

## **Save Our Solar (Solar Rebate Protection) Bill 2008 (No. 2).**

The Secretary,  
Senate Standing Committee on Environment, Communications and the Arts.

My submission supports the intention of Senator Johnston in proposing this Bill. As I intend to demonstrate below I believe that the imposition of the means test for obtaining the Solar Rebate will hurt every household in Australia.

### **The arguments justifying the installation of solar power systems include:**

Electricity is generated using totally a sustainable resource – sunlight.

This generation of electricity is at no cost in terms of production of green house gases, once that cost involved in manufacture and installation of the systems is recovered – calculated as after about 3 years of use. The systems can last 15 – 20 years.

The systems do not require maintenance.

This generation of electricity is much more efficient than that involved in the centralized power station with associated distribution systems in that the generation is at the site of use and there are no consequential transmission losses. (The systems themselves are not very efficient in converting the sunlight into electricity, but this is irrelevant. Sunlight is free.)

Where these systems are located so as to generate electricity during the peak demand load times of afternoons (eg on west-facing roofs), management problems involved at generating stations and distributing systems in coping with this demand are reduced.

The manufacture and installation of these systems encourages the development of skills and manufacturing resources in Australia.

When enough of these systems are installed it will help reduce the need for more greenhouse gas polluting gas or coal fired generating stations.

**It is public knowledge that the projected imposition of the means test has already resulted in cancellation of orders for these systems.**

### **The means test is against Australia's interests.**

The Prime Minister, speaking on the ABC 1 program "Q & A" on 22 May 2008, seemed to justify the imposition of the means test to the \$8,000 rebate for solar power systems for houses by stating that this would result in more funds being available for rebates for households on limited incomes. This principle is excellent when applied to the Baby Bonus. A birth can cause large, perhaps unexpected and unavoidable expenses for a household, and it is reasonable to seek to limit the payment of this Bonus to these households.

This argument does not apply to solar power systems. Unlike with a birth, the extra expense of such a system is not essential. People don't have to install such systems. They are also not a luxury – they don't provide comfort or prestige, and it is difficult to introduce into a conversation a boast about the size of your solar power system.

**People install solar power systems because of the social good they create. Because, like at least the previous Australian Government, they seek to minimize the production of greenhouse gases, and to generate electricity by sustainable means – in this case sunlight. So any action which reduces the capacity or will of households to install these systems acts against Australia's interests.**

**Installing solar power systems is not profit-making for households.**

Unlike most capital expenditures, investing in these systems doesn't provide an economic return. Whereas the electricity bill will be reduced, most households which install these systems will be out-of-pocket – perhaps for ever - in terms of the income they have foregone as they have invested their money in the system rather than – say – shares or fixed deposit. So it generally is households with larger financial resources which install these systems. The exceptions of course are households in the country – farms – where conventional mains supply is limited or grossly expensive.

It should be noted that this negative economic effect on households is reduced in States where the Government has legislated to apply a “Feed-In Tariff” which increases the cost at which the electricity retailer is required to buy surplus electricity from a household.

**The effect of the means test imposed on the solar power system rebate is to limit the demand for such systems. It doesn't help households on limited incomes, and increases the cost – and therefore the annual losses – of the households which would have wanted to help the environment by installing these systems but would not qualify for the rebate.**

### **Why introduce the means test?**

The decision to introduce the means test, at the income level chosen, is said to be based in part on a report produced by the Alternative Technology Association (ATA) (vide *The Solar Experience, October 2007*). This survey sought responses from 4,000 members of the ATA and 4,000 households randomly selected from households which had received from the Australian Greenhouse Office (AGO) a rebate under the Photovoltaic Rebate Programme (PVRP), or under the Renewable Remote Power Generation Programme (RRPGP). Both were introduced in 2000. All the respondents had installed solar power systems.

A report dated 6/6/08 in the "Solar Daily"

[www.solardaily.com/reports/Solar Panel Rebate Estimates Based On Inappropriate Data](http://www.solardaily.com/reports/Solar_Panel_Rebate_Estimates_Based_On_Inappropriate_Data)

suggests that whereas the report provided summaries using net income (ie after Income Tax etc), the income figures appear to have been interpreted as gross income. The survey showed that the NET income of the 1,306 respondents was:

less than \$30,000	25%
between \$30,000 and \$50,000	26%
between \$50,000 and \$100,000	34%
more than \$100,000	15%

so it could be said that specifying the means test at \$100,000 would cut the demand for PV systems by only 15%. Unfortunately the survey didn't ask for any other net income ranges, but it is reasonable to assume that many of the households which stated their net income was between \$50,000 and \$100,000 would have had a gross income greater than \$100,000.

This has to be related to the statement by Senator Johnston in his Second Reading speech that the Government had calculated that the demand for the rebate would be reduced by 2/3<sup>rd</sup>s. This action by the Government is clearly in conflict with the objectives of the previous Government as quoted below and with those of the State Governments through their GreenPower program. This program (in a GreenPower document issued by the NSW Department of Water and Energy, March 2008) states that the benefits of renewable energy include:

- cut greenhouse gas emissions;
- reduce contribution to climate change; and
- develop the renewable energy sector, helping it to compete with less costly but more polluting coal and gas based generation.

**There seems to be no value for Australia in the means test.**

**What size solar power systems are installed?**

The average size of solar power installations in Australia (from AGO statistics of approved rebates) is 1.588 kilowatt peak output (kWp). Households installing such systems would expect a reduction in their purchase of electricity from their retailer, and reduction in the production of green-house gases arising from their use of electricity.

The relevance of the size of a solar power system for Australian households is indicated by figures quoted by Solar Shop (July 2007), and the corresponding greenhouse gas effect is indicated by figures quoted by Conergy (a German manufacturer):

<b>A system this size</b>	<b>would produce electricity enough for</b>	<b>and save this much CO<sub>2</sub> per annum (approximately)</b>
0.5 kWp	lights, TV, video, microwave, clock radio	0.8 tonnes
1.0 kWp	these plus stereo, fridge, dishwasher	1.5 tonnes
1.5 kWp	lights, all kitchen and lounge appliances	2.2 tonnes
2.0 kWp	a complete energy-efficient home	2.9 tonnes

**The Solar Shop figures suggest that a desirable sized installation would be about 2.0 kWp.**

**Typical costs of PV systems.**

**For households seeking a reasonable level of self-sufficiency:** This is about the average sized installation as reported by the AGO. Typical prices for systems as reported by various retailers are:

from Solar Technology (May 2007). A 1.6 kWp system: gross cost \$20,680 (plus some other costs depending on the site).

from Solar Shop (July 2007). A 1.68 kWp system: gross cost \$22,500.

from Aussie Solar (May 2007). A 1.575 kWp system: gross cost \$21,000; the net cost after AGO rebate (at \$8,000) and sale of Renewable Energy Certificates (RECs) is about \$12,000.

NOTE: The market for RECs has been keen and positive. Thus their market price in July 2007 was about \$22 each, and in January 2008 about \$38.

**For households seeking complete energy-efficiency:** Typical prices for these systems as reported by various retailers are:

from Aussie Solar (May 2007). A 2.1 kWp system: gross cost \$26,550.

from Solar Technology (May 2007). A 2.56 kWp system: gross cost \$29,975.

from Solar Shop (July 2007). A 2.31 kWp system: gross cost \$28,455.

from Todae Environmental Pty Ltd (July 2007). A 2.52 kWp system: gross cost \$30,763. Actual net, after \$8,000 rebate and sale of RECs, of \$20,735.

EnergyAustralia (in 2005) stated that a 1.0 kWp system should produce about 1.4 kWh per annum and reduce the annual electricity bill by about \$150. The saving of course increases when the retailer's price increases. This saving has to be compared with the costs of such a system, so that the opportunity cost can be assessed. For these calculations an average diversified investment is assumed to earn about 6% per annum.

**Opportunity cost of the 1.575 kWp system at an estimated 6% = \$720 per annum.**

**Opportunity cost of the 2.52 kWp system at an estimated 6% = \$1,244 per annum.**

**The key point is that none of these installations is an economic investment - they are a socially good and responsible action. The application of 'feed-in-tariffs' (FIT) where the price for electricity supplied from a household to the grid is a multiple of the price of buying electricity from the grid, certainly reduces the margin between the annual opportunity cost and the saving on household electricity bill. However even a FIT of 4 - 5 times produces only a break-even for the average size installation. So such a household never recovers the cost of the installation.**

#### **Advantages for Australia from solar power systems.**

The AGO (in 2007) stated that the purposes of the Rebate Programme were:  
primarily

- to encourage the long-term use of photovoltaic technology to generate electricity;
- to increase the use of renewable energy in Australia;

and

- to reduce greenhouse gas emissions;
- to assist in the development of the Australian Photovoltaic (PV) industry; and
- to increase public awareness of renewable energy.

With the possible exception of the last, these objectives must be considered as still current and important.

Similar objectives are also the basis for the adoption by the SA Government of its 2 for 1 FIT policy. (*South Australia's Mechanism for Residential Small-Scale P-V Installations*. February 2007). Also for the GreenPower program of The Australian Capital Territory, and the states New South Wales, Queensland, South Australia, Victoria and Western Australia as stated above.

The Federal Government's imposition of the Means Test signals that the objectives which were valid in 2007, are no longer considered by the Government to be important. But I believe most Australians do consider them important.

The systems are proven to reduce greenhouse gas emissions by replacing the 'dirty' gas and coal-fired generation stations with sun-powered generation panels. They are installed in households because they are a socially good and responsible action. The industry involved in their manufacture and installation can be a potential employer for people displaced if Government support for such alternative energy sources reduces employment in the 'dirty' coal and gas generation industries. But they can be installed only by households with the economic strength to do so as well as the necessary social conscience.

**Imposing the means test has already reduced the demand for solar power systems. It has already reduced employment in the solar power industry. It reduces Australia's capacity to replace power-generation generating stations which cause greenhouse gas emissions. In every respect it hurts Australians.**

I urge the Committee to support Senator Johnston's Bill.

David Synnott