

8 August 2008

Senate Standing Committee on Environment, Communications and the Arts
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Dear Committee Members

RE: Save Our Solar (Solar Rebate Protection) Bill

I have two decades of experience as an electrical engineer. I have developed groundbreaking technology, which now enjoys mainstream adoption globally and which has been used to set world records for industrial productivity. I received a US patent and have also won numerous awards for my technology and the entrepreneurship involved in its commercialisation. I have deployed photovoltaic (PV) panels and power systems in my career as a technologist.

I have a keen interest in economics, which has inspired me to undertake postgraduate research on economic risk and uncertainty. I have followed the climate debate closely for many years and understand well the science, the engineering mitigation options and the economics of the issue. I adopt a risk management perspective when considering the potential for climate change.

I do not market PV systems to households. I am an impartial and well-informed observer of the issues being considered by the Inquiry.

It is vital that the Federal Government provides **meaningful** support that increases the national renewable energy capacity. There are disturbing inefficiencies in the present mechanisms for support. This submission identifies some of these inefficiencies as follows:

- 1) The systems favoured by the PV rebate scheme face numerous quality control risks, without satisfactory accountability to assure the quality and performance of installed systems. The lack of discrimination in rebating incentivises the installation of lesser quality systems since they confer better profit margins to the vendor. Concomitantly, there is no disincentive to proceeding with installations at sites with inherently poor performance characteristics. This could be addressed by offering an upfront one-year zero-interest convertible loan rather than a grant. The extent to which the loan is converted into a grant would then depend on the subsequent energy production of the system. System energy production is readily measured at low cost. This creates an immediate incentive for high quality installations. It would also create market pressure for providers to give money-back guarantees for system performance.

- 2) While initially justified, the current subsidy of \$8 per Watt is now too generous a subsidy. This is evidenced by the recent appearance of providers offering “free” systems to customers who qualify for the rebate. It is vital that the home owner provides some funding for the exercise as this motivates their interest in the performance and value-for-money of the system. Aside from the beneficial leverage effect on taxpayer funds, the interest of the homeowner in achieving value-for-money is a vital element for ensuring the efficient use of taxpayer funds.
- 3) The emergence of “free” systems reveals that the imposition of income limits will not achieve the government’s purpose of protecting the smooth operation of the grant pool. A proper rationing approach will aim to maximise support to the PV industry by capturing the greatest possible volume of co-invested private funds thereby leveraging the effect of the grant pool. Such leveraging automatically ensures the greatest possible emission reduction as a consequence of the grants scheme.
- 4) The current subsidy of \$8 per Watt places an inappropriate floor on the price of systems given current market conditions. This leaves no incentive for system providers to drive systems below the \$8 per Watt benchmark that has already been achieved.
- 5) The Inquiry must consider that a small 100kW solar farm can now be built for \$6 per Watt and a \$2 per Watt subsidy would be enough to support construction of an off-grid continuous service 100kW farm. This would achieve four times as much as the current household PV rebate model per taxpayer dollar spent.
- 6) The Inquiry should investigate claims that a somewhat larger 33MW solar plant¹ can be built for less than \$3 per Watt. There is a highly relevant conference² on the issue of such plants in San Francisco in seven weeks’ time. The Senate should consider sending a delegate to order to inform domestic debate on the issue. In the event that the claims are verified such a plant would likely require a subsidy of less than \$1 per Watt in order to be rolled out. This information should have a significant bearing on national value-for-money considerations relevant to the PV rebating scheme which is the subject of this Inquiry.
- 7) Installing 1kW solar systems at domestic home sites is an inefficient way to harvest renewable energy. The logistics of deployment are quite obviously poor relative to alternative approaches that would increase our national renewable energy capacity.

¹ <http://www.esolar.com/>

² <http://www.csptoday.com/us/brochure.pdf>

- 8) It would make considerably more sense to create the conditions to exploit the willingness of wealthy individuals to provide significant private funds to buy larger, more efficient systems and thereby provide greater industry stimulus for a given level of taxpayer support.

An improvement on the current approach would be a \$2.50 per Watt household subsidy up to 20kW, permitting some logistical efficiency improvement over 1kW. System sizes are naturally limited by available space at each site, making a 20kW site exceedingly rare should it arise at all. This subsidy should be unlimited in terms of household wealth allowing the government to exploit the willing wealthy in meeting the challenge of reducing national emissions.

This would generate far more private funds to bolster the domestic PV industry than the “free” 1kW systems ever can. It would maximally leverage the effectiveness of the taxpayer subsidy at supporting the industry.

In order not to shock the industry, the present PV rebate should be adjusted from its present level in stages until it converges with the \$2.50 per Watt scheme. For instance the first adjustment could, subject to modelling, be a \$5 per Watt convertible loan, with a 4kW limit for householders. This means a two-tier subsidy scheme would operate during the transition. The rate of convergence could be set by continually monitoring the uptake of the \$2.50 per Watt scheme to ensure continuity of support.

The expectation of a falling subsidy will be effectively used as a marketing device by industry. This approach will also allow households to progressively add to their systems over time, which will permit industry to market into its installed base which is universally recognised as the least-cost form of marketing.

I would be happy to provide additional background information such as the Inquiry may find useful and will be available to appear before the Inquiry if required.

Yours sincerely

Rob Mailler