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Committee Secretary
Senate Standing Committee on Environment, Communications and the Arts
Department of the Senate
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14 August 2008

Dear Committee Secretary,

WWF submission to Inquiry into the Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008

WWF welcomes the opportunity to make a submission to the Inquiry into the Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008.

WWF notes that the objective of the proposed Feed-in-Tariff scheme is to "*provide greater financial support for the commercialization of a broad range of prospective renewable energy technologies, particularly those that are generally unsupported by the mandatory renewable energy target scheme*" (Explanatory Memorandum).

WWF encourages the implementation of mechanisms that support the concurrent development of a broad range of renewable and low emission technologies, without which Australia risks failing to meet the emissions reductions by 2050 necessary to avoid dangerous climate change. This opinion is based on the analysis of Climate Risk Pty Limited contained in the attached report entitled *Industrial Constraints to Emission Reductions* (the Report).

The objective of the Report was to identify industrial constraints to achieving national greenhouse gas emissions reductions of 60%-90% below 1990 levels by 2050. The Report complements economic modeling by analyzing physical industrial constraints such as the availability of skilled personnel (engineers, technicians, project managers, lawyers, etc), production equipment and materials (whether raw, component or finished).

The Report analyzed physical industrial constraints by using a computer-based model to calculate the rates at which low emission technology and service industries need to grow to provide the devices (and/or approaches) needed to supply energy (or commodities) and to attain greenhouse gas emissions reductions of 60%, 80% and 90% respectively, by 2050. The model then compares that output with the findings of international industrial development literature.

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This literature suggests that industry growth rates of more than 20% per year are possible though difficult to achieve year on year but that industry growth rates of more than 30% per year are generally unsustainable.

The Report indicates that, because the objective is to reduce emissions by 2050, a price carbon alone will not be sufficient to reduce emissions. An analogous situation is present today in the oil industry. Despite record prices production equipment is simply not available to extract more oil. In time the market will correct this. However where there is a time-bound objective, such as deep emission reductions by 2050, the time required by the market to correct the situation is simply not available.

The Report finds that there are sufficient low emission energy resources, energy efficiency opportunities and emissions reduction opportunities in non-energy sectors to achieve reductions of 60%-80%, and that there is sufficient time for the low emission technologies and services to grow at sustainable rates if development starts now. The Report also finds that a sequential approach to low emission industry development (lowest-cost technology first, next-lowest-cost technology next and so on) requires much higher growth rates for each industry than one that grows a number of technologies/industries concurrently.

The Report finds that physical industrial constraints will not prevent Australia reducing greenhouse gas emissions of 60% by 2050, though doing so will be made much less physically demanding if a range of low emission industries are fostered from the outset. The Report also finds that emissions reductions beyond 60% cannot be achieved using a sequential approach to low emission industry development. This is of great significance as both Approach 1 and 2 in the *Design Options for the Expanded National Renewable Energy Target Scheme* Discussion Paper would result in sequential development and would inevitably lead to many important but higher cost industries being cannibalized by well-established, low-cost technologies, principally wind and biomass.

In summary, a concurrent approach to low emission industry development is both more sustainable in physical industrial terms and essential if emissions reductions of beyond 60% are required, as is likely to be the case if the worst impacts of climate change are to be avoided. In particular it should be noted that the “dual carbon budget” proposed by the Garnaut Climate Change Review, whereby Australia offers to make deeper reductions if other countries do likewise, and an approach that WWF strongly supports, is very vulnerable to failure due to physical industrial constraints if the model successfully encourages other countries to make deeper reductions and, as a consequence, Australia is required to make further, deeper emission reductions.

This problem can be easily overcome by fostering a wide suite of low emission technologies and industries at the outset, and continuing to do so until such time as the full suite of renewable energy technologies necessary to achieve the deep reductions are competitive on the open market (both as a consequence of price and scale effects). It is possible to balance this admittedly more

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costly (though more effective) approach by reserving a comparatively small proportion of the target for less mature technologies in which Australia has a comparative resource or technological advantage (such as geothermal, solar PV or solar thermal) with the remainder of the target to be supplied by the lowest cost renewable technologies (which in practical terms is likely to be wind and biomass). On the issue of cost, WWF notes that a series of recent reports and opinion polls have demonstrated a clear and very strong public interest in and support for renewable energy development, despite the acknowledged greater cost of pursuing it.

Accordingly, WWF submits that a national renewable energy scheme should be designed to ensure that it fosters a variety of low emission technologies and industries at the outset. This can be achieved by adopting a variety of policies including:

- By segmenting (or banding) the renewable energy target to provide less mature technologies in which Australia has a comparative resource or technological advantage with a minimum market share (this is the approach that WWF favors because it sends a clear and transparent signal to the market and to the public);

- By establishing technology specific renewable energy credits whereby less mature technologies receive more credits per megawatt hour;

- By providing a feed-in-tariff with differentiated pricing for less mature technologies;

- By using emissions trading scheme auction revenue to meet the cost shortfall of each of the less mature technologies.

Accordingly, WWF supports the proposed Feed-in-Tariff scheme.

If you have any additional question or require clarification, please do not hesitate to contact me on 0410 086 986 or ptoni@wwf.org.au or Kellie Caught on 0406 383 277 or kcourt@wwf.org.au.

Yours faithfully

Paul Toni
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