

13<sup>th</sup> December 2011

Independent Pricing  
And Regulatory Tribunal  
( IPART )  
Energy Investigation  
PO Box Q290  
Q V B Post Office  
NSW 1230

Dear Sir/ Madam

#### **DISTRIBUTED GREEN ENERGY SOURCE - ROOFTOP SOLAR PANELS IN NSW**

Please accept this submission to your inquiry with the view to highlighting the unique feature of Rooftop Solar to reduce the need for centralized power generation and consequent grid upgradings.

**BACKGROUND:** We are a retired couple with four married children and seven grandchildren, ( that is a total of ten voters). We are concerned there will be a clean green environment for our grandchildren. To this end, over the last two years we have reduced our electricity use from 900 KW hours per quarter, to 555KW hours per quarter by installing a heat pump to provide hot water, low energy lighting and developing a careful electricity pattern of use.

On the 9<sup>th</sup> of February 2011 we purchased an 11 panel Quantum 2 KW solar power generating system at a cost to us of \$5546.49. At this stage after two quarters of operation it appears that we will be able to produce about 60% of our new annual energy needs from our rooftop solar panels. Our net drain on the *grid* has been reduced from 3600KW hours in 2009 to an estimated 830KH hours in 2011/2012 that is a reduction of 77%. The financial result has not been that good.

**DISTRIBUTED GREEN ENERGY SOURCE:** It appears the unique **distributive** benefit of Rooftop Solar energy generation is not widely understood, as all other generators, green or fossil fueled sources incur the significant grid costs of being **centralized**.

Decentralized energy generation has the potential to reduce the need for centrally generated energy and ipso facto extend the life of existing grid infrastructure and avoid much talked about upgrades. Decentralized green energy generation is analogous to what has happened in the

Sydney Water Utility business. The policy of rationing water and allowing customers to install their own household water tanks has introduced a **distributive** element in the fresh water collection equation. This has reduced the need for Sydney Water to build new dams and minimize the large expenditures on reticulation expansion of what has been, up until now, an entirely **centralized** water supply network. The unintended consequence of these policies has been for Sydney Water to experience greatly reduced **revenues** from the sales of potable water because of reduced demand for water on the centralized system.

**POTENTIAL SAVINGS FROM DISTRIBUTED ENERGY GENERATION:** The introduction of a significant element of distributed energy produced by Domestic and Small Business customers on their roofs will reduce the need to **finance** a lot of generation and distribution infrastructure by the Electricity Industry at large, rather than if it were to remain totally centralized. That **private finance** will be supplied by those customers who are prepared to invest in rooftop solar panel energy generation that is provided the investment can be made viable.

Regarding the example of our home in **paragraph three** in which we reduced the drain on the grid by 77% based on the April and July 2011 quarters energy generated, it would be feasible to use 80% to 100% reductions in grid use over a whole year for each building fitted with solar panels in your calculations. The forgoing can be used to calculate the reduction in energy taken from the grid for each percentage of distributed energy generated and the dollars saved by not having to centrally generate and distribute that energy.

Best wishes with your current endeavors

Yours faithfully

Donald Ross Hamilton