

Senate Standing Committee on Environment, Communications and the Arts
Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008

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Submission from:

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Feed-in-Tariff (FiT) – Firstly we would like to commend the concept of the Bill, as persons who have a long standing interest in renewable energy and developing our own systems here in Australia we are strongly in favor of this type of approach, as opposed to the hundreds of millions of taxpayer dollars handed out to the “usual suspects” through public grants but which achieve little or nothing for true innovation, or indeed even in simple uptake of appropriate technology.

It has been our sad experience that unless you are an established company or organisation whose structure is centred around an income from public funds the requirements are too onerous and in any case leave the focus on satisfying grant reporting and timing as opposed to the issue the grant was meant to help address. A FiT approach also does away with the problem of “picking winners” as these naturally pick themselves, “Those that can, do” in a commercial environment.

We believe the Bills aims will best be achieved by encouraging a combination and spread of technologies. No doubt Solar PV will play a significant role and should be encouraged, but this should not be to the detriment of other equally valid renewable energy alternatives which might otherwise not only miss out on the economic boost a FiT provides, but have to compete unfairly in the marketplace from the technologies that do.

The FiT scheme should “naturally” create a market environment with achievable benchmarks that new or early stage commercialization technologies must meet to be considered, whilst existing technologies continue to be encouraged to improve their efficiency levels and cost structures since they can expect their customers to be making informed decisions on the best investment to make.

Issues of Concern:

1. **Maintenance of technology flexibility** – True innovation arises from the combination of need and opportunity. Our concern is that whilst the Bill as written does not appear to exclude alternate renewable energy sources there is a strong perception in Government and community that the Bill is written for solar PV systems in particular. The Bill and how it is enacted need to be clearly unambiguous in its acceptance of alternate approaches to achieving its aims.
 - 1.1. As an example we are in the process of introducing a proven biomass gasification system that can meet rural residential and farm house needs (10kWe to 50kWe) and which will be manufactured here in Australia. The first local system has been built and successfully tested and is currently being installed just north of the ACT for use as a demonstration system. We expect to bring an urban residential model to market next year (5kWe-10kWe).

- 1.2. These units can run off plantation sourced wood chips (Stored Solar Energy) and provide not just a dwellings electrical needs but also its hot water, space heating & cooling. These type of systems build long term regional employment and business opportunities outside of simple equipment supply as well as leveraging other positive environmental outcomes in land, biodiversity and salinity management far beyond what is available from a single high tech manufacturing plant, either wind turbine or PV (which ultimately is more likely to be placed off shore where labor costs are lower anyway, even if developed here).
- 1.3. This “Stored Solar” approach is also the only one that can provide base load electrical power in the near to medium term, providing power on demand not just during sunlight hours or when the wind blows but for the other electrical peaks late at night and early morning; new peaks that have resulted from the successful campaigns to have hot water in particular move to “off peak” rates.
2. **FiT for Grid?** – Any RE technology chosen by a customer should be fit for purpose and offset fossil carbon use as a given, but what about the impact on the wider community through its effect on grid infrastructure costs (direct and indirectly applied)? It is important for the rapid and widespread uptake of small embedded systems that they complement and add value to the existing infrastructure. There is an issue with intermittent energy sources such as direct solar and wind in that the larger generators often need to keep turning at high capacity in the event of an outage (weather or diurnal) because these other sources cannot be relied upon. To some extent this can be alleviated on broader scales but is still an issue.
 - 2.1. At a local and regional level the unbalanced uptake of some technologies, whilst nominally offsetting fossil fuel use, do not contribute to grid stabilization or help defer infrastructure upgrades as these have to be planned and carried out on the basis of “peak demand” loads, with no guarantee the smaller, but cumulative, sources will be available when a peak occurs.
 - 2.2. For the Utility the adoption of such technologies may not be seen as beneficial and do not necessarily lead to reduced energy costs for conventional generation or even a practical reduction in fossil energy use. This of course does not apply to Stored Solar type or other base load capable systems but nonetheless the issue should have consideration in the final shape of a strategy whose aim is to reduce our fossil CO₂ emissions.
3. **FiT Level?** - Any FiT scheme to be successful needs to take into account:
 - 3.1. Capital cost ratios and comparisons – It is unclear whether lower capital cost technologies or suppliers are favored and we have seen some talk of basing FiT on system payback periods, elsewhere a fixed rate for a fixed term. A variable tariff rate based on technology unfairly distorts competitiveness between alternative approaches that otherwise achieve the same thing. If a common fixed rate over a fixed term is applied with a review of these rates for new systems after a suitable period then there is likely to be greater uptake in the early stages of the scheme, and more balanced spread of choice thereby achieving its aims faster as later entrants run the risk of having lower less favorable tariff rates.
 - 3.2. The scheme also needs to encourage as broad a spread of technologies and innovations within technologies as possible in order to be successful in the longer term, by “shaking out” the best approaches under practical operating conditions. This means that for the commencement and early stages of the scheme the FiT level needs to be relatively high and based on a reasonable payback period (say 15-20 years) of the most expensive already commercially available technology likely to be encouraged by the scheme.
 - 3.3. Tariff review period – The Bill requires the responsible Minister to set Tariffs and review

these at intervals. The Tariff review interval should be set at two years, this allows a degree of certainty to allow investment by system suppliers whilst ensuring a regular enough review to take advantage of technology improvements to begin lowering the cost of the scheme.

- 3.4. Tariff scale and cut off point – There is an argument that a sliding scale should be set that provides a higher level for smaller systems on a per kW basis reducing as system capacity increases up to an arbitrary cut off point. The main rationale being the installation cost is similar for single systems within the conceivable range of domestic application and to discourage inappropriate sized installations. To a large extent the benefit of installing small embedded systems at scales up to, and perhaps beyond, the normal domestic energy use of the dwelling involved will depend on the level of grid integration and support to the existing regional power infrastructure their existence provides.
- 3.5. For the purposes of this Bill it seems prudent that cut off points should be provided if for no other reason than to limit the maximum cost and therefore financial public exposure pending Australian operational experience of the scheme and determining some of the natural improvements and developments in systems that might arise from its implementation. The scale should be set at a maximum 10kWe for a single dwelling with the Tariff based on a sliding rate to encourage only the most cost effective systems are installed at the larger capacities:
 - a) <2kWe – 100% of set tariff
 - b) >2kWe <5kWe - 80% of set tariff
 - c) >5kWe <10kWe - 70% of set tariff
4. FiT payment schedules – The Bill calls for only a single annual payment based on a report provided by the owner of the system, utilities on the other hand charge customers on as short as a monthly basis. There is no technical reason why utilities cannot credit accounts which have small generators grid connected through the same metering boxes on the same cycle as their billing. This also places the reporting in the hands of professional organisations best equipped with the systems and personnel to collect the information, collate and provide these reports.
 - 4.1. This provides a far better basis for consumers to obtain credit that might be needed to install the system in the first instance and is particularly relevant to lower income households who otherwise might be excluded from being able to participate in the scheme.
 - 4.2. Under a monthly payment cycle it is almost certain that many financial institutions would provide a product not unlike a car or home loan that would see FiT payments offset the capital taken out to procure the installation.

We trust our comments are of use and hope the committee will recommend a FiT system of benefit to all Australians as we move towards the carbon constrained future in the years ahead.

Yours faithfully,

Peter & Kerry Davies