SUBMISSION COVER SHEET

Please complete this form and forward with your submission to the Mandatory Renewable Energy Target Review. These details are sought to enable submissions to be acknowledged upon receipt and to allow the Review Panel and/or Secretariat to contact you for further information, if needed.

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STAKEHOLDER GROUP (please tick appropriate box):

- ☐ Electricity retailer
- ☒ Renewable energy generator
- ☐ Other NEM participant, please specify.....….....……
- ☐ Government sector
- ☐ Industry association
- ☐ Financial sector
- ☐ Research/Academic sector
- ☐ Non-government organisation, please specify.....……
- ☐ Individual
- ☐ Other, please specify.....……

I/we agree that this submission will be published on the MRET Review website at <www.mretreview.gov.au> YES/~~NO~~

THANK YOU

A few quotes:

"Climate science tells us that global warming is a man-made stratospheric infrared death-ray machine. Only a suicidal civilization would stubbornly persist with 'business as usual' now that the likelihood of severe damage is so high."

"Carbon dioxide molecules are a bunch of unthinking and unstoppable terrorists: when released into our skies, they have a global reach, and are unerringly programmed by their innate physical properties to target all continents with a Reign of Terror that has massive potential to disrupt the global ecosystems supporting human life."

"Space shuttle Columbia burned up completely upon re-entry in February with 100% loss of life. The flaw was technological, and entirely man-made. There is no scientific proof that anthropogenic climate change is any less of a threat to human life on Earth than was the small chink in Columbia's left wing. We would do well to heed the message of the Greek legend of Icarus. The spaceship in which we travel is flying closer to the Sun every year."

This submission uses the inquiry's Terms of Reference as headings throughout. However the Terms of Reference are not regarded as axiomatic, and are challenged at every opportunity where they appear illogical or unscientific from the submitter's perspective.

a.the extent to which the Act has:
i. contributed to reducing greenhouse gas emissions.
ii. encouraged additional generation of electricity from renewable energy sources

There has not been a reduction in greenhouse gas emissions, so it is logically incorrect to imply in *a(i)* that there has been a reduction in emissions. A reduction in the rate of increase of emissions, if indeed it has occurred, would not be a real reduction in absolute terms, and is therefore manifestly inadequate in dealing with the climate change problem.

Regarding *a(ii),* it seems that MRET has had a positive influence on businesses choosing to be involved in wind farming and biomass-to-electricity projects. However, if it is not of adequate and significant magnitude to avoid catastrophe, then such commercial activity is ineffectual tokenism in the long-term.

b.the extent to which the policy objectives of this Act have been achieved and the need for any alternative approach.

The Act's stated objectives are *(a) to encourage the additional generation of electricity from renewable sources; (b) to reduce emissions of greenhouse gases; and (c) to ensure that renewable energy sources are ecologically sustainable.*

The roll-out in Australia of wind farms and biomass generation plants demonstrates success with object (a).

Regarding object (c), it appears tautological: like Cinderella's glass slipper, if the technology fits the slender foot of ecological sustainability, it will of necessity be a glass slipper powered by renewable energy sources. This would necessarily exclude such power sources as wood waste from timber getting, and coal seam methane.

As for point (b), a reduction of greenhouse gas emissions is patently not occurring in absolute or in *per capita* terms in the Commonwealth of Australia. As mentioned before, any reduction in the rate of increase in emissions is not a true reduction, and therefore a public policy that is constantly being undermined and counteracted by the actions of polluting industries growing their markets and massively increasing the associated emissions.

There is therefore an urgent need for alternative approaches in public policy.
We have to realise that **anthropogenic global warming is terrorism in slow motion** , and that the United States and Australia must be as committed to fighting this terrorism as has been demonstrated by their determined efforts in Afghanistan and Iraq. A bipartisan policy approach in Canberra, with fossil fuel lobbyists being given a list of non-negotiable emission reduction targets over the next 50 years to take back to their paymasters, would be a refeshing start. The non-negotiable targets would be firmly based on climate science, the predictions of general circulation climate models, and necessarily based on the precautionary principle. Industrial activity which continues to pollute above the mandated levels would be declared an illegal activity of a genocidal or "terrorist supporting" nature, and dealt with by criminal sanction through a judicial process independent of elected government. Government energy policy would outlaw any government subsidy or support for R&D in fossil fuel combustion. Policy settings must aggressively target least cost energy conservation, solar hot water, and "factor four" type innovations as proven effective by Amory Lovins of the Rocky Mountains Institute, where he grows tropical bananas inside a house above the snow-line, without recourse to any fossil fuelled heating input.

An Australia that was a responsible member of the global community would have already ratified, and gone well beyond, Kyoto targets. The scientific consensus of climate experts is that massive 60 to 70 per cent reductions of emissions will be required to prevent catastrophe. By boycotting off-peak electricity usage and tariffs, owning a wind turbine, running my car on biodiesel, using a bicycle regularly, and being personally involved in the installation of four domestic solar water heaters for members of my extended family, I have personally demonstrated that such major reductions are easily achievable without compromising lifestyle in any way. Ruthless energy conservation means that I am actually saving money.

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

Cheaper technologies such as biomass and wind turbines predominate in the generation mix. This is as it should be, and even cheaper options such as energy conservation and solar water heating need to be flagged as both ruthless competitors and winners in the deregulated energy marketplace.

On **energy conservation** it is worth noting the huge potential for net benefit to the Australian economy from a fair and reasonable implementation of the new Australian voltage standard AS 60038, supposedly coming into force in year 2003. Many utilities continue to stretch the credibility of the "product description" by supplying seven million Australian homes with an average voltage close to 250 volts when the new standard based on the international standard IEC 60038 clearly describes the voltage as a 230 volt supply[1].

Ohm's Law is a scientific fact proving that the extra supply voltage is costing all residential and commercial consumers hundreds of millions of dollars annually in inflated power bills and blown appliances.

It remains to be proven in my mind that some fatal house fires each year in Australia are not directly attributable to the off-peak (night-time) voltage setting policies of some electricity distribution companies. The last time I spoke publicly about voltage and house fires, I received a Federal Court Subpoena for Production, initiated by Blake Dawson Waldren, solicitors acting for the ESAA. Unfortunately for them the Laws of Physics are not amenable to threat by corporate bullying tactics: Ohm's Law cannot be repealed because it does not suit the commercial agenda of a powerful industry.

Competent professionals in the electricity distribution industry acknowledge that **"Conservation Voltage Reduction"** is a potent method of reducing power consumption of most appliances connected to the electric mains. If this well recognised technological measure was applied nationally by a regulatory regime which had real teeth, and which was not captured by industry, then we could

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[1] My personal involvement in this issue over the past six years has involved (i) the performance of accurate empirical measurements of a range of household appliances, with the publication of their results on my web site at http://www.voltscommissar.net/#savvy (ii) giving a presentation at the Office of the Regulator General in Victoria, (iii) publishing an introductory article on the subject in "ReNew" magazine issue #78 available online at http://www.hotkey.net.au/~bmwken/voltage.pdf and (iv) gaining publicity for the issue in the March 1999 edition of "Electricity Week News" - see http://www.hotkey.net.au/~bmwken/EWN_24_12.pdf In April 1999 I attended the Federal Court in Canberra for case A9 of 1999 - ACCC and ESAA - where Mr Justice Finn granted me access to the report of expert witnesses Gosbell and Clark, a document I regard as seriously flawed in relation to many of its technical pronouncements regarding power surges and brownouts: see http://www.hotkey.net.au/~bmwken/electricity_on_trial_final_draft.pdf

immediately reduce power bills by 5 per cent, reduce greenhouse emissions by 5 per cent, and probably save a few lives as well.

Grid-interactive photovoltaics (PVs): This expensive technology of last resort is clearly the one being promoted most heavily by players in the retail electricity industry. Ignorant customers are being encouraged to pay huge sums for the solar panels, and industry offers the seemingly attractive buy-back rate inherent in net metering. At 12 cents per kilowatt-hour, this is likely to be paying the customer only one quarter of the real cost of PV energy production, which is generally considered to be in the range of $400 to $500 per MWh (40 to 50 cents per kWh). Last time I checked, one unscrupulous retailer was happy to allow the gullible customer to simultaneously have a "Winner Tariff" - flogging cheap and dirty coal power to the customer at off-peak rates, and thus directly aiding and abetting off-peak load growth to trigger the construction of the next coal-fired power station! Thus does the commercial imperative corrupt the stated good intentions of some individuals in the industry, and reveal much of the corporate spin about emission reduction to be a monumental untruth.

d.the level of penalties provided under this Act.

It is much more important from the purely environmental perspective, given the environmental "imperative" of controlling global warming, for industry to actually do real emission reduction activity such as installing solar water heaters, than to engage in the abstract meta-activity of paying a financial penalty. If monetary penalty is collected, it should be used not for administrative expenses, but exclusively applied to the scientifically proven most efficient emission reduction strategies: this may well be randomly selected domestic solar hot water installations. A more radical option: **to penalise the delinquent energy retailer, the money should be returned to them in full** with the mandatory requirement that they use the money in a targeted and audited way to offer independently contracted "world's best practice" energy audit and low energy retrofits to the ten per cent of their residential customers with the highest energy usage. After all, these are the sort of customers whose "cowboy" mentality in relation to resource wastage has to be controlled if the planet is to survive in the long run.

e.the need for indexation of the renewable energy shortfall charge to the Consumer Price Index to maintain the real value of the charge and the associated penalty charge.

In order to reach a 70 per cent global reduction in actual emissions by say 2070, no amount of shortfall charge indexation or even ambitious percentage targets (say 2% new renewables being increased to 10%) can achieve what is required. We have to bite the bullet, and make real emission reductions mandatory with criminal sanction for non-compliance. By 2010 we have to reduce actual emissions by ten per cent, which if population grows, will involve even deeper cuts in per capita terms.

f.other environmental impacts that have resulted from the implementation of the provisions of this Act, including the extent to which non-plantation forestry waste has been utilised.

Not being abreast of latest developments, I trust that ACF, Climate Action Network Australia or other well resourced environmental groups will accurately inform the review panel of the potential risks if projects such as Southwood old-growth-forest-to-electricity projects are allowed to proceed.

g.the possible introduction of a portfolio approach, a cap on the contribution of any one source and measures to recognise the relative greenhouse intensities of various technologies.

The only cap that really counts: A declining cap for fossil fuel emissions is mandated by the predictions of climate science. The marketplace will fill any energy supply shortfall with the least-cost renewable choices. This is not a vote for terrestrial nuclear fission power, but a vote of confidence in the virtually limitless energy supply available from do-able renewable power sources such as solar thermal (solar hot water), wind-hydrogen integration, biofuelled heat pumps, and "factor four" re-tooling of existing end-use technologies. This is generally to be achieved by a massive cultural shift away from the current vogue: the "cowboy culture" of western economies, to a planet-friendly "spaceman culture" more in harmony with the preservation of Spaceship Earth.

Relative greenhouse intensities: The only measure of intensity that matters is economic: **"What is the technology that gives the greatest reduction in greenhouse gas emissions from electricity generation, per dollar invested?"** If Australia and the world are not to be bankrupted in pursuit of long-term sustainability, it is vital to the resilience of national economies that market forces are allowed as much free-reign as possible within a new and radical emission reduction regulatory framework.

Present industry practice shows how badly astray "corporate green spin" can go: Electricity distribution companies are busy promoting grid interactive photovoltaics, yet PVs have a real cost to the Australian economy of $400 to $500 per MWh. If distributors encouraged customers to invest instead in energy conservation – CFL lighting, double glazing, solar hot water, draught-proofing, wall, ceiling and floor insulation, etc. – we could have significant reductions in energy purchases, energy generation and associated emissions. Such emission reductions would be typically costed in the range of $20 to $40 per MWh. Even the Californian economy is not rich enough to afford a PV solution to global warming: they would be crazy not to do all the cheap and economically efficent things first, before bothering to waste a single cent of public or private money on photovoltaic technologies. Work done in California over the past 10 to 20 years showed that utilities could financially model energy conservation strategies that simultaneously reduced energy consumption and assured financial viability. (Sacramento Municipal Utility District).

In short, the "portfolio" should be a choreographed sequence of least-cost technologies, something like this: (i) Every Australian home gets a solar water heater and a 220 to 230 volt electricity supply; then (ii) we all get compact fluoro lighting, with the urgent phase out of halogen downlights and old-fashioned incandescent light globes; followed by (iii) retrofit of ceiling, wall & floor insulation, and double glazing to every Australian dwelling; etc, etc.....followed in about 2050 by the most expensive renewable technology: photovoltaics. In fifty years of radical and economically rational energy conservation we may have actually saved up enough money in the *"National PV Nest Egg Trust Fund"* to afford the whopping capital outlay that will be required.

h.the level of the overall target and interim targets.

See point e. Above

i.the appropriateness of the operating environment including the:

i.level of participation in and transparency of the Mandatory Renewable Energy Target measure; ii.scheduled end-date of 2020; iii.baselines for pre-existing generators; iv.need for future reviews.

Without any specific foreknowledge of of what they are to say, I would direct the Review Panel to the submission of the Business Council for Sustainable Energy in relation to these questions. They are very likely to have common-sense and practical responses.

j.the appropriateness of policy settings including the:

i.extent to which this Act has provided an ongoing basis for commercially competitive renewable energy; ii.relevant economic and social impacts that have resulted from the implementation of the provisions of this Act; iii.inclusion of renewable energy sources and technologies not specified in the Act or Regulations; iv.interaction with relevant Commonwealth, State and Territory energy, environment and industry policies.

As above, refer to the BCSE submission.

In Conclusion: There would be nothing worse than to go through one's professional public life engaging in futile and ineffectual activity. I therefore implore the individual politicians and bureaucrats who comprise the organs of state, to

- resist the lobbying of the fossil fuel industry;
- heed the message of climate scientists; and
- recognise that the paramount public interest universally around the world is to preserve and protect the natural environment.

It then becomes a relatively simple matter to set the necessary emission reduction targets, allow the invisible hand of the market to install the least-cost renewable energy infrastructure, and retire safe in the knowledge that your leadership and foresight will be recognised down through the ages. If you do it for nobody else, then do it for your grandchildren.

Alternatively, if by now alarm bells are ringing, and you are hearing Sir Humphrey Appleby and Jim Hacker fretting and sweating about "courageous" political decisions, then we are all defeated, and deserve an agonising death at the hands of the worst environmental holocaust that our violated Mother Earth can throw at us.

Michael Gunter Melbourne 28th April 2003

Postscript: If you think this rhetoric is extreme, just reflect on the sort of utterances from the mouth of the US Secretary of Defence at any recent Pentagon briefing. Perhaps it is a sign of the times that people have a sense of urgency and are less than diplomatic in expounding how the world must be "saved" by truly revolutionary actions. At least my rhetoric is firmly based in science, whereas Rumsfeld's is based on an extremist political ideology that is totally incompatible with long term environmental sustainability. MG.

General reference:

IPCC Third Assessment Report: Climate Change 2001
The Scientific Basis - Summary for Policymakers
at the Intergovernmental Panel on Climate Change web site:
http://www.ipcc.ch/pub/spm22-01.pdf (18 pages plus appendix)

This report was released in Shanghai, PRC in March 2001 and remains one of the most compelling and accessible overview documents demonstrating that global warming is not a beat-up, but a real and present danger. I commend it as required reading for every MRET Review Panel member.

Appendix overleaf: Unassailable scientific evidence of the reality of global warming.

Appendix

Figure 1 (b) from page 3 of the **IPCC Third Assessment Report: Climate Change 2001 - The Scientific Basis - Summary for Policymakers** . This graph is the most accurate, peer reviewed scientific evidence available to Mankind that global warming is a real and threatening phenomenon: