14 September 2012

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Climate Change Authority
GPO Box 1944
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SUBJECT: RENEWABLE ENERGY TARGET REVIEW

To whom it may concern

Sustainable Energy Now Inc. (SEN) is a not-for-profit Western Australian volunteer organisation formed in 2007 with the aim of promoting and demonstrating practical, affordable strategies for the adoption of renewable energy and a sustainable future. SEN welcomes the opportunity to respond to this Renewable Energy Target (RET) Review and supports the need for increased usage of our renewable energy resources to, among other things, address the issue of climate change.

Furthermore, the recent loss of a carbon floor price means it is even more important that the original minimum RET value be kept.

Please refer to SEN's comments attached.

Yours sincerely,

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SEN's Submission to the RET Review Issues Paper

This submission will respond to certain sections of the review as indicated by the corresponding section numbers in this document

1.1 The Climate Change Authority

SEN's positions on the guiding principles are as follows:

Economically efficient:

The costs of renewable technologies are still showing rapid decline, for example large scale wind has declined by 18% per MW in the last two years and PV by 60% in the last three years (Ref: *Global Trends in Renewable Energy Investment 2011* - http://www.unep.org/pdf/BNEF_global_trends_in_renewable_energy_investment_2011_report.pdf, UNEP 2011, p. 12). Onshore wind is now cost competitive with coal (UNEP 2011, p. 25). In 2011 Bloomberg New Energy Finance state that "progress in renewable energy was taking place at a pace that public opinion and policymakers in many countries were simply failing to spot. This progress was both in investment levels and, even more, in cost-competitiveness with conventional power sources." (UNEP 2011, p. 16). Considering the long life time of assets used in electricity generation it is important to consider the life cycle costs of fuels required for non-renewable generation.

As a rule of thumb: fossil plants lifecycle costs are 20% capital expenditure 20% and 80% fuel and operation; renewables tend to be 80% capital expenditure and 20% operation (Ref: Doug Aberle, former CEO of Western Power) so given rising fossil fuel costs versus fixed renewable "fuel" costs it is clear that renewables are most likely to provide lower overall costs into the future.

Environmentally effective:

Renewables have the following benefits:

- Zero or low GHG emissions intensity (compared to fossil which is increasing due to scarcity, increasing in difficulty of recovering it such as; higher energy input, complexity, risk to environment),
- Small constant physical footprint for energy output (does not continually consume land such as coal mining for fuel). For example, SEN estimates areas potentially as small as 14 km by 14 km to supply all the electricity consumed by WAs South-West Interconnected System, SWIS with solar alone (Ref: http://sen.asn.au/renewables), CSIRO calculate an area of 50km by 50km for Australia, and AUSRA calculate an area of 90 miles by 90 miles (144km by 144km) for the USA,
- Dramatically reduced energy use by electrification of transport (electric vehicles – EVs - are 4 to 5 times more efficient than internal combustion engines), reduced energy transmission losses by use of embedded generation

Equitable:

In remote communities, residential PV is competitive with retail pricing and allows disadvantaged people to have both reliable electricity and fixed electricity costs

In the public interest:

As well as the above mentioned comments renewables offer:

- Dramatically reduced pollution resulting in improved health. Increased use of renewables leads to reduced levels of

  - Mercury in air/water/fish etc (Ref: Krabbenhoft & Rickert 1995 “Mercury Contamination of Aquatic Ecosystems” http://pubs.usgs.gov/fs/1995/fs216-95/),
  - Sulphur dioxides (SOx)
  - Nitrous oxides (NOx)
  - Particulates (including with electrification of transport)
- Security of supply through diversity and self-sufficiency
- Reduced exposure to global energy price rises.

Take Account of the impact of households, business, workers & communities:

As above

Support development of effective global response to global warming effecting climate change

Climate change effects are worse and faster than predicted and Australia, as a developed-nation, has an obligation to show initiative in addressing this issue. Other nations have achieved greater percentage of renewables already and are targeting higher. China, industrial manufacturer of much of global goods has 17% renewables for electricity generation and Germany has in excess of 20% already. Germany has targets for Renewable electricity of 35% by 2020 and 80% by 2050 and renewable energy of 18% by 2020 and 60% by 2050. They are also aiming to cut the national electrical consumption to 50% below 2008 levels by 2050.

SEN also believes the list of principles should include an ethical obligation to future generations to operate in a sustainable manner. That is, minimise GHG emissions, general pollution, damage to our “life-support systems”, farmland/natural areas, water supplies and oceans caused from energy resource mining.

4.3. Energy efficiency schemes and regulations

Phase out of electric water heaters

The phase out of electric (or electric-boosted HWS) disables ability to use renewables. The best outcome is to phase out all non-solar HWS (except where it is necessary), and encourage heat-pump boosted solar hot water, but additional cost may discourage its take-up relative to gas-boosted unless incentives compensate for it.

5.1. The large-scale target

There needs to be a further goal for the RETs beyond 2020 target, to avoid a boom-bust cycle which will threaten the renewable energy industry. (Fig 5.2 indicates this risk clearly). After all the 2020 target is just a transition value on the way to a necessary target of around 80+% by 2050 or sooner as climate science indicates.

Why does AEMO indicate most future renewable energy capacity will be only wind and biomass when solar PV costs have decreased dramatically and concentrated solar thermal is being deployed on large scales globally?

The 20 percent by 2020 Commitment:

SEN agrees with the 2003 Tambling Review recommendation that the target be a fixed value, not a potentially decreasing target which would threaten stability of the industry. However, SEN further suggests that the target be the greater of 41,000 GWh/yr or 20%, should energy use increase above forecasts. Furthermore, this should not have an upper limit, as the declining costs of renewable energy is reaching cost crossover with fossil fuelled generation and is likely to accelerate in uptake as this is further realised. There is massive potential for behind-the-meter PV in commercial and industrial contexts to reduce business costs, and also provide benefits to the grid.

SEN's position is that although Australia's electrical energy use has decreased recently, there is no guarantee that it may not increase again rapidly. If this occurs and the RET has been fixed there will be a risk that the time taken to plan/implement sufficient new renewable generation could mean the 20% target may not be met. It would be better to err on the side of having some excess renewable generation than the other way.

6. Small-scale Renewable Energy Scheme

6.1. Small-scale target

Questions

SEN agrees there are benefits to keeping SRES and LRET separate, and to have the SRES uncapped as the take-up of small scale renewables has dramatically exceeded all estimates and should not be held back by legislation.

8. Diversity of Renewable Energy Access

Questions

Having variable multipliers to encourage and reflect the value of particular types of renewables to the grid/energy supply and which facilitate the increase in penetration of renewables, would appear to be of benefit. Renewables meeting this criteria may be solar thermal with storage, biomass and geothermal, and potentially wave. Multipliers can also reflect the relative cost of electricity generation by those renewables to help encourage their take-up.

Concerns that adding multipliers may increase the cost of the RET should be considered against the longer term increasing costs of fossil-fuelled generation, including 'externalised costs'.

General Comment

SEN suggests considering modifying the acronyms used in this context by making them more consistent with each other, that is:

use SRET instead of SRES to correlate to LRET
use SREC instead of REC to correlate to LREC
use LREC instead of LGA