

Senate Standing Committee on Environment, Communications and the Arts
Department of the Senate
Parliament House
Canberra ACT 2600



By email to: eca.sen@aph.gov.au

14th August 2008

RE: Inquiry into the Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008

The Alternative Technology Association (ATA) welcomes the opportunity to provide comment to the Inquiry into the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008*, as proposed by Senator Christine Milne.

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 4500 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. 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 small-scale renewable energy system owners and their interaction with the retail energy market.

ATA welcomes the purpose and much of the content of the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill* (the Bill). It is essential that Australia introduce a progressive, nationwide feed-in tariff as an incentive mechanism for renewable energy not currently sufficiently encouraged by existing mechanisms, such as the Mandatory Renewable Energy Target. Feed-in tariffs are a proven low-cost mechanism for bringing about large-scale deployment of renewable energy technologies, and such technologies are an essential element in Australia's transition to an increased reliance on renewable energy and a reduction in greenhouse gas emissions.

Context

Importance of Complementary Measures to an Emissions Trading Scheme

The announcement of the introduction of an emissions trading scheme (ETS) has been accompanied by discussion that a successful ETS would supersede additional measures and incentive schemes for renewable energy, energy efficiency and other greenhouse gas emission reduction measures. However, whilst Australia's emissions trading proposal, the Carbon Pollution Reduction Scheme (CPRS), is an essential part of Australia's response to the climate change, it alone will be insufficient to accelerate the uptake of many important technologies – such as domestic micro-generation – as significant additional barriers and market failures will remain.

As such, the proposed national CPRS alone won't facilitate the full reduction in greenhouse gas emissions which could potentially be achieved if additional complementary schemes are in place, and barriers are addressed. Many additional policy measures and incentives are necessary to overcome the remaining financial, institutional, technical and regulatory barriers that remain.

Further, the existence of complementary measures will assist in bringing about the structural changes required to enable a transition to a lower carbon economy in future years. Whilst the CPRS alone may achieve a target level of emissions reduction by a certain date, it is important that complementary measures are in place to ensure that the necessary economy-wide structural adjustments are made to enable a smooth transition towards tighter targets in future years. Mandatory renewable energy targets, feed-in tariffs and a host of other measures are essential in achieving this outcome.

Feed-in Tariffs and Renewable Energy Targets

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)^{1,2,3}.

However, accepting the 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.

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.

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

State and Territory Feed-in Tariffs

Internationally, feed-in tariffs have fast become the incentive of choice for increasing the uptake of solar and other renewable energy technologies, being implemented in over 45 countries, states or provinces internationally. South Korea, Switzerland, Germany, Japan and even Great Britain all have more solar systems feeding more power back into the electricity network than does Australia. Japan has 100 times as much installed solar power than we have locally, and Germany now more than 500 times Australia's total.

The South Australia, Queensland, Victoria and Australian Capital Territory governments have all either introduced or are proposing feed-in tariffs for small-scale renewable energy generators. However, the three state-based schemes in Australia employ import-export metering (often called 'net metering') whereby they only pay a premium rate for the excess electricity exported to the grid after in-home consumption. Of the 45+ international examples of feed-in tariff, Australia appears to be unique in adopting this form of metering for feed-in tariffs. International examples almost universally value all of the electricity generated from renewable energy, and pay the generator via 'gross metering'.

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. It is this uncertainty of return which makes feed-in tariffs a successful incentive mechanism, and without it there is a strong chance the state-based schemes won't achieve significant rates of uptake.

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 is severely compromised.

Indeed the recently-released Garnaut Climate Change Review Draft Report recommended gross metering over net metering, stating that a "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"⁴.

ATA supports the intention of the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill* to introduce a feed-in tariff which values the total amount of electricity generated by renewable energy systems, and proposes to reward system owners via the use of gross metering, consistent with all successful schemes witnessed internationally.

Comments on the Bill

ATA welcomes the intention of the Bill to introduce a progressive, nationwide feed-in tariff as an incentive mechanism for renewable energy not currently sufficiently encouraged by existing mechanisms. The following section provides direct comment on the proposed Bill and Explanatory Memorandum, using headings and section numbers directly from the Bill.

Explanatory Memorandum

⁴ Garnaut Climate Change Review (2008) *Draft Report*, p. 437

Feed-in Tariff Rates

iii “Only generators installed after the commencement of the scheme and which forgo participation in the mandatory renewable energy scheme can be a ‘qualifying generator’.”

ATA has concerns with Bill’s intention to exclude existing generators from participation in the scheme. Primarily, ATA believes that early adopters of sustainable technologies deserve to be rewarded for their actions from which we have all benefited.

Further, such a provision will result in the cancellation of many proposed installations as system proponents wait for the introduction, passing and coming into force of the legislation before committing to installation. A similar effect was observed following the announcement of an increase in the Photovoltaic Rebate Program (PVRP) solar rebate from a maximum of \$4000 to \$8000, set to commence in the new financial year, which promptly saw the cancellation of numerous orders for solar installations across the country, as people waited for July 1 to roll around. These stop-start cycles are extremely damaging to the long-term viability and sustainability of the renewable energy industry.

Finally, Australia presently has around 9.8MW of installed grid-connected solar PV capacity⁵, and very few other small-scale, grid-connected renewable energy generators. It would be expected that the adoption of a progressive feed-in tariff in Australia will expand this level to that closer to what is seen in Germany, where nearly 4000 MW of grid-connected solar⁶ – close to 50% of the entire global capacity – have been installed largely in the last 6 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 6 to 10 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.

The Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008

4. Object

(c) providing a payment to owners of qualifying generators for the renewable electricity which they produce from renewable energy sources installed after the commencement of this Act;

As above, ATA has concerns with the limitation of eligibility as a qualifying generator to systems installed after the commencement of the Act. See comments under *Explanatory Memorandum*, above, for details of these concerns.

Schedule 1—Amendment of the Renewable Energy (Electricity) Act 2000

1 Section 5

Insert: *direct customer* means a person or company who:

(a) is directly connected to an electricity distribution network other than by means of the distribution system of the electricity retailer;

⁵ IEA PVPS (2007) *National Survey Report of PV Power Applications in Australia 2006*, p. 9

⁶ http://www.presseportal.de/pm/55240/1209211/invest_in_germany

ATA finds the wording of this subsection particularly confusing. It is taken to mean that a *direct customer* is a customer connected to the electricity distribution network who purchases electricity through a contract with a generator, rather than having a relationship with a licensed electricity retailer. Is this the correct interpretation? We feel that this section needs rewording to avoid confusion.

'qualifying generator' means a renewable energy electricity generator that:
(a) is installed after the commencement of the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Act 2008*;

As stated and justified above, ATA support access for all generators – existing and new – to the feed-in tariff scheme. This could be achieved by the simple removal of clause (a) from the definition of a *qualifying generator*.

(e) forgoes participation in the mandatory renewable energy target scheme.

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.

ATA notes that the intention of this Bill is to provide support for the adoption of a broad range of renewable technologies, "particularly those that are generally unsupported by the mandatory renewable energy target scheme." As such, rates for these technologies need to be set at an appropriate level to encourage uptake. This is best calculated on a return on investment basis whereby the returns obtained through the feed-in tariff brings payback times on invested capital down to less than 10 years. It is only by achieving payback rates in this vicinity that sufficient numbers of individuals, businesses and corporations will be encouraged to adopt these technologies to achieve the goals of the Bill.

Rates for technologies which are presently sufficiently supported by MRET need also to be carefully set as to not draw these technologies away from existing incentive mechanisms into that offered by the new feed-in tariff legislation. ATA encourages a detailed study into the broad range renewable energy technologies listed in section 17 to determine their uptake under MRET, and for those unsupported by this mechanism, calculate and recommend appropriate feed-in tariff rates to achieve adequate returns on investment to encourage widespread uptake.

Finally, there needs to be a provision for existing generators who may have already sold their Renewable Energy Certificates (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.

However, ATA would like to stress that this course of action should only be available to existing generators installed prior to the commencement of the Act.

Part 3A—Acquisition of electricity from owners of qualifying generators

34A Feeding-in of electricity to grid by owners of qualifying generators

(1) Electricity retailers must:

(a) permit an owner of a qualifying generator to feed into the grid electricity generated by the qualifying generator (subject to complying with any relevant technical, safety or other requirements imposed by or under this or any other Act or relevant instrument);

ATA fully supports the inclusion of this provision which guarantees grid access to renewable energy proponents. The success of this feed-in tariff legislation depends on grid access for qualifying generators, and significant obstacles have existed in the past.

This provision needs to be accompanied by further work developing standard grid connection agreements and contracts to govern the relationship between generators and distribution businesses, further developing on the work previously done by the Ministerial Council on Energy on the development of a *Draft National Code of Practice for Embedded Generation* and on *Network Incentives for Demand Side Response and Distributed Generation*, as well as the Australian Energy Market Commission's *Review of Demand-Side Participation in the National Electricity Market*. ATA urges a continuation and speedy completion of this work which commenced more than two years ago now.

34B Registration of qualifying generators

An owner of a qualifying generator who feeds into the grid electricity generated by the qualifying generator is eligible to receive payments of the feed-in-tariff rate in accordance with section 34G, subject to the owner of the qualifying generator:

(a) registering the qualifying generator with the Regulator, for inclusion in the Feed-in-Tariff Register established under section 34F;

Whilst ATA acknowledges the need for renewable energy generators to become registered under this scheme, there needs to be an acknowledgement of the range administrative and regulatory barriers currently faced by proponents of small-scale grid-connected renewables, and as such registration with the Regulator needs to be kept as simple and streamlined as possible in order to avoid creating additional impediments to the adoption of these technologies.

34C Feed-in-tariff rate scheme

(1) The feed-in-tariff rate scheme is established by this section.

(2) The feed-in-tariff rate scheme is the payment to the owner of a qualifying generator that is registered with the Regulator of an amount, calculated by reference to:

(a) the relevant feed-in-tariff rate set by the Minister under section 34D; and

(b) all the electricity produced by that qualifying generator, not just the electricity which is exported to the electricity grid.

ATA fully supports subsection (2) (b) and the intention of the Bill to provide payment for the total quantity of electricity generated by the renewable energy generator via gross metering, in line with all successful feed-in tariff schemes internationally.

As mentioned in the section entitled *State and Territory Feed-in Tariffs*, above, paying only for the excess electricity exported to the grid (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; doesn't provide financial certainty, as it is difficult to predict excess generation after in-home consumption; and lacks transparency, as it is impossible to determine either the total generation or the total in-home consumption via this form of metering.

It is essential that any national approach to feed-in tariffs learns from international experience and adopts a progressive feed-in tariff scheme of the type that has been successful in achieving the large-scale deployment of renewable energy technologies. These schemes universally adopt 'gross metering' as the correct means of valuing all of the electricity generated by renewable energy systems and providing the guaranteed return on investment required for investors.

34D Feed-in-tariff rates

(3) The Minister may set a target level of installed capacity to be achieved. If the Minister sets a target level of installed capacity to be achieved, the Minister cannot change it until the fifth anniversary of the date on which the target level was initially set.

In light of the need to dramatically restructure Australia's stationary energy sector to achieve the kinds of significant emissions reductions which the climate science is increasingly pointing towards, a broad range of technologies are going to need to be deployed. Given the rapidly changing nature of climate science, ATA believes it is dangerous to constrain any one sector of the renewable energy sector by applying caps to the feed-in tariff scheme.

The modification and adjustment of buyback rates, constrained by the provisions of this Act, should be the means by which the adoption of specific technologies or an overall combined installation total is moderated, rather than the setting of an arbitrary target at an early stage of the scheme.

(9) The Minister must not reduce a feed-in-tariff rate set under subsection (1) or (2) during the period of 5 years starting on the date that that rate is initially set by the Minister.

(10) If the Minister reduces a feed-in-tariff rate in accordance with subsection (9), the reduction must not be more than 10 per cent of the rate that applied before the reduction.

ATA fully supports subsection (12) which guarantees that a qualifying generator is paid the feed-in tariff applicable at the time of registration for a period of 20 years from the date of registration. Such long-term certainty is an essential element in the creation of a successful feed-in tariff.

In light of this provision, ATA takes the meaning of subsections (9) and (10) to be that the feed-in tariff rate set in subsection (1) or (2) will only be eligible for lowering if left constant for a period of 5 years. If the tariff were to be lowered at the end of a 5 year period, it would then be a new rate and thus exempt from lowering for a further 5 years. Effectively, the tariff would only be able to be lowered by 10% every 5 years.

If this is an incorrect interpretation, ATA would seek clarification on the intention of these subsections. If not, given the rate of technological advancement in emerging renewable energy technologies such as solar PV, ATA believes that this reduction in tariffs might not be sufficient to keep up with reductions in installation costs. As a result, a perverse incentive may emerge whereby proponents would be encouraged to delay the installation of renewable energy for a time when the installation cost reduces faster than the available tariff, delaying action on this important tariff.

The German feed-in tariff has a built-in 5% 'degression' rate for solar PV whereby the tariff available in a subsequent year of the scheme is automatically 5% lower than the previous. Even so, installation rates have been increasing exponentially and as a result the German government has resolved to reduce the feed-in tariff rates between 8% and 10% in 2009 and 2010, then 9% per annum thereafter⁷.

Whilst seemingly welcome from a renewable energy proponents perspective, ATA believes that the scheme needs to be able to retain the flexibility required to adapt to industry changes, technological

7 http://www.presseportal.de/pm/55240/1209211/invest_in_germany

advances and economies of scale, to maintain both a sustainable renewable energy industry and feed-in tariff incentive mechanism.

34G Feed-in-tariff rate payments

(1) The owner of a qualifying generator must lodge with the Regulator within 30 days of each anniversary of the registration of the qualifying generator an annual return in the prescribed form indicating the metered energy produced by the qualifying generator.

As with the requirement for qualifying generators to register with the Regulator, ATA is concerned about the creation of additional barriers for renewable energy proponents, in the form of further regulatory requirements for proponents to satisfy. Again, as above, ATA urges any process adopted for the lodging of an annual return, and any prescribed forms, to be appropriately simple to reflect the nature and scale of the technology.

Further, it is unclear as to the arrangement between the electricity retailer, distribution business and qualifying generator, particularly with regards to the quantification of electricity generated. Whilst these clauses deal with the means by which the generator would apply for reimbursement, it is unclear as to whether the retailer or distribution business would be collecting generation data on behalf of the customer, or the Regulator.

If not, and the generator is responsible for collating that data from meter reads, it is unclear from the proposed Bill who will provide external auditing of the amounts reported, or if there is any scope for cross-checking values given. What mechanism would exist for the verification of this data?

If a role exists for either the retailer or distribution business to collect and collate that data, then perhaps there could also be a role for these bodies to lodge the annual return on behalf of the generator. This would be particularly applicable to small-scale generators who have an electricity supply arrangement with the utility.

However may not be applicable in instances where the generation equipment is installed a premises not owned by the occupier of that premises, for example in the case of rental properties or the leasing of roof-space – as presently happens in Germany. In such instances, the separation of electricity purchase and feed-in tariff payment would be necessary.

ATA encourages clarification of these issues and arrangements in the proposed Bill.

Further Contact

Feel free to contact myself, ATA Energy Policy Manager, Brad Shone, if you have any questions regarding the content of this submission or to appear before the Committee as a witness – I am prepared and willing to do so if deemed valuable. I am available directly on (03) 9631 5406 or via email at: brad@ata.org.au.

Yours sincerely,



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