



**Submission by**  
**Alternative Technology Association**

**Public Consultation on a National Framework for Energy  
Distribution and Retail Regulation**

**23<sup>rd</sup> January 2006**

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## **Introduction**

ATA welcomes the opportunity to offer comment on *Public Consultation on a National Framework for Energy Distribution and Retail Regulation* (the Paper), which was produced by Gilbert and Tobin and NERA Economic Consulting.

ATA is a consumer organisation established in 1980 which stimulates the uptake of sustainable technologies in order to protect our environment. The organisation provides service to over 3000 members, who are actively promoting sustainability in their own homes by using good building design and implementing water conservation and renewable energy technologies. ATA advocates in both the government and industry arena for ease of access and continual improvement of these technologies, as well as the production and promotion of information and products needed to change the way we live.

The focus of this submission is on reducing the barriers to the uptake of small-scale grid-connected embedded generators. Small-scale domestic renewable energy systems have a significant role to play in reducing both greenhouse gas emissions from electricity generation and infrastructure costs of upgrades to the network (due to their embedded nature). Additionally, solar photovoltaic generation has the capacity to supply electricity at times of peak load, providing significant economic benefit by reducing the wholesale cost of electricity at these times.

At present significant obstacles exist for potential investors in this technology. The Paper correctly identifies that many of these barriers could be overcome through the development of a national regulatory framework and consistent, standardised agreements; however further work needs to be done to recognise the difference and additional advantages of small-scale embedded systems over larger embedded generators.

## **Specific Response**

### *PART D – Other Distribution and Non-price Retail Regulation*

#### **Distributor interface with embedded generators (D.4.)**

In May last year, ATA published a report entitled *Impediments to Grid Connection of Solar Photovoltaic: the Consumer Experience*. This report outlined the large number of obstacles and impediments to the connection of small embedded generators, and solar PV in

particular, that proponents of these technologies face. The major recommendations arising from this study were that standardised, universal grid connection agreements need to be adopted; recognition of the full benefits of small-scale embedded generators needs to be awarded; pricing structures need to reflect these benefits; and the regulatory framework needs to be structured in such a way to encourage rather than dissuade individuals to invest in this technology.

ATA supports the position outlined in the Paper that “In order to remove potential barriers to entry for embedded generators, there should be a transparent and nationally consistent set of terms and conditions governing the connection of embedded generators to distribution networks” (p 71). The universal experience of the respondents to ATA’s study was one of frustration at the lack of information available, conflicting advice given, excessive and complex technical regulation and minimal protection for system owners.

### **Standardised grid connection agreements**

Standardised grid connection agreements have the potential – if designed to equally reflect the interest of system owners and industry – to alleviate the burden of grid connection and ensure consistent treatment of grid-connected systems. However these agreements need to be within a regulatory framework which awards full recognition to the embedded generators, including adequate financial rewards, for the financial savings gained by the electricity distributors and retailers resulting from the uptake of these systems.

Small-scale embedded generation, such as domestic solar photovoltaic (PV) electricity systems, has a number of advantages over centralised generation, including:

- improved reliability of supply through diversifying generation options;
- reduced transmission losses through generation close to the point of use;
- greater control by individuals and communities over their electricity generation;
- improved employment opportunities, with small-scale renewable projects; and
- providing more jobs per MWh of electricity produced than conventional energy sources.

The Paper, as with much of the existing regulations, fails to distinguish between small-scale embedded systems and larger embedded generators. Small-scale renewable such as solar PV has the additional and significant advantages of being able to provide electricity during times of peak demand and reducing the need for network augmentation.

### **Economic benefits of small-scale embedded systems**

Whilst increasing demand for electricity inevitably leads to the need for capital expenditure on network infrastructure, small-scale embedded generators have the potential to reduce this demand. A large number of dispersed solar PV systems is extremely unlikely to create the need for any network augmentation – and indeed would reduce transmission losses – whereas a generator with similar capacity at a single point would invariably initiate network augmentation.

Additionally, there is limited recognition of the potential benefits that solar PV could deliver to distribution networks, particularly in regard to maximising contributions to network support during periods of extreme peak summer demand. Across much of Australia, demand peaks typically occur on hot summer afternoons, at a time when the generation capacity of solar PV is at its highest. With wholesale electricity costs reaching as high as \$10,000 per MWh during these peaks, solar PV has a significant role to play providing electricity and thus reducing the spot price of electricity during these peaks. However there is no attempt to ensure incentives are provided for solar PV users to ‘offer’ such a service.

Due to their location close to the point of consumption, small-scale embedded generators are also able to reduce both TUOS and DUOS network charges. This advantage needs to be passed on to those installing small-scale embedded systems through rebates, in order to produce an accurate pricing signals for across market for such technology, and to compensate the generators for their contribution towards these saving.

### **Recommendations**

The economic, environmental and social benefits of small-scale domestic embedded generators are many and varied. ATA therefore recommends the SCO work to reduce the barriers, provide clear and accurate information, ensure adequate financial compensation, consider additional economic incentives, and structure regulatory framework in such a way that consumers are encouraged to invest further in this important area. ATA believes that the SCO should also include explicit consideration of the differences between ‘large’ and ‘small’ embedded generation technologies.

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