



Submission by

Alternative Technology Association

**COAG's Renewable Energy and Low Emission
Technology Framework**

June 2006

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1. Introduction

The Alternative Technology Association (ATA) acknowledges the recent moves by the Council of Australian Governments (COAG) to adopt a Plan for Collaborative Action on Climate Change and the establishment of the COAG Climate Change Group (CCCG), and welcomes the opportunity to provide responses to questions raised by the CCCG, specifically relating to the development of the Renewable and Low-Emissions Technology Framework.

ATA is a not-for-profit organisation established in 1980 to promote 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.

2. Response

At the 10 February 2006 meeting, COAG recognised the urgent need for early action on climate change and established a climate change taskforce, the COAG Climate Change Group (CCCG). The CCCG has since called for responses to questions arising from a number of areas examined by the Group. ATA provides the following responses to questions regarding the establishment of a Renewable and Low Emission Technologies Framework.

2.1 International Best Practice

What would you consider examples of international best practice for deployment of renewables and low emission technologies?

Internationally, there exists many and varied policy initiatives designed to promote the uptake of renewable energy and low emission technologies. These policies achieve a variety of outcomes beyond just reducing greenhouse gas emissions, including increasing reliability and security of supply, diversifying the energy market and providing an essential energy source in remote locations and for specific applications.

Whilst certain countries have had greater or lesser success with various policies, what remains clear is that a clearly defined, long-term policy framework and a diverse mix of policy instruments is essential for bringing about real change in a nations energy mix and reduction of greenhouse gas emissions. It is crucial for governments to provide long-term certainty for investments in new and emerging technology, through innovative policy measures, progressively-increasing binding targets and other financial incentives.

Under present economic conditions, it is difficult for renewables and low emissions technologies to compete financially with traditional fossil fuel forms of electricity generation. This is due to the lack of accounting for the true costs of environmental damage resulting from greenhouse pollution (reflected in the absence of a carbon tax), impediments to access to the national electricity markets for renewables, market failure to account for the full economic advantages of embedded renewable generation and perverse subsidies for the fossil fuel industry. Whilst these conditions exist, low- and zero-emissions forms of electricity generation will require a broad-based policy framework designed to level the playing field.

Policy Measures:

Feed-in tariffs, such as those adopted most notably by Germany, as well as a host of other nations, stand out as being the most favourable for resulting in a large-scale adoption of diverse renewable energy generation capacity. In a report from May 2004, the Worldwatch Institute concluded that "*pricing laws have consistently proved to be the most successful (measures) to date*"¹. The three countries who adopted these laws – Germany, Spain and Denmark – presently account for approximately 59 percent of the global installed wind capacity.

More significantly though, feed-in tariffs lead to a diversification of renewable energy technologies. By offering a range of tariffs tied to specific technologies, feed-in tariffs offer incentives for investment in a variety of technologies, rather than offering a single price for renewable energy which leads to investment in a single, cheapest-per-kilowatt-hour technology. A diversification of technologies is essential in ensuring long-term security of supply, as an integrated, diverse renewable energy system can overcome short-term fluctuations in climatic conditions.

Whilst ATA encourages the adoption of feed-in tariffs as the best method to stimulate the market for renewables, this should be done in conjunction with **mandatory renewable energy targets**, thus ensuring that adequate levels of adoption occur. Such targets need to be ambitious and binding; ATA recommends increasing the current low Mandatory Renewable Energy Target (MRET) level in annual increments up to a national target of 20% by the year 2020.

Such targets would be complemented by nation-wide **emission reduction targets**, to ensure ongoing deep cuts in Australia's greenhouse gas emissions. COAG acknowledges the need for immediate action to combat climate change, and the immediate setting of medium- to long-term emissions reduction targets provides the investment certainty to industry to best achieve these cuts. ATA recommends a long-term goal of a 60 percent reduction in Australia's greenhouse gas emissions (from 1990 levels) by the year 2050, complemented by an interim target of 20 percent by 2020.

Numerous international examples exist to show that a combination of pricing laws (such as feed-in tariffs) and quota systems (such as mandatory renewable energy and emissions reduction targets) prove effective in stimulating the market and providing investment in renewable and low emission technologies².

Australia is becoming increasingly isolated as one of few developed nations yet to adopt a **price for carbon dioxide emissions**. Additionally, it has been shown that early adoption of a carbon tax has significant economic advantages over delaying this measure³. By providing a carbon price through an emissions trading scheme, Australia would send price signals to industry to stimulate growth in the application of low or zero emissions technologies. Further, emissions trading can lead to a variety of cost-effective energy conservation measures, resulting in greenhouse gas emissions reductions. International experience has shown that this has been the case⁴.

¹ Sawin, J. L. (2004) *Mainstreaming Renewable Energy in the 21st Century*, Worldwatch Institute, Washington D.C.

² Sawin, J. L. *ibid*

³ Allen Consulting Group (2006) *Deep Cuts in Greenhouse Emissions. Economic, Social and Environmental Impacts for Australia*, Allen Consulting Group, Melbourne.

⁴ United Nations Environment Program, http://www.unepfi.org/work_programme/climate_change/carbon_finance/index.html

2.2 Barriers to Uptake

What do you consider to be the main barriers to the increased uptake of renewables and low emission technologies?

At present, the renewable energy industry operates in an economic climate which favours more traditional, greenhouse gas-intensive forms of energy. Renewables and low emissions technologies are at a distinct disadvantage due to:

- the lack of accounting for the true costs of environmental damage resulting from greenhouse pollution, reflected in the absence of a carbon tax and other financial disincentives to major emitters;
- a failure to increase the MRET level beyond 2% by 2010;
- lack of certainty for investment due to the absence of a long-term policy framework for greenhouse gas emissions reduction;
- impediments to access to the national electricity markets for embedded forms of renewable energy generation, including both high financial costs and an absence of standard contracts and connection arrangements;
- market failure to account for the full economic advantages of embedded renewable generation, including the avoidance of network augmentation to supply an increasing electricity demand; and
- perverse subsidies for the fossil fuel industry.

These many and diverse barriers to the increased uptake of renewable and low emission technology can only be overcome with a broad-based and diverse policy framework and the adoption of a range of corrective policy measures and incentives, as outlined above.

2.3 Barriers Specific to Technologies

Are there any barriers that are specific to particular technologies?

Embedded or distributed generation, such as small-scale domestic solar photovoltaic electricity generation (PV), has a number of additional advantages over a small number of large, remotely-located generators. Embedded generators improve the reliability of supply by diversifying generation options, reduce transmission losses through their proximity to the point of consumption, gain greater control over their electricity generation by individuals and communities, and improved employment opportunities, with small-scale renewable projects demonstrated to provide more jobs per MWh of electricity produced than conventional energy sources.

In addition, solar PV has the additional and significant advantage of being able to provide electricity during times of peak demand. In south-east 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 at these times.

In May 2005 ATA published a report entitled *Impediments to Grid Connection of Solar Photovoltaic: the Consumer Experience*, highlighting the obstacles encountered by consumers of small-scale photovoltaic technology⁵. This report found:

- market failure which discriminates against solar PV and fails to recognise the true value of electricity that solar PV systems produce during hot summer periods;
- complex technical regulation which discriminates against system owners;
- an economic regulatory framework which provides:

⁵ ATA (2005) *Impediments to Grid Connection of Solar Photovoltaic: The Consumer Experience*, ATA, Melbourne

- little incentive for retail or distribution businesses to actively encourage small renewable embedded generation; and
- minimal protection for system owners.
- a lack of publicly-available information that can assist system owners negotiate and undertake what is often an unnecessarily technically and administratively complex process;
- unnecessarily a meagre return on investment – of up to \$30,000 – in solar PV systems, despite the many benefits these systems produce;
- minimal consistency in the treatment of system owners negotiating grid connection;
- unnecessarily high charges for interval metering which currently provides little financial return – due to a lack of corresponding interval tariffs – to system owners; and
- some distribution businesses demanding gross metering (despite poorly drafted and ambiguous codes which attempt to stipulate otherwise).

ATA believes that the above disadvantages of embedded generation, and of solar PV in particular, need to be acknowledged and addressed within the current state-based regulatory structures and in any future move towards a national system of electricity market regulation.

2.4 Most Beneficial Incentive Programs

What do you consider to be the most beneficial incentive programmes currently in place?

ATA is encouraged by the recent commitments of both New South Wales and South Australia to set binding emissions reductions targets; the interest of Victoria in establishing a state-based mandatory renewable energy target; the Greenhouse Gas Abatement Scheme (GGAS) of New South Wales; and talks between the states on setting up an emissions trading scheme in the absence of Commonwealth action. However the lack of an Australia-wide co-ordinated approach to greenhouse gas reduction hampers the best efforts of the states, and fails to provide the long-term certainty required to obtain extensive investment in the renewable and low-emission sector in order to achieve the recognised necessary reductions.

The **Mandatory Renewable Energy Target** (MRET) scheme has been responsible for significant investment in renewable energy, particularly wind power, in Australia. However the failure to increase this target above 9,500GWh by 2010 – initially expected to be 2% of total demand, however it now appears it will be significantly less due to a larger-than-forecast increase in demand – has led to a decrease in investment in the sector and a move off-shore for a significant number of Australia's renewable energy industries. MRET requires a long-term target of at least 20% by 2020 to again provide the incentive for investment required to achieve necessary emissions reductions.

On a smaller scale, the **Photovoltaic Rebate Program** (PVRP) has been beneficial in increasing the level of solar PV installations across Australia. Whilst ATA would encourage the continuation of the scheme, the PVRP alone has not and will not provide the sufficient financial assistance required to achieve the levels of wide-spread adoption of solar PV technology required to achieve both deep cuts in greenhouse gas emissions and provide long-term security of supply in a future carbon-constrained environment.

ATA encourages an increase in the mandatory renewable energy target and the continuation and expansion of the PVRP, as well as the adoption of feed-in tariffs for renewable energy and the implementation of a carbon tax and greenhouse gas reductions targets in order to stimulate investment in both renewables and low emission technologies.

3. Recommendations

ATA recommends a broad set of policy initiatives in order to increase the uptake of renewable and low emission technologies, including the adoption of:

- feed-in tariffs for renewable energy;
- ambitious and binding mandatory renewable energy targets of at least 20% by 2020;
- nation-wide emission reduction targets of 20% by 2020, increasing to 60% by 2050;
- a national emissions trading scheme providing a price for carbon dioxide emission; and
- the continuation and expansion of the PVRP.

Additionally, it is imperative that the institutional and regulatory barriers to the adoption of renewable energy technologies, specifically those confronted by smaller-scale embedded generators, be addressed through existing regulatory structures, and be considered in the more towards a future national system of regulation for the electricity industry.

It is through a broad range of policy initiatives and structural changes that Australia will achieve the urgent action on climate change through deep cuts in greenhouse gas emissions, which COAG has acknowledged is necessary. ATA encourages the CCCG to consider all of these policy measures and recommendations when developing the Renewable and Low-Emissions Technology Framework.