

## **Address to the Terms of Reference of the Mandatory Renewable Energy Target Review – May 2003**

- a. The extent to which the Act has**
- i. Contributed to reducing greenhouse gas emissions**

Currently, renewable energy generation, in broad terms, is not cost-competitive with other greenhouse gas abatement measures, such as customer-end energy conservation and energy efficiency, increasing existing generator efficiencies, new fossil generation technology (combined cycling, potentially fuel cells) etc.. However, renewable generation is starting from a very low market base and, with the exception of old hydro, is pioneering newer technologies on very small scales. The Act is essential in facilitating the growth of the renewable energy industry such that, by 2020, renewable energy generation will be a viable and competitive greenhouse abatement measure, long after much of the “low-hanging fruit” has been plucked.

- ii. Encouraged additional generation of electricity from renewable energy sources**

On the assumption that approved baselines accurately reflect pre-existing conditions, there is no doubt that the Act has encouraged renewable energy generation. Most, if not all, of the renewable energy activity on main grids over the past two years and planned for the future, is a direct result of the Act.

There are some reservations in the industry however, that many REC’s derived from old hydro and, to some extent, bagasse plants, were “windfalls” and the associated electricity would have been generated anyway. Accordingly, there was less demand for new renewable energy plant than expected in the early years.

While the inclusion of Solar Hot Water in the Renewable Energy (*electricity*) Act appears unusual, it satisfies the intent of the Prime Minister’s statement, *Safeguarding the Future: Australia’s Response to Climate Change*, and is seen as a positive measure. However, there is a substantial proportion of Solar Hot Water units that have contributed REC’s but would have been installed regardless, and/or would have been encouraged by state-based programs. Nearly half the REC’s created in WA in 2002 were from Solar Hot Water, for example.

- b. The extent to which the policy objectives of the Act have been achieved and the need for an alternative approach.**

It is very early in the term of the Act to review its achievements, however the following observations are made:

- The policy objective of encouraging additional generation of electricity from renewable sources has been achieved
- The objective of reducing emissions of greenhouse gases has been achieved. To this end, the Act is complementary to any other statutory greenhouse gas abatement measures that may be introduced. In this incubation period for the renewable energy industry, replacement of the MRET with broad-based

greenhouse targets would be premature and would effectively destroy the renewable energy industry.

- The objective to ensure that renewable energy sources are ecologically sustainable has a mixed outcome. That a third of all REC's generated have come from old hydro, which has a questionable standing in terms of sustainability, must raise doubts with environmental groups at least, that the objective has been achieved. On the other hand, the interpretation of "energy crops" as excluding woody material may preclude a range of technologies which could assist in controlling Australia's major environmental problem, dryland salinity. By insisting that only herbs and grasses can be used as energy crops, the Act fails to support sustainable agriculture.

**c. The mix of technologies that has resulted from the implementation of the provisions of this Act**

Again, it is very early in the implementation of the Act to make projections in this regard, however, the following comments are offered:

- Of the 2002 RECs created, over one third came from existing hydro schemes
- Nearly one quarter came from Solar Hot Water, also supported by State programs. It is not clear how many of these new systems were installed as a direct result of the MRET and how many would have been installed had the MRET not been introduced.
- One quarter came from bagasse, black liquor, land-fill gas, and sewage gas.
- Only ten percent came from what the public might envisage as new "renewable energy" and all of that was wind.
- In Western Australia, nearly half of all REC's created came from Solar Hot Water systems, again a large proportion of which would have been installed anyway. The bulk of the remainder came from the Albany Wind Farm.
- All indications are that wind and old hydro will dominate the early years of MRET operation, particularly when Basslink is commissioned.

A lot of the irregularities in the first years of the MRET's life are reflections of the very low targets and will dissolve as annual targets increase. There is no justification in initiating changes to the Act in this regard at this early stage.

**d. The level of penalties provided under the Act.**

The following observations are made

- The bulk of REC's created are contracted in bilateral arrangements but those that are traded in the market have done so below the level of the penalty charge of \$40/MWh. The market though, is oversupplied with REC's at the moment, and the bulk of these are "cheap" REC's from existing hydro etc.
- There is no doubt however, that the level of the penalty charge impacts on the sale price of REC's and new project still struggle for viability at this REC's price.
- There is no indication as yet that liable parties will choose to pay the charge instead of acquiring REC's. It may be that retailers will continue to acquire REC's at prices higher than the penalty charge to protect their corporate image. It is recommended that the penalty charge be increased if and when the payment of the penalty charge by liable parties begins to become a regular practice.

- The low level of penalty charge was set to limit the exposure of retailers from higher than expected costs, for what would amount to a little over 1% of their electricity purchases. Raising the penalty charge incrementally is not seen as a great threat to retailers.

**e. Indexation of the renewable energy shortfall charge**

Since the Act extends over a term of two decades, it appears illogical and counter-productive not to index a penalty charge in accordance with the CPI or other industry escalator.

**f. Other environmental impacts that have resulted from the implementation of the Act...**

It appears that the provisions of the Act, together with campaigns by environmental groups, have made use of native forest wastes unattractive as a renewable energy source. It is too early to predict the longer-term use though, as dedicated bioenergy plants have long development lead times, and even the uncertainty of this review, may have delayed development planning.

**g. The possible introduction of a portfolio approach**

The portfolio approach has generally been regarded as costly and inefficient (the NFFO in the UK for example), and the approach pioneered by the MRET scheme now appears to be favoured internationally. If too much of any one form of renewable energy becomes a problem in terms of public perception, planning approvals and market prices should act as constraints. If it is decided that individual technologies require assistance to emerge into a competitive environment, then separate support measures outside the MRET, the PV rebate program for example, are more appropriate than a portfolio approach.

**h. The level of the overall target**

In the Prime Minister's statement, *Safeguarding the Future: Australia's Response to Climate Change*, a 2% target by 2010 was explicit.

When the target 9,500GWh was set in lieu of the 2% for expediency, it was done so with the best growth projections available at the time. Now that this projection appears to be a substantial underestimate of actual growth, the target has shrunk to a little over 1%. This has led to a great deal of criticism of the MRET scheme from both the Renewable Energy Industry and environmental groups.

To restore credibility to both the MRET and the Prime Minister's statement, it appears essential to reset the target GWh figure to at least a true 2%. This may best be re-assessed periodically, say every three years, in order to give industry enough time to respond to any changes in growth patterns.

From experience with the construction of renewable energy projects, achieving a 2010 target of more than a true 2% would be difficult. When long project lead times, appropriate community consultation, and transmission line capacity issues are considered, calls for 5 to 10% targets by 2010 appear optimistic.

It is essential however, that industry growth should not stop in 2010. Developments scheduled for the later years of this decade will have difficulty gaining finance if they expect to sell into a stagnant post 2010 market. It would also stifle any hope of a home-grown manufacturing capacity if no new plants are required post 2010. It is critical then, that if the objects of the Act are to be achieved, the target must grow at an appropriate rate between 2010 and 2020.

**i. The appropriateness of the operating environment**

- i. Participation in the measure by liable parties has been high. It should be noted that most of the renewable generation activity has been sponsored by State Government utilities, and most existing private sector renewable energy companies, with some notable exceptions, have struggled to finalise projects.
- ii. The scheduled end date of 2020 is probably sufficient at the moment as a great deal of uncertainty as to Australia's position in world-wide action against climate change, and the impact of climate change itself, will be clarified in the meantime. However, industry has shown that it needs many years lead time to adjust on this scale, and periodic reviews of the MRET are essential, particularly prior to milestone dates such as 2010 and 2020.
- iii. There appears to be some mistrust in the renewable energy industry and within environmental groups as to the setting of baselines. This is certainly affecting the standing of the MRET scheme within those groups.
- iv. Periodic reviews are essential for industry, provided they are not too frequent, and do not inhibit investment. Reviews sufficiently advanced of milestone dates such as 2020 and 2020 are essential. Five-yearly reviews may be appropriate.

**j. Appropriateness of policy settings**

- i. For the long-term development of a competitive renewable energy industry, a 2010 time-frame is too short. Once the capacity for the 9500GWh has been achieved, presumably by 2009, there is no requirement for further capacity other than replacement and maintenance. In the period 2010 – 2020, there is no requirement for additional plant. The Act effectively supports a renewable energy market for the next six years only. Unless growth is extended to include the 2010 – 2020 period, the Act would have failed to provide an ongoing basis for a commercially competitive renewable energy market.

In order for developers to obtain finance for projects, a formal mechanism is required to allow "Approval in Principle" of projects at an early stage of development. Currently, the Act only allows an application to be made for accreditation of a power station that is owned, that is, built or substantially built. A barrier to developing new industry using wood waste biomass or

indeed any technology not specifically prescribed in the Regulations is the need to develop the project and fuel sources before being able to apply for accreditation. This is a clear impediment to more innovative projects being able to raise finance. If an early “Approval-in-principle” system were available, formal registration of the plant could still occur at commissioning, and fuel sources approved as they are purchased. There seems little point in approving projects purely on the basis that they have acquired one accredited fuel purchase.

- ii. There are indications that the renewable energy sector will provide greater social benefit than traditional generation, in terms of local employment and manufacturing, landcare etc.. Even though, for example, all wind turbines installed on grids in Australia are imported, up to 40% of the cost of a wind farm is spent locally (towers, roadworks, footings, cabling etc). Deep-rooted woody energy crops could make a great contribution to alleviating dryland salinity on farms and increasing biodiversity. Employment in renewable energy industries has been shown to be substantially higher per MW than fossil fuelled power stations. Much of the expenditure and employment occurs in rural areas, assisting in regional development.
- iii. The prescriptive nature of Section 17 of the Act, makes industry innovation a difficult process. By prescribing allowable energy sources, the Act takes “crystal ball” view that has already missed some important innovations. Particularly in the area of bioenergy, the prescriptive approach has cast doubts on several promising developments including:
  - Biodiesel made from canola - is this an energy crop grown for the purpose of energy production?
  - Biodiesel made from waste cooking oil
  - Pyrolysis oil
  - Tallow – is this a food and agricultural wet waste? And is there any reason food and agricultural dry wastes are excluded?
  - Wood waste cleared from under transmission and distribution power lines.

It is clear that new renewable sources will arise that have not been contemplated in the formation of the Act, and the prescriptive nature of Clause 17 will restrict innovation. The categories for renewable energy should be broad enough to allow innovation.

Under the current interpretation of the Act, bioenergy plants using dedicated tree crops and those where energy is one product of a range of products from tree crops must comply with the “plantation wastes” criteria, that there is a higher value product associated with the crop. There is currently no trading scheme for salinity benefits so, even if the tree crops are averting one of Australia’s worst environmental problem in dryland salinity, no value can be placed on the benefit. The technicality that energy crops can only be herbs or grasses but cannot be woody, has no logical basis and perpetuates unsustainable agriculture. This situation must be rectified.

Energy crops should comply with the same criterion as plantation wastes in that the land on which they are grown should not have been cleared of native vegetation after

31 December 1989. Inclusion of this condition should alleviate any concerns over the distinction between woody and other crops.

## **Other matters**

### **General Formula and Distribution Connected Facilities**

This formula unfairly discriminates against plant connected to the distribution network in favour of plant connected to transmission networks, and discourages distributed distribution.

Under the General Formula

Eligible Generation =  $TLEG - FSL - AUX - (DLEG * (1 - MLF))$  where a facility is distribution connected the marginal loss factor is specified to be one. It is quite feasible that a distribution-connected facility can reduce the electricity losses in the transmission network. For example where distribution network is supplied from transmission substation that has a marginal loss factor greater than one, the electricity from the facility reduces the power drawn through the substation and so lowers the electricity losses in the transmission network.

### **It is recommended that clause 14 (2) be replaced by:**

Where all of the electricity generated by a power station is used in the local distribution network, the marginal loss factor is taken as one, except where the local distribution network is connected to a substation on the transmission network, in which case the marginal loss factor is that which applies at the substation.

Note: in the existing definition where all the power is used in the power station, then clearly there is no export to the network so both  $TLEG - AUX$  is less than or equal zero and  $DLEG$  is less than zero. Accordingly, there is no need to include the case where all the power is used within the power station.