

ACT Greens Submission to Feed-In Tariff Discussion Paper

From Deb Foskey and Indra Esguerra

This submission represents ACT Greens members' varied perspectives. We would like to ensure that the following particular issues in this submission are taken into account.

We support this proposal but would like to see attention paid to how it can be applied fairly. I believe that the Concessions Review may shed some light on this issue and hope that the two processes 'feed' each other.

We believe that a renewable energy feed-in tariff is long overdue in Australia. South Australia has just approved such a tariff there, and Victoria has draft legislation before it. The ACT is the next obvious place to implement a tariff, and we believe that it will help not only in reducing pollution and greenhouse gas emissions, but also to generate local employment and local business development.

1. Renewable Energy Sources in the ACT

1a. What other renewable energy technologies are utilised in the ACT?

At this stage, we are only aware of solar photovoltaics (PV). There are a number of complementary measures that can be seen on any Solar House Open Day, organised by the ANZSES, including the heliostat at Derek Wrigley's house, solar-passive housing design and good insulation. It seems that only solar PV has embedded generating unit systems in place which provide a positive net out put.

It can also be noted that the ACT operates landfill methane collection.

The government should also consider promoting the following energy sources, and extending the FiT Bill to include: hydroelectricity, solar thermal, geothermal/ hot dry rock, biomass, biogas, and waste heat recovery.

1b. Are these technologies commercially viable?

We believe that renewable energies, especially PV, are commercially viable, especially if start-up subsidies are made available to accelerate the technology developments. The wind and hydro sectors can certainly be commercially viable, and the more these technologies are explored, the more we will have scientific innovations. For instance, statistics show that a great deal of energy is used in water heating and space heating. In Greece and Austria building designs encourage commercial viability as solar water heating systems are purchased and installed. Government should create incentives and competition to encourage the development of a number of renewable energy technologies, as well as implementing one type in public buildings as demonstration buildings, while encouraging private sector participation. There are some great examples of this in Freiburg, Germany, where there is a huge range of both public and private buildings that are run solely on solar energy. Areas could be grouped and share holdings established to promote viability.

Community-based solar projects should be encouraged as well as the private application of feed-in laws; despite best efforts, only a minority of households and others are likely to make use of the solar feed-in tariff.

We note that wind power is cheaper than photovoltaic. And we prefer utilising sewage gas, a long-term reliable source, to relying on landfill, which we would rather reduce!

Landfill energy should be seen only as a small and interim measure. There is the danger that this energy source will be relied on, and the strategy to reduce our waste generation (by 2010) will therefore be slowed if not thwarted.

1c. Should the FiT be extended to commercial and industrial premises?

Yes. We want to encourage corporate energy consumers to install renewable sources. We need to ensure that we also encourage large-scale installation, so that we can maximise, not restrict, the shift to renewable energy. Commercial and industrial premises have large, often flat roof spaces, a great opportunity to ensure faster and viable utility of the RE and general public and private participation.

2. Cost issues

2a. Is there a need to limit the size of systems that are entitled to receive the FiT?

No. To maximise renewable energy use, we wish to encourage the installation of photovoltaic panels on all roofs! Additional incentives could be created to reward community organisations who wish to make use of the scheme, and businesses should be encouraged to participate by non-monetary incentives.

2b. Is it appropriate to set a maximum net investment in a PV system?

No. We consider large-scale investments to be a positive addition to the system. However, it could be appropriate to set a trial period of 7-10 years to expose stakeholders to the practical pros and cons, whereafter the structure of the Feed-In Tariff could be reviewed to allow for technological changes in this period. This should not detract from the long-term guarantee for people who already invested in that first period, and are already being paid their FiT.

2c. Is a ten year payback period appropriate?

Yes. Especially with a 20 year guarantee, as in many other jurisdictions, including South Australia, which would create a better incentive for the public to make these large investments.

The long-term guarantee needs to be included in the Bill so that people can take that guarantee to the bank for a loan.

2d. Level of tariff

We disagree with differentiating rates based on installed capacity (50% reduction in rate for more than 10kWh array) [clause 9(3(b))]. Instead, we should encourage maximum renewable energy production.

This tariff structure does not provide an option of sales into the spot market. We would like the pricing to recognise that solar production is maximised during peak summer demand. This would pick up a major issue of aligning energy production with use. If electricity (all kinds) is priced so that peak-time usage is charged at a higher rate, it makes sense to also pay a higher tariff for solar energy feeding in at those same times.

Spot rates were discussed at one of the public forums held by Mick Gentleman, and we understand that some other jurisdictions with FiTs have varying rates to take into account the spot market, including Slovenia, Spain and the Czech Republic. To encourage efficiencies, this premium tariff design should be considered instead of the fixed-tariff design being proposed here. (Perhaps both options could be available, and the energy producer could choose their tariff when signing the agreement with ACTEWAGL.

Currently it is most economic to install wind generators in rural areas. We suggest tariff rates differentiate renewable technologies.

Tariffs should keep pace with inflation.

We support the system of payments based on gross energy export, and then full retail payment of household energy consumption. The main advantage of this model is the relative certainty of the financial benefits to the PV owner.

2e. Review of tariff rate

The rate should certainly be reviewed annually, as long as there is still a guarantee that the premium rate will be maintained over a 20 year period, as is the case in Germany. The premium rate should consider long term factors, including competitive pricing and efficiencies. It should ensure that incentives are maintained to encourage new entrants into the RE production market.

2f. Is an annual review sufficient/ excessive?

This is probably about right, as the renewable energy sector, although it has not been evolving very fast until now, will probably start changing dramatically over the next few years, as the climate crisis and the need to act becomes more obvious and urgent, as more companies come on board, as new technologies come online, and as more people install PV and other technologies.

As the renewable energy sector is evolving fairly rapidly, annual review is appropriate. This should include adding new technologies to the list of renewable energy sources in the dictionary when appropriate.

3. Equity issues

Electricity costs

The Greens want to ensure that the feed-in tariff does not impact negatively on low-income earners. The main concern is that ACTEW will raise the base rate of electricity costs equally, across the board to cover the additional costs. We suggest that to solve this problem, as well as providing an incentive for householders and businesses to lower their energy use, varying rates should be introduced – a lower rate for low consumption, and higher rates for higher consumption. This is already done for water to some extent, whereby when people use more than a certain amount, “excess water” is charged at a higher rate.

If the varying rate system is not introduced, then low-income households should be exempt from price increases. We are aware that the concessions are in the process of being reviewed, and should be extended to include more types of low-income households.

There is strong evidence that low-income households use, on average, around half the energy (in annual consumption tonnes) as high income households do. More information on this issue can be found in Michael Raper’s presentation on “Climate change: how does it affect low income households?” to the Shelter NSW conference on Climate Change, Sydney, 15/11/07. This document can be found at: <http://www.sheltersnsw.infoxchange.net.au/docs/sem07111climatechange-raper.pdf>

One table in this document shows figures that, despite energy use being higher in high-income households, as a proportion of annual expenditure, low-income households spend more on their energy bills.

This skewing in energy costs is exacerbated by the fact that high-income households often have many more appliances, including air-conditioning systems, often used during peak-time (mid-afternoon). If energy were priced at a higher rate in the afternoon, costs could be more fairly spread across income brackets, as well as providing an incentive for households (with air-conditioning) to be more energy efficient, be more solar aware (awnings on West-side) and get better insulation. It must be noted that low-income households are already subsidising households and large corporate buildings which use air-conditioning by using electricity at a peak-time, but paying a standard rate. We believe that this subsidy is probably far larger than the additional costs of a FiT from PV installation will be.

If the tariff for energy production and feed-in were paid at a premium spot rate, this would work symbiotically with a higher rate for peak-time energy use.

Even so, there should be concessional charges for people who, due to their age, health or other factors have no choice but to use more than average levels of electricity to keep warm or cool.

Such households should be prioritised in a retrofitting scheme – remembering that energy efficiency and the reduction in energy use is the ‘low hanging fruit’: a necessary accompaniment to feed-in laws to make them fair.

Capital subsidy

The other inequity would be the taxpayers paying for the capital cost (\$8000 Federal subsidy) for the PV installation. Although there is concern that it is the wealthy householders who are being subsidised, and are then also paid the tariff, we believe that it is important that this is included in the budget for implementing the ACT's Climate Change Strategy, and seen as being a major contributor to greenhouse gas emission reductions.

It has been shown that it will be low-income households who are most negatively impacted upon by the consequences of climate change: they are likely to live in the least efficient houses; have the least (financial) capacity to adapt; their houses, cars and appliances will be more expensive to run; and so on.

Thus it is important that we encourage as many households to privately fund solar PV as possible, thus reducing the cost of production and installation, and speeding up the shift to renewable energy production. We need to ensure that low-income households are protected from the impacts of climate change as soon as possible.

It must therefore be noted that in this case, the subsidy is only part of the cost, and people who take up this offer are helping many benefit in the long run.

It has also been found that it is not actually the wealthy households who have so far taken up the Federal subsidy, rather it is people who are passionate about ameliorating climate change impacts, yet can afford to do so.

Greenpower

There is a concern about people who are paying for Greenpower also paying for the FiT. There is a possibility that if electricity prices rise too much as a result of the FiT, people who are currently purchasing Greenpower may reduce their purchasing proportion. We need to ensure that the overall amount and proportion of renewable energy usage for the ACT is not reduced.

3a. What options are available to ensure that there is no unacceptable impact on those less able to pay or install network connected renewable energy systems?

As stated above, climate change impacts will be bigger burdens on low income households than wealthy ones, thus we need to solve both problems simultaneously.

We recommend:

- better household efficiency for public and low-income households (lowering energy bills, as well as subsidising insulation measures);
- increasing and broadening energy concessions beyond concession card holders; and
- stepped energy tariffs.

It is essential that the program to increase energy efficiency in government housing, and assistance for people who live in privately owned houses on low incomes, be stepped up and operate as a necessary accompaniment to the feed-in laws, so that our drive to combat climate change does not further widen the gap and comfort levels between rich and poor.

4. Environmental impacts

4a. Is a FiT a cost effective and/or efficient method of reducing greenhouse gas emissions?

Not by itself. The FiT is only one small measure that the ACT Government can take. It is important that the ACT climate change policy is broad, and sets meaningful and interim targets. There are many other measures, including improving our transport system, and getting people out habits like driving a car with just one person in it. A retrofitting program that prioritises low income households in public, rental and privately owned houses, especially those whose health or other situations makes them large energy consumers, should be accelerated and timetabled. Greenhouse gas emission reduction is a large issue, which cannot be fully discussed here. The Greens are also awaiting the ACT Government's energy policy which will play a large part in the implementation of the climate change strategy.

This FiT will support an increase in renewable energy production. We also need to simultaneously ensure that we encourage an overall reduction in energy use, as well as efficient energy usage. We suggest that installation of PV panels is accompanied by an energy audit, and insulation installation.

4b. Is the FiT a cost-effective way of increasing solar energy use?

Mounting photovoltaic panels on rooftops is an efficient way to produce energy. The more PV arrays that are installed, the better the economies of scale, ie. reduction in electrical component costs. Given that it is more economic to install larger arrays, it doesn't make sense to restrict this proposal to small-scale arrays. As previously stated, we should encourage owners of large buildings, including government buildings, such as offices and schools to install PV.

Roof top solar is cost effective as it limits urban sprawl and has no environmental or economic land costs associated with it. This proposal will also develop community expertise and efficiency.

It would be more cost-effective if the Federal or ACT Governments subsidised large-scale commercial sized plants to be set up, which are much more efficient and economies of scale would apply.

5. FiT models

I note that these points about the model are explained in the paper, but they are not clear in the draft legislation, and should be.

The model that is proposed is based on the European Best Practice Report (2006).

- The rate of the proposed feed-in tariff is \$650 per MWh (\$0.65 per kWh).
- The proposed decrease of 2% for new installation each year.
- A contract period is 20 years.
- The scheme will run for 18 years.
- The tariff will be payable on the gross output of the solar system.

Who pays the installation costs need to be clarified – the homeowner or the electricity retailer.

Distributor-based network costs can include part-funding of power line undergrounding, and 'postage stamp' pricing (principle that the prices charged to small customers to access the electricity network should be the same regardless of their location within the state). These costs are funded by consumers at large through the Distribution Network pricing model.

6. Regulatory issues

Any possible impediments in ACT planning law and regulations need to be removed, especially in regard to body corporate rules and micro wind generators. We note that planning law has occasionally stood in the way of the installation of solar hot water systems on rooves and this is an area which should be addressed.

For instance, will panels only be acceptable if they face away from the street? This may not be the best solar orientation and thus preclude many from participation in the scheme.

Also, planning for future solar PV capture needs to be enshrined in planning regulations, ie all new developments should favour streets which are aligned for maximum solar capture on house roof, and blocks must be appropriately oriented and large enough to allow sun in.

7. Other options

7a. Are there any other options that could be used instead of, or complementary to a FiT?

Unfortunately it is very simplistic to isolate the feed-in tariff from related energy matters. The Greens have a number of suggestions for complementary initiatives.

Expanding investment in solar PV installation

If the economics help people decide to install solar roof panels, then perhaps we should make way for the possibility of investment in properties based on their solar capacity. Individuals who are able, and perhaps don't have their own appropriate roof space, or perhaps would like to invest in a few separate arrays, could put photo voltaic panels on other people's available roofs. (Roof agistment) This would maximise renewable energy production as well as private capital investment.

It would also be a way of providing renewable electricity to households who may not otherwise be able to participate.

While landlords may choose to use the rooves of properties they rent out, the Greens would like to see the benefits of this going in some part to the tenants, for instance, lowering their energy bills.

Air conditioner offsets

Perhaps ACTEWAGL could consider a requirement that either a PV or solar hot water system (or other renewable energy generator) be installed with air conditioning systems, as an offset for the air conditioners greenhouse gas emissions.

Energy reduction

The Energy Efficiency Access and Savings Initiative, or EASI, proposed by Greens Senator Christine Milne, would:

- * establish a system of free energy audits by an accredited auditor;
- * advise householders of all efficiency opportunities with a payback period of ten years or less;
- * organise and pay the upfront costs of implementing cost-effective opportunities such as ceiling, wall and floor insulation, solar hot water systems, efficient lights and shading of windows;
- * collect repayments as a proportion of savings on the home's energy bills over a ten year period. Repayments would be less than the savings on energy bills so that no householders would ever be "out of pocket".

Fully implemented nationally, EASI would reduce greenhouse emissions by close to 30 million tonnes each year, achieving almost 10% of the emissions reductions required by the Greens' target to reduce emissions to 30% below 1990 levels by 2020. The total cumulative cost of the program is projected to be \$22 billion over 10 years, which will be recouped by the Government in a HECS-style repayments scheme through energy bills. This would permanently keep household energy bills down, saving increasing amounts of money as energy prices rise on the back of a carbon price.

I am unable to extrapolate these figures to the scale of the ACT; assumedly the Chief Minister's Department has the ability to do this.

It would be relatively easy to achieve a 50% reduction in energy useage for most households.

We suggest that installation of PV panels is accompanied by an energy audit, and insulation installation.

Increasing renewable energy production

- The Federal Government's Mandatory Renewable Energy Target has been increased to 20% by 2020, which is a vast improvement on past Government policy. The Greens target is for 10% by 2010 and 25% by 2020.
- The Greenhouse Gas Abatement Scheme, which the Chief Minister has claimed is the central measure in our Climate Change Strategy, needs to have annual benchmark reviews, to reduce the benchmark of annual consumption

tonnes by at least 5% each year. At present this scheme does not aim to continue to reduce emissions, instead allowing emissions growth as the population grows. This will do little to help us solve our current climate change crisis.

- In the long term, the better way to encourage renewable electricity in a free electricity market is probably either to internalise the external costs and disadvantages of non-renewable energy sources [ie carbon pricing] or to introduce market instruments such as a well functioning system of tradable green certificates (where the price of these certificates accounts for the social and environmental benefits of renewables compared to non-renewables). In the meantime, a feed-in tariff may be the best alternative instrument to encourage renewable electricity generation, notably when this amount is still small.

ACTEW Price Structure

At the moment ActewAGL's Tariff (since 1 July 2007) for 'Always Home Saver Plan 2' allows consumers to use up to 60kWh per day at 11.6c/kWh and then if they exceed the limit adds a miniscule 1.7c/kWh surcharge - a slap on the wrist with a feather. This limit is astonishingly generous at a time when we are asked to reduce our emissions of greenhouse gases, with electricity being a major polluter.

The 'Saver Plus Plan 3' is even more generous with a limit of **165kWh/** day and a surcharge of 3.3c/kWh. Any family that uses and can afford that rate of consumption should have a surcharge of double or triple the basic rate.

It is easily possible for most households to consume far less than they currently do, but the incentives and commitment are missing. It is far easier to reduce electricity use than have to produce more (renewable) energy.

Electricity is still very cheap in this country the truth being that we cannot really sustain coal generated electricity. The Greens suggest that ActewAGL urgently adjusts its limit from 60 to 20kWh/day (or stepped rates) with a surcharge of about 20c/kWh to help curb emissions by those who can afford to pay it. This should more than balance the effect of a Feed In Tariff and need not affect low income families.

7b. By reducing the upfront costs associated with installation, are direct subsidies a more attractive option to encourage the adoption of renewable energy technologies?

The combination of a direct subsidy, as well as an increased FiT is a good incentive to attract private capital investment. Further subsidies could be made in the electrical component installation. Even with an \$8000 Federal subsidy, it will still be very expensive for householders to install solar PV, when an average array costs around \$13,000. We need to urge the Federal Government to increase this subsidy in the short-term, to align with the states introducing FIT legislation.

We also need to increase the incentives for solar hot water installation. Michael Raper has argued that 50-80% of the costs of solar hot water (SHW) installation are in the

marketing. Hence if we were to install SHW on a grand scale, we could reduce costs by 50-80%. This would make it financially viable for most private householders, and many landlords of private rentals would also consider it. Raper argues that Governments should coordinate mass roll-outs, as was done with gas and broadband “SHW is being installed in your street in March, ...” This could achieve very real financial savings as well as greenhouse gas reductions.

Summary

While the Greens support solar feed-in laws, we propose:

1. That they be extended to other renewable power generation technologies;
2. That measures be introduced to ensure that no-one is disadvantaged and equity is prioritised;
3. That the feed-in legislation is accompanied by a program to retrofit houses and community organisations’ premises on a priority basis according to need and electricity consumption;
4. That they be extended to businesses and community organisations

Attached: Andrew Blakers’ paper on Solarization (Summary)

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Solarization

Mass retrofitting of buildings is the only way in which rapid reductions in greenhouse gas emissions can be achieved in the building sector. This is because the turnover of building stock (demolition followed by new construction) is low. Even if all new buildings have excellent energy ratings, there is only a slow reduction in average greenhouse intensity.

Mass retrofitting of roof, wall & floor insulation, draught proofing and solar water heaters to existing buildings (“solarization”) will yield large greenhouse gas reductions. In a typical brick veneer house the cost of thorough solarization is about \$7,000. The reduction in energy bills pays for solarization well within the lifetime of the solar water heater and insulation. The barriers to mass solarization are the need for up-front capital and the lack of information on the part of building owners. This paper suggests a practical and commercially attractive method of removing these obstacles.

Australians move houses frequently. An investment in solarization is often not recognised in the sale price of the house. There is no incentive for a landlord to invest in solarization because they do not pay the energy bills. There is no incentive for a tenant to invest in solarization because they do not own the house. How to pay for solarization, up front? The key to an effective solarization funding model is that the debt belongs to the house, not the homeowner.

A mechanism for funding solarization is proposed. Consortia would be established (e.g. “Solarization Pty Ltd”) comprising a solar water heater company, a house insulation installer, a billing agency and a financier. Solarization P/L would contract its members to retrofit solar water heaters, insulation and draught proofing in houses and commercial buildings. The company could also install double-glazing, gas heaters and photovoltaic systems. The house owner would not be required to put up the cash. Instead, Solarization P/L would recover its investment (at normal commercial rates of return) over 8-12 years through quarterly bills to the house owner. This is equivalent to the way in which electricity companies recover their investment in a new power station.

House owners (and tenants) would enjoy reduced overall energy costs (comprising gas, electricity and the solarization quarterly repayments) and improved thermal comfort and noise insulation. A much better greenhouse outcome per dollar would be obtained than from “green electricity”. The uptake will be high if Solarization P/L provides a fast efficient turnkey service for a range of energy technologies & services – a single visit by an assessor skilled in all of the energy technologies, followed by a well-managed and rapid implementation including easy financing. A low cost financing option is to draw additional funds from a mortgage.

Solarization P/L would construct alliances with insulation and solar suppliers that includes the supply of equipment & services at a substantial discount to reflect reduced advertising costs and increased sales volume. It would be very helpful if the State Government were to pass legislation to allow the debt for solarization to be easily attached to the house (without incurring a second mortgage) rather than the house owner. The debt would need to be disclosed each time a house is sold; its like disclosing rates or electricity bills or the House Energy Rating. This legislation is not essential, but would be helpful because the risk of default would be almost eliminated, allowing Solarization P/L to charge a low interest rate on the debt.

Companies involved in solarization will benefit from a low risk investment, because the equipment to be installed has a long guarantee period and the debt is against the house rather than house owner. Gas and electricity companies will experience reduced sales of energy. However, solarization will provide replacement revenue and profit. They will have the opportunity to “lock-in” customers for long periods (an important consideration in the era of contestability) and will acquire a large supply of RECs from the solar water heaters. Solarization of 100,000 homes in Canberra over a decade would be worth around \$70 million/year and would lead to the creation of about 700 new jobs. Electricity utilities will benefit from mass solarization through a reduction in peak loads, because better insulation will reduce the space heating peak-load in winter and the air conditioning peak-load in summer while solar water heaters will have gas or off-peak electric boosting. Solarization also helps energy companies (eg in NSW) cope with any government requirements that the greenhouse intensity of their products must decline each year.

A large majority of local government districts in Australia have no gas, coal or electricity production. In these districts there are few economic losers from tough greenhouse targets. On the contrary, there are many winners. Solarization reduces the export of money from a town to pay for imported gas and electricity. Solarization is more labour intensive than electricity or gas production, and most of the jobs are local.

Tenants living in uninsulated homes will be big winners, since it gets around the problem that the landlord has no incentive to invest in energy efficiency because the landlord does not pay the energy bills. Solarization is one of the rare occasions when employment, social, economic and environmental objectives are aligned, and is therefore politically attractive, particularly at a local level.

Government moral support would be valuable, in order to give credibility to this new idea. A modest initial Government subsidy could also accelerate uptake. In return for a modest subsidy Solarization P/L would promise to solarize a specified number of buildings to a specified standard (eg 4 stars). The Government might also include a tender provision that rewards local manufacturing. Alternatively, Councils could offer modest revenue-neutral rate relief that is linked to the star rating of a building.

Initial solarizations could focus on the items with the most clear-cut financial benefit. This would increase the probability that the scheme is commercially successful. In approximate order this would be ceiling insulation, draught proofing, house zoning and low-flow shower heads followed by solar water heaters and wall & floor insulation followed by photovoltaic systems and double glazing.

Solarization will create a substantial number of new jobs in the local community. The scheme fits very well with the building energy rating scheme in several states. Early solarization companies will be well placed to dominate the national solarization market that is likely to develop in a few years time. The risk is low because the debt is secured against the building and is repayable within the guarantee period of the equipment. Large reductions in greenhouse gas emissions are likely.

Solarization can be tested on a small scale in a few suburbs or in a regional centre. Early adopters could be the 2-3% of customers who purchase “greenpower”. Housing trusts for low-income tenants and upper-income, busy professionals are two other groups of potential early adopters.

Ad-hoc delivery of energy services, whereby the homeowner has to deal with three or four separate companies to fully solarise, is unlikely to result in widespread take-up. In contrast, successful solarization will be a service that is provided by companies offering smooth, no-fuss, comprehensive service – eg, one phone call, one house-assessment visit, one contract, rapid & trouble-free installation of insulation & equipment and good after-sales service.