross-subsidy from householders to industry within the CPRS system.

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<sup>2</sup> ATA (2009) *GreenPower Motivation Survey*. Unpublished, ATA Melbourne

<sup>3</sup> The Australian (2009) *ETS is better than Tax* [Available online at: <http://www.theaustralian.news.com.au/story/0,25197,25091503-7583,00.html>]

### 2.3 Potential of GreenPower and Solar PV

The potential of voluntary action in the GreenPower and small scale renewable energy markets is significant.

Investment in GreenPower by end electricity consumers has grown consistently since program inception and markedly in the past three years<sup>4</sup>. Annually, GreenPower sales to end-consumers grew by 50% in both 2005/06 and 2006/07. In 2007/08, GreenPower sales grew by 86%.

At an average uptake rate of the past three years (i.e. 62%), GreenPower would represent almost 30% of all renewable energy sales by the end of 2012 and achieve an additional 6,500 GWh of renewable energy investment. This is significant investment in clean energy that is threatened on the basis that one of people's primary motivation for investing (i.e. to reduce emissions) cannot be satisfied.

Equally, investment in small scale solar PV has risen dramatically over the past three years<sup>5</sup>, particularly in response to Federal Government subsidy through the *Photovoltaic Rebate Program*. (In 2005 and 2006, solar PV investment grew by 30% and 17% respectively, and by over 150% annually in both 2007 and 2008). Once again, not allowing this voluntary action to influence aggregate emissions puts this continually increasing community investment at risk.

### 2.4 The Need to Account for Voluntary Action

ATA is strongly of the view that voluntary action such as investing in GreenPower and/or small scale renewable energy should be counted as additional to the CPRS cap. This is particularly the case in light of the Government committing itself to such low mid-term (i.e. 2020) emission reduction targets. Had the proposed mid-term targets been more closely aligned with what is required under climate science (i.e. 25% – 40% reduction by 2020), the potential of additional voluntary abatement would not be such a significant issue.

However, by setting such a low mid-term target and constraining the capacity of the CPRS to respond to changes in climate science and community attitudes, ATA believe that every opportunity to further reduce emissions where clearly measurable, verifiable and additional action can be quantified should further reduce the CPRS cap.

Given that the Government has already stated in the White Paper that there will be the ability under CPRS to purchase and voluntarily retire permits as a way of influencing the level of aggregate emissions, it is not a significant leap to further include GreenPower and small scale renewable investment in the same way.

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<sup>4</sup> National GreenPower Accreditation Program (1999 – 2008) Quarterly Status Reports. NSW Department of Water and Energy. [Available online at: <http://www.greenpower.gov.au/our-audits-and-reports.aspx>]

<sup>5</sup> Department of Environment, Water, Heritage and the Arts (2008) *Watts by Month Jan-09*. [Available online at: <http://www.environment.gov.au/settlements/renewable/pv/index.html#statistics>]

Indeed, if the option to voluntarily retire permits is taken up by individuals to the same degree as they were previously purchasing GreenPower and/or installing small scale renewables (i.e. instead of), the price impact would be exactly the same as if GreenPower and small scale renewable investment were incorporated as additional to the Scheme cap.

Ultimately, individuals and communities investing in GreenPower and small scale renewable energy do so at their own expense, and they do so in addition to activities where they will be forced to pay for the future carbon price.

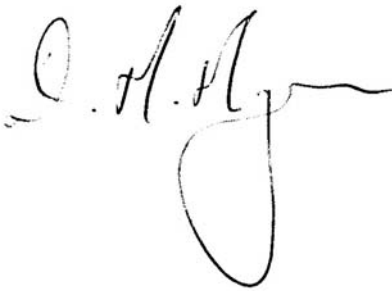
Unlike energy efficiency, these investments are not being made in response to the introduction of a carbon price and are therefore in our view quantifiably additional. As such, householders and communities should be provided with the opportunity to further reduce Australia's aggregate emissions through these investments.

***ATA calls upon the Government to incorporate the ability within the CPRS to adjust the scheme cap in response to additional abatement achieved through investment in GreenPower and small scale renewables.***

### ***3. Further Contact***

Feel free to contact me should you have any questions regarding the content of this submission. I am available directly on (03) 9631 5417 or via email at: [damien@ata.org.au](mailto:damien@ata.org.au).

Yours sincerely,



**Damien Moyse**  
Energy Advocate

# ***Attachment A***



**Submission by**

**Alternative Technology Association**

To The

**New South Wales New South Wales Solar  
Feed-in Tariff Taskforce**

**12<sup>th</sup> January 2009**

**By e-mail to: [fit.taskforce@dwe.nsw.gov.au](mailto:fit.taskforce@dwe.nsw.gov.au)**

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## Submission to the NSW Solar Feed-in Tariff Taskforce

The Alternative Technology Association (ATA) welcomes the opportunity to provide comment on the New South Wales Solar Feed-in Tariff proposal.

ATA is a not-for-profit organisation established in 1980 to promote the uptake of sustainable technologies in order to protect our environment. The organisation provides service to over 5,000 members, who are actively promoting sustainability in their own homes by using good building design and implementing water conservation and renewable energy technologies. ATA advocates in both the government and industry arena for ease of access and continual improvement of these technologies, as well as the production and promotion of information and products needed to change the way we live.

ATA welcomes the initiative of the New South Wales Government in proposing a feed-in tariff as an incentive mechanism for small scale renewable energy, recognising that the introduction of a progressive and effective feed-in tariff in New South Wales has the potential to establish the state as a leader in small scale renewable energy in Australia.

However it is vitally important that any proposed feed-in tariff mechanism is correctly designed to ensure that it provides the right incentives for increasing the adoption of renewable energy across the state. The ATA urges the New South Wales Government to carefully consider the views contained within this submission to ensure such a scheme eventuates.

### Feed-in Tariffs

ATA supports the adoption of feed-in tariffs as an incentive mechanism for all scales of renewable energy. Recent studies of incentive mechanisms in Europe have shown that feed-in tariffs result in lower-cost deployment of renewable energy than mandated targets schemes such as Australia's Mandatory Renewable Energy Target (MRET)<sup>1,2,3</sup>.

However, accepting the Federal Government's commitment to an expanded national renewable energy target scheme, ATA believes that feed-in tariffs still have an important role to play in providing an incentive for renewable energy technologies which currently either don't benefit significantly from MRET, or face significant barriers to deployment – or both.

Small-scale roof-top solar photovoltaic (PV) electricity is one example of such a technology. Unfortunately neither MRET nor other incentive schemes currently adequately value the contribution of solar PV and the many benefits that it provides. These benefits include improved supply reliability through generation diversity; generation closer to customers resulting in improved power quality and reduced transmission losses; reduced greenhouse gas intensity of Australia's electricity generation infrastructure; avoided network augmentation costs; the development of a local high-tech clean energy industry and increased employment in the energy sector; and the adoption of more efficient network tariffs.

However a significant number of impediments exist to the uptake of small-scale, embedded renewable generation, such as solar PV. These include market failure which discriminates against solar PV and fails to recognise the true value of electricity that solar PV systems produce during hot summer periods; complex technical regulation which discriminates against system owners; and an economic regulatory framework which provides little incentive for retail or distribution businesses to actively encourage small renewable embedded generation and minimal protection for system owners.

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1 University of Cambridge, Department of Applied Economics (2004) Comparison of Feed in Tariff, Quota and Auction Mechanisms to Support Wind Power Development

2 Commission of the European Communities (2005) *The support of electricity from renewable energy sources*, Communication from the Commission

3 European Renewable Energies Federation (2007) Prices for Renewable Energies in Europe: Feed in tariffs versus Quota Systems – a comparison

The adoption of progressive, effective and world-class feed-in tariff laws has the potential to overcome these impediments and fully recognise the benefits arising from the adoption of solar PV and other clean energy solutions.

## Key Design Elements

### **1) *What factors should be considered in setting a tariff rate?***

In setting the NSW feed-in tariff rate, the NSW Taskforce should give primary consideration to the objectives of the scheme. These are described as to “encourage and support people who want to act on climate change by generating renewable energy locally; build the State’s green collar jobs sector; and expand the visibility of renewable energy technologies to help motivate the whole community in responding to climate change.”

To achieve these objectives, it is essential that the feed-in tariff rate be set at such a level as to encourage individuals to invest their savings in solar PV through offering a reasonable return on investment. As such, an effective feed-in tariff scheme needs a fair price paid for a guaranteed period of time on total generation in order to create the certainty required to drive increased investment. Our calculations show that an effective feed-in tariff scheme for New South Wales would involve a tariff:

- mandated at 80 cents per kWh for systems with a rated capacity up to 10kWh;
- offered for 15 years; and
- paid on the entire output of a system via gross production metering.

Whilst ATA has long been advocating for a feed-in tariff rate to be set at 60c/kWh, recent announcements to remove the Solar Homes and Communities Plan rebate as of July 1, 2009, means that the up-front capital costs of installation will increase for most people by \$8,000. As a result, 60c/kWh is no longer sufficient to bring about an adequate return on investment and payback of capital expenditure to bring about increased uptake.

The replacement of the SHCP with the proposed new “Solar Credits” scheme under the expanded Renewable Energy Target (RET) is in ATA’s view inappropriate, as the new policy distorts the amount of renewable energy deployed within Australia’s electricity grid from 1 July 2009 until 30 June 2015. This is discussed in detail under the section entitled *What eligibility criteria should exist for the FIT?* As such, the Solar Bonus has not been included in the calculations above.

At 80c per kWh the financial return on investment would see payback for a typically sized solar PV system achieved in between 10 and 15 years. ATA believes that rates for other small-scale renewable technologies should be calculated on a similar basis, ensuring financial payback is achieved within a realistic timeframe.

Internationally, we have seen the calculation of feed-in tariff rates based on payback times result in widespread adoption of distributed renewable energy, and we encourage the New South Wales Government to proceed along the same path as the best-practice international applications.

### **2) *Should the tariff be set for gross (all energy generated from the PV system) or net (energy generated less energy used by household)?***

The term ‘net metering’ is commonly used in place of what is described by the Australian Greenhouse Office as ‘import-export metering’<sup>4</sup>. Net metering or import-export metering results in credit for only the excess electricity exported to the grid after in-home consumption.

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<sup>4</sup> AGO (2001) *Metering of Embedded Generators in Australia*, Australian Greenhouse Office

This differs from gross metering in that only the excess after in-home consumption is exported, whereas with gross metering the total quantity generated is exported to the grid, and receives the feed-in tariff. The three metering arrangements described here (net, import-export and gross) are discussed further in **Appendix A**.

ATA strongly believes that for a feed-in tariff scheme to be effective in increasing uptake of embedded generation, the system must be based on gross metering in order to offer a guaranteed return, must be paid for a fixed period of time, and must bring about financial payback within a 10 to 15 year timeframe.

When compared with gross metering, net metering has some significant shortcomings. Net metering discriminates against people who are at home during the day, such as stay-at-home parents or senior citizens, or individuals with smaller systems; doesn't reward system owners for the full value of the clean electricity they generate, in terms of avoided emissions, network benefits and reduced demand; and doesn't provide financial certainty, as it is difficult to predict excess generation after in-home consumption without a detailed energy audit.

A system of net export metering creates significant uncertainty in the market, both in terms of potential financial return from the feed-in tariffs for system owner, and in the cost of the system for the government and wider community. The introduction of gross metering allows for far clearer estimates of ongoing costs and benefits of the tariffs due to the relative predictability of gross electricity production for a given sized installation over a given time frame.

Under a regime of net export metering, with in-home demand subtracted from production prior to determining the quantity of electricity eligible for the feed-in rate, uncertainty surrounding ongoing demand makes it near impossible for PV system owners to predict the potential payback on their system over the duration of the scheme. Such uncertainty has the potential to act as a significant disincentive for the uptake of solar PV systems.

In addition, net metering lacks transparency, as it is impossible to determine either the total generation or the total in-home consumption via this form of metering. As a result, energy auditing of homes becomes near impossible under net metering, and the ability of homeowners with grid-connected renewable energy systems to monitor their energy consumption (and potentially their carbon emissions) is severely compromised.

Indeed the recently-released Garnaut Climate Change Review Draft Report recommended gross metering over net metering, stating that:

*"the benefits of embedded generation (lower transmission losses, deferred costs for network augmentation, and displacement of high-cost generation during peak periods) are present for every unit of electricity produced, not just the amount exported. A feed-in tariff based on gross metering is thus a more accurate means of pricing these benefits."<sup>5</sup>*

### **3) Should the tariff be based on a fixed rate or a variable rate consistent with time-of-use pricing for consumption?**

ATA believes that in order to provide the greatest investment certainty with respect to guaranteed returns (applicable to both the householder and/or any financial institution [i.e. bank] that may finance such a project), that a tariff based on a fixed rate should be employed.

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<sup>5</sup> Garnaut Climate Change Review (2008) *Draft Report*, p. 437

#### **4) Should the tariff be paid to solar PV owners by the electricity distributor or the electricity retailer?**

In order to maintain a simplified system of transaction, ATA believes that any feed-in tariff should be paid by the electricity retailer, through the electricity retail bill, and that the revenue should be collected by distribution businesses.

Maintaining the existing single relationship between consumer and retailer (with respect to billing and communication) is important so as not to further complicate the information received by the renewable energy investor. Our understanding is that this is the arrangement in place under the South Australian and Queensland schemes.

#### **5) How long should the Government maintain the FiT and should the rate be fixed for the entire life of the program or varied over time?**

In order to provide financial certainty for the renewable energy investor, ATA believes that the feed-in tariff rate should be guaranteed for 15 years from the date of system installation. However, going forward, the rate should take into account the economies of scale and technological advances which are likely to lead to a reduction in the installed costs of PV systems over time. On this basis, an annual degression rate should be included.

The successful German feed-in tariff model applied an initial degression rate of 5% to its scheme. With significant early uptake under the German model over the first six years, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) increased the degression rate to 7% from 2009 and plan to further increase it to 8% from 2011<sup>6</sup>.

Thus, an initial feed-in tariff for NSW of 80 c/kWh in the first year would fall to 76 c/kWh in the second, 72.2 c/kWh in the third year, and so on. With increasing retail rates for electricity and falling costs for solar PV over time, the feed-in tariff rate would ultimately reach parity with retail electricity prices.

As an example, with an average increase in electricity retail prices of 3% per annum over the next 15 years<sup>7</sup>, and assuming a \$25 / tonne carbon price, a degression rate of 5% would see parity reached in or around the 15<sup>th</sup> year of the scheme.

#### **6) What eligibility criteria should exist for the FiT?**

ATA's preferred criteria for eligibility is based on the following points (which are expanded below):

- Eligibility for all PV system owners (including existing system owners);
- Exclusion of those who participated in the RECs scheme;
- Provide option for purchasing RECs back in order to receive FiT;
- System size limit should be a minimum of 10kW (30kW for 3-phase systems), but ideally no size limit, but just different rates for different sizes (as in ACT and Germany).

#### **Existing & New Systems Eligibility**

ATA believes that both existing and new solar PV systems should be eligible to receive the NSW feed-in tariff. Australia presently has around 9.8MW of installed grid-connected solar PV capacity<sup>8</sup>, and very few other small-scale, grid-connected renewable energy generators.

<sup>6</sup> Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) Renewable Energy Sources Act Progress Report 2007, BMU, Germany, 2007

<sup>7</sup> Based on the average CPI over the past 15 years

<sup>8</sup> IEA PVPS (2007) *National Survey Report of PV Power Applications in Australia 2006*, p. 9

It would be expected that the adoption of progressive feed-in tariff schemes around Australia will expand this level to that closer to what is seen in Germany, where nearly 4000 MW of grid-connected solar<sup>9</sup> – close to 50% of the entire global capacity – have been installed largely in the last six years as a result of the adoption of progressive feed-in tariff legislation.

Even if Australia was to achieve a quarter of the capacity of Germany over the next six to ten years, the existing capacity would represent less than 1% of the total, and thus would not be placing an undue financial burden on the scheme. As a result, we would favour the eligibility of existing generators to access the scheme.

### **Exclusion of MRET / RECs Participants**

ATA supports the exclusion of access to the mandatory renewable energy target scheme (MRET) for renewable generators who opt to participate in the feed-in tariff scheme. However in doing so, careful thought needs to be given to the setting of feed-in tariff rates such that small scale and disadvantaged renewable energy generators are given sufficient incentives to overcome the economic barriers currently faced (i.e. a minimum of 80c / kWh).

ATA takes this view for two reasons. Firstly, it is inequitable for system owners to access both the financial incentives provided through the MRET and any future feed-in tariff. As such, there needs to be a provision for existing generators who may have already sold their RECs under a retail purchase agreement for their renewable energy system to be able to access the feed-in tariff scheme in light of this clause.

This could be facilitated by the optional buy-back of an equal quantity of RECs sold by the proponent in order to qualify for the feed-in tariff. This would then be an optional path for the renewable energy generator to take – to either buy-back previously sold RECs and access the feed-in tariff, or alternatively settle for the funds obtained previously through the sale of RECs and forgo access to the feed-in tariff.

The second, and potentially more important reason that ATA supports the exclusion of access is the Federal Government's latest proposal (announced December 2008) with regard to the expanded Renewable Energy Target (RET).

Under the expanded RET, a new *"Solar Credits"* scheme has been announced. This new policy incentive works by providing system owners of up to 1.5 kW in size with an increased number of RECs in place of the current Solar Homes & Communities (\$8,000) rebate.

Specifically, from 1 July 2009 the new Solar Credits scheme provides new system owners with:

- Five times the amount of RECs between 1 July 2009 and 30 June 2012;
- Four times the amount of RECs between 1 July 2012 and 30 June 2013;
- Three times the amount of RECs between 1 July 2013 and 30 June 2014;
- Twice the amount of RECs between 1 July 2014 and 30 June 2015.

However, the increased amount of RECs for systems up to 1.5 kW available until mid 2015 does not correspond with an increase in the amount of renewable electricity generation from eligible systems. By selling available RECs to electricity retailers under the expanded RET, new solar PV purchasers will actually be reducing Australia's renewable energy required under the annual expanded RET mandated target (i.e. by four times the size of any system up to 1.5 kW between mid 2009 and mid 2012; by three times between mid 2012 and mid 2013, etc.....).

It is on this basis that the ATA does not support the new Solar Credits scheme and an additional basis for supporting the exclusion of access to system owners that take up the NSW feed-in tariff.

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<sup>9</sup> [http://www.presseportal.de/pm/55240/1209211/invest\\_in\\_germany](http://www.presseportal.de/pm/55240/1209211/invest_in_germany)

### **System Size Limit**

ATA supports the extension of feed-in tariffs beyond households to small businesses, local government, community groups and indeed to large businesses. The scale of the present climate change problem we face is such that significant action is required. Whilst small-scale renewables is only one part of the solution, we believe the range of benefits and economies of scale which can be harnessed by engaging all sectors of society are significant and we encourage the Government to support a feed-in tariff for domestic, commercial and industrial customers.

To this end, ATA supports no upper limit on the size of renewables eligible to attract a feed-in tariff. However we would support implementing a tiered system of support, similar to what is proposed in the ACT, whereby larger scale installations attract a percentage of the full feed-in tariff in recognition of the economies of scale achieved in installation for larger systems. Such systems are in place internationally, with Germany perhaps the most comprehensive and successful example of where staggered feed-in tariffs at different rates for different technologies has led to widespread uptake of a host of different technologies<sup>10</sup>.

### **Further Contact**

ATA commends the NSW Government on its proposal to implement a feed-in tariff policy and we look forward to further discussion at the consultation session this coming Thursday in Sydney. In the meantime, feel free to contact me should you have any questions regarding the content of this submission. I am available directly on (03) 9631 5417 or via email at: [damien@ata.org.au](mailto:damien@ata.org.au).

Yours sincerely,



**Damien Moyse**  
*Energy Advocate*  
ATA

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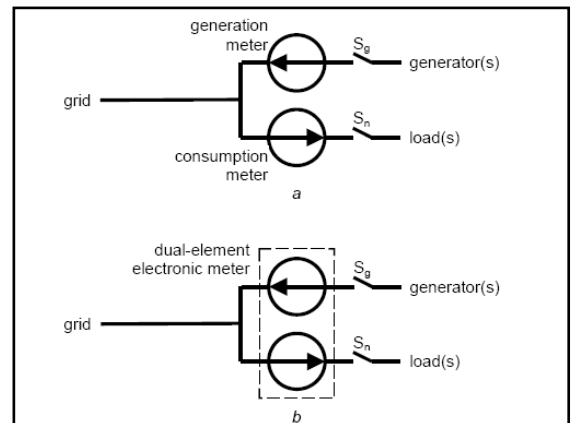
<sup>10</sup> BMU 2007, *Renewable Energy Sources Act Progress Report 2007 - Draft*, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), Berlin

## Appendix A - Metering for Feed-in Tariffs

Adapted from *Metering of Embedded Generators in Australia*, Australian Greenhouse Office, 2001

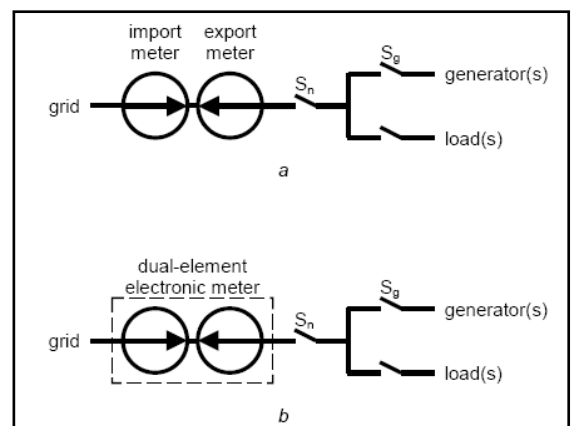
### Gross Metering

- Typical metering used for feed-in tariffs internationally
- Measures both import & export independently
- Often requires two separate meters (or a dual element electronic meter)
- Generation and consumption wired separately
- Accumulates both values over time
- Customer paid for all generation
- Customer charged for all import
- Total generation valued
- Total consumption figures given
- Also called 'generation-consumption metering'



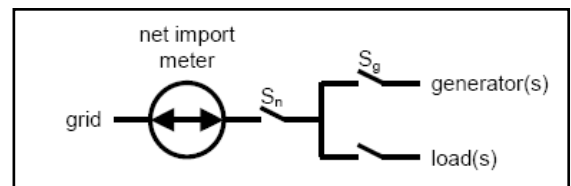
### Import-Export Metering ('Net metering')

- Commonly called 'net metering' for feed-in tariffs
- Generation used in the home, then excess exported
- Measures either import or export at any instant, depending on balance between generation and consumption at any point in time
- Accumulates both values separately
- Export = generation minus instantaneous demand
- Import = Consumption minus instant generation
- Customer paid for all exports
- Customer charged for all imports



### True Net Metering

- 'Old-school' spinning disk meter
- Not typically used for feed-in tariffs
- Measures either import or export at any instant
- Instantly 'nets' one value from other
- Customer either paid or charged depending on net result at end of billing cycle
- Least likely to give an export value, and hence least favourable for feed-in tariffs
- Can be achieved at billing stage with other options (above) by subtracting export totals from imports



### Problems with Import-Export Metering ('Net Metering')

This form of metering has been proposed and adopted for the various state feed-in tariff schemes introduced in Australia. In this sense, we are unique in the world in adopting this metering arrangement for feed-in tariffs, where gross metering is the norm.

However, when compared with gross metering, import-export metering has some significant shortcomings. Import-export metering:

- Discriminates against people who are at home during the day, such as stay-at-home parents or senior citizens, as they will be consuming proportionally more of their generation.
- Doesn't provide financial certainty, as it is difficult to predict excess generation after in-home consumption without a detailed energy audit; even then, circumstances change. Without certainty, uptake rates will be low.
- Doesn't reward system owners for the full value of the clean electricity they generate, in terms of avoided emissions, network benefits and reduced demand.
- Lacks transparency, as it is impossible to determine either the total generation or the total in-home consumption via this form of metering. This makes energy auditing very difficult.