Submission by

Alternative Technology Association

on the

West Australian Feed-in Tariff Discussion Paper

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1.0 Introduction

The Alternative Technology Association (ATA) welcomes the opportunity to respond to the *West Australian Feed-in Tariff (FiT) Discussion Paper*.

ATA is a not-for-profit organisation established in 1980 to empower our community to develop and share sustainable solutions and to promote the uptake of sustainable technologies. The organisation provides service to over 5,000 members nationally (including almost 600 in WA comprising membership of two separate branches), 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 proponents of renewable micro-generation systems, ATA is in a unique position to highlight the experience of small-scale renewable energy system owners and their interaction with the energy market.

We have structured our submission in response to the specific questions outlined in the *Discussion Paper*, as per below.

2.0 Tariff Rate

1.	*Should the tariff rate decline for new participants over time, to encourage efficiency and innovation?*
2.	*What is an appropriate impact on domestic electricity costs to pay for a FiT for residential consumers? Within this context, respondents may wish to consider:*
	- an appropriate tariff rate?
	- how long should system owners receive the tariff for?
3.	*Are there any other scheme design mechanisms that encourage industry to pass through cost savings?*

2.1 Degression Rate

Degression rates have proven to be effective for encouraging industry efficiency and cost reductions in the more successful FiT schemes internationally. However there are a few key aspects to consider here:

1. No degression rate exists in any of the FiT schemes currently in operation around Australia. Internationally, degression rates are used in the context of gross FiTs. ATA is not aware of any net FiTs internationally applying a degression rate (or indeed any net FiTs internationally).
2. Degression rates applied internationally are structured in a specific way. The tariff rate reduces on an annual basis applicable to each new entrant in the scheme – i.e. not for existing scheme customers. As an example, someone joining the scheme in year one will retain that rate (e.g. 60c / kWh) for the entirety of their eligibility period. In year two of the scheme, the rate may drop by 5% (e.g. to 57c / kWh), however this is only applied to new entrants in year two, and they retain this rate for the lifetime of their eligibility. In year three, the rate would be 54.15c / kWh for year three entrants, and so on. Structured in this way, degression rates provide financial certainty to micro-generation proponents.

3. The purpose of including a degression rate is to strengthen the FiT scheme as an industry development and transitionary measure whilst conventional electricity prices rise. The scheme should therefore be strong enough to drive significant investment in eligible technologies and provide certainty to all market participants regarding financial and technological considerations. Only a gross FiT can provide this level of certainty.

Given the above and the international experience with degression rates, ATA therefore would only support a degression rate in the context of a gross FiT. Any degression rate applied to a net FiT would significantly diminish the return to the micro-generation proponent, and further reduce financial certainty, adding to the disadvantages brought about by net FiTs for households, businesses and community organisations wishing to participate in the scheme and who consume electricity during the day.

2.2 Impact on Domestic Electricity Costs

In order to maximise the benefits and contain the costs from a FiT scheme driving only solar micro-generators (as proposed by the WA Government), ATA suggests the following three principles are adhered to:

- The acceptance that the FiT will employ some level of public subsidy beyond the pure costs and benefits delivered through the scheme;
- A commitment to reducing the impact on low income earners and vulnerable consumers in that level of public support; and
- Recognising that it is far simpler to ascertain and control scheme costs through the use of a gross tariff arrangement.

Arguments relating to limiting wealth transfer and the impact of a regressive tax have been used in other jurisdictions to justify net feed-in tariffs. ATA's view is that the cost impact of the scheme is an issue directly linked with the tariff rate and the funding model – not with the net versus gross argument. This is an important distinction when considering the impact of scheme cost.

2.2.1 Net versus Gross

The net versus gross question is a technical issue and one that should be resolved by the best approach from a technical perspective. On this, Garnaut[1] has recently said:

> *"The two externalities from embedded generation are present for every unit of electricity produced, not just the amount sold – implying that gross metering is the more appropriate approach for addressing this market failure."*

The two externalities referred to by Garnaut are deferred augmentation of the transmission and distribution system and reduced transmission losses. When it comes to solar, a third externality is the value of peak time generation embedded in the electricity network. When it comes to solar, small wind and micro-hydro systems collectively, a fourth is the value of emissions free generation.

[1] Garnaut, 2008. *'The Garnaut Climate Change Review'*. Cambridge University Press, Melbourne.

From a technical perspective, net schemes require a net (or import / export) metering arrangement. Import / export metering cannot separately quantify generation from electricity consumption (load). This makes it impossible for the micro-generation proponent to understand energy load profile in the property (and therefore conduct a simple and accurate energy audit).

In addition, network managers such as Distribution Network Service Providers (DNSPs) and the Australian Energy Market Operator (AEMO) cannot easily ascertain the exact level of embedded generation in the network. AEMO (formerly NEMMCO) have recently said on the question of net versus gross[2]:

> *"It is essential that national smart metering requirements for import / export metering adopt a progressive and flexible means in achieving long term benefits to promote efficient investment in electricity services for consumers installing small generation. This longer term perspective implies providing flexibility for policy and market led initiatives and changes. An example of a policy led initiative that goes to the issue of gross or net metering is jurisdictional feed-in-tariffs (FiT) for small embedded generation.*
>
> *As the policy environment remains unclear as to a consistent approach for gross or net FiTs across Australia, the appropriate direction is to adopt the single metering solution that can accommodate all jurisdictions and provides the greatest flexibility for future policy directions. Consumer choice will be effectively promoted through gross metering as it provides a greater amount of relevant information to the consumer and other relevant parties in the supply chain. Only gross metering can, for example, allow the consumer to monitor the full output, and value, of their small generator."*

A final misconception with respect to net FiTs is that they are often justified on the grounds that they will lead to increased energy efficiency. ATA has found no evidence of this either in Australia or internationally and indeed in our view, it is just as likely that net FiTs will lead to load-shifting – with micro-generation proponents directing as much load as possible to off-peak times, when the emissions intensity of electricity grids are usually at their highest.

2.2.2 Reducing Impact on Low Income Households / Vulnerable Consumers

Bearing the above in mind, ATA shares the concerns of the social policy sector regarding the impact of feed-in tariffs on vulnerable consumers.

It is standard practice both internationally and in Australia to levy the cost of any FiT scheme through the electricity market – i.e. across all electricity consumers. ATA does not support the approach of funding a feed-in tariff scheme through consolidated (i.e. tax) revenue. This approach provides limited certainty regarding the long-term support available for a properly designed scheme.

In structuring the cost of the scheme through the electricity market, a potential wealth transfer from low income consumers is established, and from a consumer class that are not likely to be able to afford to participate in the scheme. ATA strongly supports consumer protections with respect to feed-in tariffs that alleviate further challenges of energy affordability on low income consumers.

[2] National Electricity Market Management Company (NEMMCO), 2009. *'Function 11 – Import / Export Metering'*. Paper to the *Business Requirements Working Group* of the Ministerial Council on Energy's *National Smart Meter Project*.

The WA Government should consider the affordability concerns that result from FiT schemes in line with other energy affordability policies. Rebates for energy concession card holders or excluding low income households from scheme cost recovery should be utilised to address these issues.

2.2.3 Tariff Rate and Cost Differential

The other key aspect impacting domestic electricity costs is the tariff rate. ATA believes that a tariff rate can be achieved that provides significant support to the micro-generation proponent whilst minimising costs to those electricity consumers that contribute to the cost of the scheme.

There is one key issue in this context that has been overlooked in all of the FiT schemes so far enacted across the country – the rate collected from electricity consumers should not be the same as the rate paid to micro-generation proponents.

For example, if 60c / kWh is collected from contributing electricity consumers and 60c / kWh is given to micro-generation proponents, electricity retailers obtain the electricity for free. Prior to premium FiTs being enacted around the country, electricity retailers were paying approximately the retail value of electricity (e.g. 17c – 20c / kWh) to micro-generation proponents from their embedded electricity generation. Without legislating some level of cost differential between the rate collected and the rate paid, electricity retailers will avoid paying anything related to a wholesale price for the electricity.

This issue has been recognised in various states (including South Australia, Queensland and Victoria) by retailers who have voluntarily paid an additional 6c – 10c / kWh above the legislated premium FiT rate. However what we are seeing currently is an ad-hoc approach to this issue and greater certainty is required.

Addressing this issue formally through legislation means that a significant reduction in the cost of the FiT scheme overall can be achieved.

ATA's preferred approach here is for a 10c / kWh differential between the rate collected from all contributing consumers and the rate paid to micro-generation proponents. Legislating this cost differential means that a 50c / kWh gross FiT will actually cost all electricity consumers only 40c / kWh (with the retailer paying 10c / kWh). Including this fundamental aspect in scheme design would mean a 20% saving on the cost of the scheme.

2.2.4 ATA Model of Scheme Cost

ATA has modelled the cost of a 50c / kWh gross FiT for WA that includes this cost differential approach (i.e. the rate collected off all electricity consumers is 40c /kWh with the electricity retailers legislated to pay 10c / kWh). The spreadsheets outlining this model are attached to this submission. The model assumes:

- 150 MW of micro-generation installed over 10 years;
- Total scheme duration lasting 20 years (standard for all FiT schemes nationally apart from Victoria which is 15 years);
- FiT payments lasting a maximum of 15 years, with micro-generators joining the scheme after year 5 only able to obtain the premium tariff until the 20th year of the scheme (ATA envisages scheme reviews within the first five years to ascertain costs and benefits);

- A degression rate of 5% per annum;
- An inflation rate of 3% per annum;
- Total state consumption approximately 30,000 GWh per annum[3];
- Approximately 950,000 electricity consumers[3] contributing to the scheme (this may require adjustment depending upon treatment of vulnerable consumers).

Properly structured, FiTs levy scheme cost on the basis of electricity consumption (i.e. the more kWh's a household / business consumes, the more they contribute to the FiT scheme).

ATA's model highlights that for an average household (i.e. one consuming 16 kWh per day of electricity), the approximate costs of a gross FiT scheme would be:

- An average of approximately $7.50 per annum (or $1.87 per quarter) over the lifetime of the scheme;
- A minimum cost of $1.61 per annum and a maximum cost of $15.77 per annum in the most expensive year (the cost of a FiT rises and falls over the life of the scheme as more generation is installed and then initial scheme participants drop off in the latter years.

An average cost of $7.50 per annum is extremely small in the context of rising electricity prices (and particularly in the context of likely costs for smart metering). Couped with strong state energy efficiency policies and support, the overall cost impact of such a scheme can be easily balanced (indeed the experience of ATA members are that households can easily reduce their demand to significantly less than 16 kWh per day).

A FiT rate of approximately 50c / kWh paid on gross generation will see micro-generation proponents pay off their systems in around 10 years (this excludes any discount rate for net present value and includes the normal value of traded RECs – i.e. without the *Solar Credits* multiplier, which ATA does not support and in any event will be reduced from mid-2012 onwards).

This is compared to a net FiT arrangement that will see payback periods balloon out to somewhere between 20 and 40 years (i.e. between 50% and 25% export to the grid respectively).

In this way, it can be seen that a strong gross FiT can provide certainty to all market participants; can provide a strong incentive to the micro-generation proponent; can protect vulnerable consumers; and deliver the WA Government a successful scheme that will drive demand-side micro-generation in the context of shifting energy market policies in response to greater environmental and network efficiency objectives.

[3] These assumptions are indicative only and based upon 2004 / 2005 figures obtain from ABARE tables in: http://www.abare.gov.au/interactive/energy/excel/Tablei.xls

3.0 Scheme Life and Duration of Payments

4.	*What options for scheme life and duration are preferred and why?*
5.	*Do you support the inclusion of review periods?*
6.	*Are there options not outlined above that achieve the same result or a better outcome?*

3.1 Scheme Life and Duration

From the perspective of a micro-generation proponent, scheme duration is inextricably linked with investment certainty. On this basis, ATA supports the implementation of a long term, 20 year scheme, consistent with the majority of schemes currently in operation around Australia. In this regard, the South Australian, Queensland, and ACT schemes have been established for 20 years, with the Victorian scheme legislated for 15.

ATA's WA FiT model attached has specifically utilised a 20-year scheme duration and has been designed on the basis of broadly a 10-year investment return. This will afford prospective micro-generation proponents a 10-year window within which to participate in the scheme and achieve pay-back of their system.

3.2 Review Periods

ATA strongly supports the inclusion of review periods, preferably within the first three years, in order that a full assessment of scheme costs and benefits can be conducted.

4.0 System Size

7.	*Should the size limits of the FiT scheme be the same as the Renewable Energy Buyback Scheme?*

ATA supports system size limits consistent with the majority of schemes throughout the country. In this regard, all states and the ACT currently operating FiTs apart from Victoria[4] allow for systems up to 10 kW per phase, with the ACT scheme specifically allowing for 30 kW for three-phase systems. ATA therefore supports a 10 kW size limit per phase for the WA FiT.

[4] Victoria's FiT currently employs a system size limit of 5 kW for a single phase unit only.

5.0 GreenPower

8.	*Should the FiT include a requirement for recipients to purchase GreenPower for electricity drawn from the grid?*
9.	*Are there any other mechanisms you can suggest that achieve the same or similar outcome?*

ATA supports the notion of mandating GreenPower purchases for any FiT recipient, although not for the reason outlined in the discussion paper.

In our view, the administrators of the GreenPower program made the appropriate decision in maintaining the integrity of the GreenPower program by excluding RECs generated through the *Solar Credits Scheme*. The integrity of the GreenPower program is critical to its marketability and therefore success in the electricity market. Any move to distort the MWh value of RECs traded through this mechanism; or change the additional nature of GreenPower with respect to the *Renewable Energy Target* (RET); directly threatens the ongoing viability of the scheme.

ATA has significant experience with consumer motivation and in providing independent information to both our members and the general public with regards to GreenPower. On this basis, mandated purchases of GreenPower for FiT recipients should not in any way be linked to addressing the problems caused by the Solar Credits Scheme.

Notwithstanding the above, ATA would support a requirement for FiT recipients to purchase their consumption through GreenPower. Indeed the majority of our 1,500 micro-generation proponents already do, along with a significant proportion of our membership overall.

Should the WA Government wish to adopt this design aspect, one issue for consideration is placing a cap on the price of which GreenPower is mandated to FiT recipients (i.e. if the REC price increases significantly, then the government may wish to consider a price point at which the mandatory requirement on FiT recipients is extinguished).

Ultimately though in our view, on-site micro-generation should not occur in isolation of a comprehensive energy management approach that includes optimal energy efficiency investment that will offset any price increase associated with a move from conventional electricity consumption to GreenPower.

6.0 Legal Mechanisms

10.	*Should the scheme be legislated, or implemented as a non-legislated program?*
11.	*Are there other mechanisms that may be appropriate for implementing a FiT scheme?*

ATA doubts the ability for a FiT program (as opposed to legislation) to be properly structured through the electricity market and not to be subject to the whims of future governments or market participants with respect to adjustment or potential program closure.

In our view, legislation is the best approach as it will provide all proponents the greatest level of certainty with respect to scheme costs and benefits and the review period is the appropriate time at which these details can be thoroughly assessed and any necessary adjustments made in accordance with long term scheme goals.

7.0 Other Issues

7.1 Expanded Technology Eligibility

ATA recommends that the WA Government consider the eligibility of other small scale technologies into its FiT scheme.

In particular, micro wind turbines (MWT) and micro-hydro systems can provide more favourable micro-generation options than small scale solar, particularly in rural locations still able to grid-connect.

Indeed, the NSW Government recently included eligibility for MWTs in their FiT scheme. The experience of ATA members in many rural NSW locations is that where MWTs can access an uninterrupted and relatively constant wind resource, MWT will provide a more optimal micro-generation investment option than solar. Provided connection to the electricity network is possible, there is no reason why this will not be the case in rural regions of WA.

7.2 Network Access Charges

A related issue for micro-generation proponents in WA (although not specifically caused by the introduction of the WA FiT), is the network access regime currently being enacted by one DNSP.

ATA's understanding is that in WA, the *Uniform Tariff Act* sets the price of electricity by parliament for all residential users. Under this legislation, residents can chose a parliamentary set flat tariff (A1); or a time-of-use (TOU) tariff (SmartPower) – where the rate differs according to when you use it.

Western Power is currently proposing to apply only TOU network access charges to *'bi-directional users'* or residential renewable generators. Whereas every other residential user in the state can choose a flat or TOU tariff (depending on which made economic sense), residential micro-generation proponents are not afforded this choice. This will provide a significant disincentive to many people to install micro-generation, and for those that do, will result in higher bills overall in many instances.

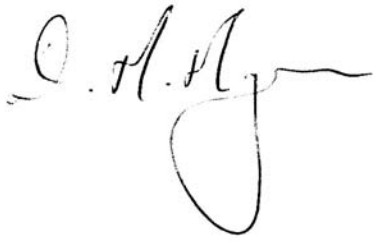
Whilst ATA supports 'reflective' network costs delivered through smart metering technology, we do not if these reflective costs discriminate against much less than 1% of the residential network. To install micro-generation in order to reduce your consumption from the electricity grid and then end up with an increased bill is a perverse outcome and poor regulation of network management.

We therefore call on the Western Australian Government to rectify this discriminatory network access policy and require DNSPs to offer the same choice with respect to network access charges to all residential customers, whether or not they are on-site micro-generators.

8.0 Further Contact

Thank you again for the opportunity to submit to this review and feel free to contact us (03 9631 5417) should you have any questions regarding the content of this submission.

Yours sincerely,



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