



Environmental Defender's Office ACT Inc.



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Dear Secretariat

RE: OPTIONS FOR AN EXPANDED ACT ELECTRICITY FEED-IN TARIFF SCHEME

The Environmental Defender's Office (ACT) (EDO) welcomes the opportunity to comment on the ACT Government's Discussion Paper 'National Capital to Solar Capital: Options for an Expanded ACT Electricity Feed-In-Tariff Scheme'.

The EDO is a non-profit, community legal centre specialising in public interest environmental law. Our office is one of nine independently constituted and managed Environmental Defender's Offices in each State and Territory of Australia. We provide legal representation and advice, take an active role in environmental law reform and policy formulation and offer education programs designed to facilitate public participation in environmental decision-making.

Background

The IEA noted that Australia has the highest average solar radiation of any continent in the world,¹ and Canberra is second only to Perth for average capital city daily sunshine hours.² It makes sense for Canberra to use this natural advantage and do everything we can to utilize the abundant natural resource available to us. The EDO strongly supports Feed-in Tariff laws as an integral part of encouraging the production of electricity from renewable sources. Renewable energy has a crucial role to play as part of Australia's long-term mitigation response to climate change and represents the primary long-term viable solution to climate change. Consistent with previous submissions the EDO

¹ <http://www.mretreview.gov.au/pubs/mret-submission93.pdf>

² Bureau of Meteorology, see http://www.bom.gov.au/jsp/ncc/climate_averages/sunshine-hours/index.jsp.

supports the expansion of the feed in tariff scheme. The benefits of a feed in tariff and the overseas success of feed-in-laws are discussed in these previous EDO submission.³

The vast majority of the ACT's greenhouse gas emissions (approximately 97%) are attributable to stationary energy use and transport. Around 64 per cent of ACT emissions come from electricity use powering our homes and workplaces.⁴ Given this the ACT is in a unique position to reduce our emissions quickly and relatively easily, certainly more so than other jurisdictions. Initiatives such as the Feed-in Tariff should be utilised to the greatest extent reasonably possible.

Climate change initiatives must not be looked at in isolation. Other green house gas reduction measures must also be considered in the broader context of climate change mitigation. The obvious and essential complimentary measure to the Feed-in Tariff is improved energy efficiency. Energy efficiency measures are essential to reduce our emissions and to ensure that individuals particularly those on low incomes are exposed as little as possible to price rises caused by the Feed-in Tariff. Measures to reduce emissions and initiatives to assist low income earners are discussed in previous EDO submissions (see note 3 above).

If the ACT is to succeed in meeting a meaningful renewable energy use target, which the EDO submits should be 100% by 2020, and a renewable energy production target the Feed-in Tariff must play a significant role. In a commercial context the Feed-in Tariff is simply a guaranteed return on investment over a period of time. Governments have frequently, as is the case with fossil fuels, distorted the market and placed certain industries or subsets at an advantage over others. The Feed-in Tariff is no different.

Executive Summary

The EDO supports an expanded feed-in-tariff and a summary of the EDO's recommendations and comments are as follows:

- EDO supports an overall scheme cap for installations above 30kW with a tender process for installations above 10mW and no cap for installations under 30kW;
- expansion of the scheme has the potential to increase jobs;
- expansion of the scheme represents an opportunity to shift the economy away from fossil fuel reliance;
- EDO supports the principle that only electricity sold into and used within the ACT electricity network be eligible for a premium payment;

³See EDO submissions to the:

- Standing Committee on Climate Change, Environment and Water; Inquiry into ACT Greenhouse Gas Reduction Targets.
- proposed Electricity Feed-in (Solar Premium) Bill 2007
- ACT Government's Feed in tariff discussion paper and on the proposed Solar Premium Bill
- Inquiry into the *Renewable Energy (Electricity) Amendment (Feed in Tariff) Bill 2008*

Submissions are available on the EDO website at <http://www.edo.org.au/edoact/>

⁴ *Draft Sustainable Energy Policy 2010–2020*, Department of the Environment, Climate Change, Energy and Water, December 2009. Note that this figure does vary slightly between different sources.

- EDO recommends that any scheme should include community-owned generation sites and other methods to allow all of the community to participate in and benefit from the scheme; and
- EDO is of the view that the expansion of the scheme will provide a disincentive for excessive consumption as it shifts the cost of electricity across electricity consumers proportionate to consumption.

The EDO has made some more detailed comments on some of the specific questions raised in the discussion paper below.

Response to Discussion Paper Questions

Do you believe there should be a cap on the Scheme if it is expanded? If so, what form should the cap take? Do you believe an annual cap is appropriate? If so, do you believe it can be administered equitably?

The EDO is of the view that the size of the systems that are entitled to receive the Feed-in Tariff should not be limited. As the aim of the Feed-in Tariff scheme is to increase the amount of electricity generated from renewable sources, and therefore reduce our greenhouse gas emissions, and given that the uptake so far has been successful, to artificially frustrate the scheme's potential by placing such low limits on the size of systems that are entitled to receive the Feed-in Tariff is not a sensible or proportionate policy. The stated objects of the Scheme would be better achieved by removing the existing limitation on the size of installations eligible. That said the EDO recognises that it is appropriate for the Government to exercise a level of control over the scheme so as to protect Canberrans from any unintended consequences and ensure it runs smoothly.

The Government, in setting the premium price each year does already have a high level of control over the scheme. A cap on the total scheme as an additional control to ensure that liability is managed and exposure of ACT residents is controlled is a reasonable position. Potentially it can ensure a reasonable roll out and development of the scheme and control price mechanisms to maximize return for Canberrans both in respect of the quantity of renewable electricity produced and the price paid for it.

A scheme cap should not include installations of less than 30kw capacity. This ensures that there is never a limit on the number of residential and small industrial systems that can take part in the scheme but it does control commercial participants.

The best way to apply such a cap is a difficult policy question. An annual cap could easily be established consistent with the current mechanism for premium price determination. Applicants assessed in order of application and a notice published when the quota has been reached. It may also be worth considering the possibility of including a notice when the cap is being approached to encourage people into the scheme and improve business certainty. This annual cap could be applied to Installations up to 10MW. This is a large installation but small enough that it can be built within the 12 month timeframe and thus, with appropriate guarantees built into an annual cap, still provides sufficient investor certainty.

For installations beyond this level, particularly given that large projects may take more than 12 months to come on line a mechanism would need to be put in place to grant persons the right to access the scheme and guarantee a place within the quota. For these cases an overall scheme cap may be more appropriate. A five year timeframe would probably be sufficient to achieve these aims.

The suggestion to set aside a portion of the total cap to be allotted via a tender process is certainly compelling. Allowing proponents to bid for the right to use a portion (or perhaps all) of the quota and provide the power at the lowest possible cost to Canberrans is very attractive.

In this scenario having no cap for installations under 30 kW and an overall scheme cap for installations above this size with a portion set aside for installations of less than 10mW and installations over 10mW being required to tender for the quota (with a prescribed maximum, and possibly minimum, in the legislation) is an equitable and attractive scheme for both consumers and producers.

Taking the above modelling into account, what do you think is the most appropriate level of retail price cap? What are your views on the short and long term job impacts?

More detail on the modeling is needed. If the community is to be able to properly engage with the issue they need the full range of facts and assumption upon which the modeling is based. Unlike conventional electricity purchases which come from outside the Territory the electricity is actually being produced here and therefore presumably a greater percentage of the revenue going back to the Canberra economy. The EDO is not in a position to undertake any substantial economic analysis of this factor but it would appear to be something warranting consideration and the modelling provided does not tell us what factors it does and does not take into account.

The initiative must be seen in the broader context. Not only are we encouraging a whole new industry, part of which will necessarily have to develop outside of the ACT, but as the rest of the country implements similar or alternative schemes to encourage renewable energy growth the head start that Canberra business have, and their ability to branch out into other markets will bring positive returns back to the Territory. Evidence the world over is very positive for renewable jobs, to suggest that such a scheme could ultimately cost jobs is inconsistent with the experience of the rest of the world.⁵

Key complimentary programs, such as energy efficiency initiatives also have the capacity to shift jobs in to a low carbon economy. Reduced demand for electricity as a result of efficiency improvements will also improve the reliability of the network through reduced loads. Energy efficiency will not only reduce energy consumption, and therefore lower customer bills, but may also create job opportunities for those involved in delivering the required energy efficiency services.⁶

⁵ As a result of feed-in tariffs, Germany currently employs more than 215,000 people in the renewable energy sector, according to the German Federal Ministry of Economics and Technology. See www.german-renewableenergy.com.

⁶ *Draft Sustainable Energy Policy 2010–2020*, Department of the Environment, Climate Change, Energy and Water, December 2009 p6.

The *Renewable Energy (Electricity) Amendment Act 2009* (Cth) implements the Federal Government's 20% renewable energy (45,000 gigawatt-hours) by 2020.

By expanding the scheme and allowing ACT the chance to establish themselves, drive technological advancements and develop efficient work practices and systems, these business will find themselves at a significant competitive advantage when it comes to delivering initiatives in other jurisdictions which in turn will mean economic benefits flow back to the Territory.

The scheme also creates an initial impetus for the industry to allow it to establish itself and compete on a level playing field with fossil fuel production. Once this happens and the real cost of fossil fuel production is recognised the solar industry should continue to grow and maintain the initial increase in jobs. The scenario presented appears to envisage one round of installations rather than this being the first stage in an economy wide shift. The more panels that are purchased the lower the price and the better the product will ultimately become. This should allow a lower premium price thus ensuring the scheme will continue to grow.

Further it should also be noted that at a sufficient scale, embedded energy generation such as solar PV (particularly during peak periods) can reduce the engineering requirements of the system to the extent that this allows deferral of network augmentation.⁷ This ultimately reduces electricity cost for Canberrans which would lead to different outcomes from those presented in the modelling.

It does not appear from the paper presented that these factors have been considered and the EDO would encourage further research to ensure that the best outcomes are achieved.

Given these factors it is difficult to adopt a particular price level considered in the modelling. In a general sense the EDO supports the greatest use of the scheme as possible and recognises that measures will have to be put into place to protect low income earners in the community (see discussion on relative costs at the end of this submission).

Do you consider the Clean Economy opportunity to be a significant factor in considering the potential expansion of the Scheme? Would you support the Government taking action to sustain the short-term employment growth arising from that expansion? What sort of actions would you support?

As previously stated the EDO is of the view that the expansion of the scheme does represent a significant opportunity. Economic studies have consistently found that early investment reduces the overall cost.⁸ Government input to maintain the benefits and further shift the economy away from fossil fuel use would be a very positive step forward.

The EDO supports initiatives to ensure that these projects lead, as much as possible, to skilled jobs rather than low skilled jobs and that we have the capacity to build on the skills base developed during the early boom time. To the greatest extent possible it would be preferable to train future employees

⁷ Garnaut Climate Change Review – Final Report – Chapter 19

⁸ Sir Stern, Nicolas 'The Stern review on the Economics of Climate Change!'; Garnaut Climate Change Review – Final Report.

to be electricians or develop other unique skills required for solar installations; this could be linked to programs at the CIT for solar installation. Factors such as this could be requirements for consideration during the tender process for large scale installations. A group of skilled electricians and labourers with the necessary skills to keep the program going and obtain work in other parts of the country once/if ACT reach capacity would be a very positive outcome.

As previously submitted, in addition to feed-in-tariff laws, this Office supports the following additional measures to support FITs to achieve the aim of promoting an uptake of renewable energy:

- establishing a binding target for a proportion of renewable energy electricity generation and consumption;
- tax incentives; and
- low interest 'green' loans to cover the up-front costs of installing renewable energy systems.

If a solar power facility based in the ACT become operational, should only those units of electricity actually sold into and used within the ACT electricity network be considered as potentially eligible for payment of a Premium Price under the ACT Scheme? Should the sale of electricity to an interstate user or on-seller be deemed ineligible?

The EDO would support the principle that if the electricity is not sold to ACT residents they should not be the ones paying for it. Common sense would suggest that if producers can get a better price for their product they will go elsewhere. ACT residents, in purchasing at a premium rate are doing just that, purchasing a product that they recognise to be of significantly greater value than coal fired electricity. Whilst emissions reduction are equally effective in combating climate change irrespective of where they are achieved it does seem inherently unfair that ACT residents should be subsidising a scheme if they are not receiving the benefit from it.

Do you think access to the Scheme should be extended to community-owned generation sites? Should owners or occupiers of unsuitable properties be able to access the Scheme through alternative means? Do you have any views on how the issues identified by the ICRC could be addressed?

The EDO submits that both community and privately owned schemes for those who cannot individually participate are already legally possible within the existing framework. However the EDO would support measures to clarify these arrangements and ensure that everyone has the capacity to access the benefits of the scheme.

Schemes such as this would also provide a means for people who cannot afford the upfront cost to participate on a smaller scale. The EDO sees no reasons to limit access to those who do not live in suitable residences, anyone who wants to participate, to whatever extent, should be allowed to do so.

One way of minimising the initial up-front payment of installing renewable energy systems would be to provide low interest 'green' loans to enable those less able to pay for these systems to do so. It would be desirable that based on the premium paid for the green power generated from the system this would

in time pay for the loan. Therefore in the long term there would be no cost to the purchaser. This would enable those people who could not afford the initial up-front cost of a system to participate in the scheme.

Do you have any other comments on the potential expansion of the ACT's Feed-in-Tariff Scheme?

The Feed-in Tariff shifts the cost of electricity across electricity consumers proportionate to consumption. The higher price recognises the higher cost of producing energy cleanly. Electricity is currently artificially cheap because of subsidies to fossil fuel producers and a failure to take into account the real cost of the resultant pollution. Not only does the Feed-in Tariff encourage the production of renewable energy and create new industry and drive technological change it also provides a disincentive for excessive consumption. This is a unique policy outcome that would be very difficult to achieve through other mechanisms available to the Territory. Coupled with Government funded energy efficiency programs there is the potential to achieve very significant emissions cuts.

Currently the ACT uses approximately 2,831,000 MWh of electricity per annum.⁹ Average residential household use is around 8,000 kWh per year and there are around 122,000 households in Canberra this gives a total residential use of 976,000 MWh per annum or around 34% of the total electricity consumed. Energy efficiency measures could relatively quickly and easily lead to a 40% reduction in household energy use as well a significant commercial sector gains.¹⁰ This would mean an average consumption of around 4800kWh per household per year and a total household consumption of 585,600MWh. To generate this much power there would need to be approximately 321MW of installed solar PV capacity. Noting the modelling provided we can assume this would occur at an average impost of around \$350.

To save households \$350 off the current average bill the average household would need an average efficiency improvement of around 26.4% this is very achievable (a 40% reduction in electricity use gives a saving of \$529 and based on the current modelling would lead to significant economic stimulus).

Further ACT electricity prices are, in comparison with national levels, very cheap. The national average price for 2007 was around 17.5 cents.¹¹ The ACT electricity price has risen approximately 33% since 2007 which is around the national average;¹² and current ACT retail price is around 16.5 cents.¹³ If there is average electricity price growth of 3% per year (well below what we can reasonably expect) this would mean a retail price of approximately 29 cents per kWh in 20 years. At an average increase of 4.5%pa the price would be approximately 39.8 cents per kWh.

⁹ Independent Competition and Regulatory Commission; *Final Decision Retail Prices for Non-contestable Electricity Customers, 2009–2010*, Report 3 of 2009 June 2009.

¹⁰ See Conservation Council 'Achieving Better efficiency in the ACT' at <http://www.legassembly.act.gov.au/downloads/submissions/04%20Conservation%20Council%20ACT%20Region.pdf>

¹¹ See http://www.business.nsw.gov.au/aboutnsw/infrastructure/D14_ave_electricityprices.htm.

¹² http://www.dme.qld.gov.au/zone_files/Electricity/elec_prices_across_australia_final.pdf.

¹³ Figure is based on the discussion paper quoting 8000kwh as costing \$1324.

55% of the premium rate is approximately 27.5 cents and 75% is only 37.54. Given that this is a set price and we know that it will not increase, should retail prices increase by more than 3% annually, we know it is next to impossible that this will not happen; it will actually work out cheaper to purchase renewable electricity through the Feed-in Tariff scheme than to purchase conventional electricity. When you combine this with improvements in energy efficiency brought about by the impost of the Tariff in the earlier years it has the potential to lead to further savings.

To be able to guarantee the price of electricity for 20 years in today's market is a very positive thing and this should be considered when structuring the scheme. It does appear that with the corresponding efficiency measures it will actually be cheaper to purchase electricity through the Feed-in Scheme and it is possible that enough would be produced to power all Canberra's households.

It should also be noted that PV system costs have reduced by around 30 to 50 per cent over a ten year period (PV system costs include the PV modules, inverters, storage batteries and all associated mounting and control components as appropriate).¹⁴ Put another way, for PV production there is approximately an 18% reduction in the cost per doubling of cumulative sales.¹⁵ In a very short time it will be cheaper to purchase solar PV electricity than conventional coal fired electricity. This is on top of the environmental benefits, job creation benefits and improved security of supply.

Please do not hesitate to contact me if you wish to discuss this submission further.

Yours sincerely

Environmental Defender's Office Ltd

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Principal Solicitor

¹⁴ Access Economics, *The Economics of Feed-in Tariffs for solar PV in Australia*, 2008 p24 available at: <http://www.feedintariff.com.au/ae-fit.pdf>; see also IEA Photovoltaic Power Systems (2008) Trends in Photovoltaic Applications, pg 4.

¹⁵ See [Sliver%20cells%20060621.ppt](#)