"Sand in the Gears."

A Submission from:

The Carbon Sense Coalition
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to the Enquiry into

Mandatory Renewable Energy Schemes.

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Submission to the Department of Climate Change at:

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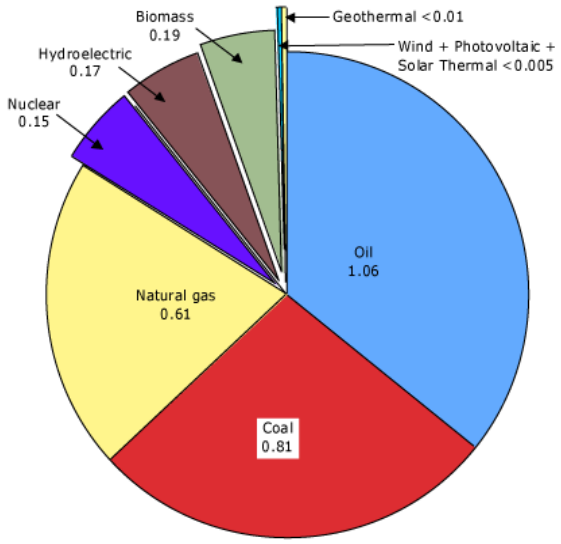
Firstly, let's look at some forecasts and perspectives:

> ***"Everything will be solar in 30 years".***
>
> *Ralph Nader (1978).*
>
> ***"The California Energy Commission projects a renewable share in the state's electricity of 50% to 60% by the year 2000".***
>
> *John O Blackburn (1987).*
>
> ***"In 2002, renewables provided about 6% of total US energy use and carbon fuels provide 86%. Of the 6% renewables, 47% comes from wood and other biomass (carbon fuels), 45% comes from hydro-power, 5% from geothermal, 2% from wind and 1% from solar. That is, solar provides 0.06% of US energy needs."***
>
> *Source: Emeritus Professor Dr Howard C Hayden, 2004, "The Solar Fraud" Vales Lake Publishing.*

Global sources of energy in 2006



(Credit: SRI International)

1. The Question not asked.

This Enquiry asks people to choose between two elegant bureaucratic formulae for introducing a master plan to control all aspects of electricity generation in Australia. Both plans seek to impose on future generations an imperative to produce 20% of Australia's electricity supply from "renewables" by 2020.

The question not asked is "Should the heavy hand of the law be used to distort and ossify future electricity generation markets and technologies?"

Subsidiary questions are "Is this target possible?" and "What will be the real and full cost of attempting to enforce it?" and "The Emissions Trading Scheme will give all "renewables a net benefit from the tax element in the EMS. Why should they also get a market guarantee AND subsidies?"

The Carbon Sense Coalition believes these questions are far more important than erudite discussion of models, targets, definitions, renewable energy certificates, and complex master plans for mandatory energy market protection schemes.

We will thus address the question not asked, and the one not sufficiently considered in this whole global warming debate:

"Should the government guarantee market shares or provide any special subsidies for "renewables" and what are the likely costs, benefits and risks of doing this?"

2. The Pyramid of False Propositions

The justification for using the law to determine how future generations of Australians are allowed to generate their electricity depends on a number of erroneous assumptions:

- The justification for forcing the electricity industry and its consumers to abandon carbon fuels and to rely increasingly on costly, unreliable or unproven renewable technologies rests wholly on one proposition – that increasing emissions of CO2 from man's activities will cause dangerous global warming. The sole support for this proposition comes from complex computer-based climate models that have never yet been successful in predicting future climate. Moreover, both fundamental science and historical evidence suggest that this proposition is false – thus the whole pyramid of false propositions rests on a crumbling base.

- Even if there were a clear case for urgent reduction of carbon emissions (which clearly there is not), there is no evidence that legislating a protected market share for today's renewables is the best way to discover and develop the best new non-carbon energy sources.

- Mandating future energy shares assumes that the huge investment funds will automatically appear to build the generation and transmission facilities required. (The US Department of Energy has calculated that for the US to generate 20% of its electricity from renewables by 2030 would cost US43 billion MORE than the cost of non-wind assets). The value of these proposed facilities depends on the political will to maintain the protection racket – wind power cannot compete without subsidies. There is growing evidence that, as the true costs of renewables becomes obvious to electricity consumers and investors, the political support for their protective mine-field of taxes, permits, mandates and subsidies will vanish as quickly as wind power disappears when the wind stops. Directors and shareholders are going to start looking at this risk profile when seeking and providing funds.

- The risky rush to impose this massive intervention into every aspect of our economic life assumes that the world will follow. A quick perusal of international news will show that this assumption too is false – Australia and New Zealand are likely to be alone, lost among the tigers of Asia in a forest of wind towers, isolated and economically injured. The countries of importance to Australia are not going to follow us in a headlong rush to commit carbon suicide. Our grand gesture will achieve nothing for the climate, nothing for our economy and a vast yawn from our main trading partners and allies.

- Finally, no one has looked at the combined effects of all these knee-jerk reactions to an orchestrated scare campaign about climate. The sudden imposition of Emissions Schemes, Mandated Energy shares, carbon taxes, subsidies for renewables, plus the diversion of community savings into costly energy playthings and the demonisation of all carbon industries will have effects far larger than anticipated. Just how many shocks will investors, consumers and voters accept? The market may react quicker than politicians would wish with power station closures, migration of large industries and establishment of an electricity cost structure that makes many of our other industries uncompetitive. It will also lose votes for the politicians who caused or condoned it, and generate awkward questions for those scientists and business leaders who did not speak out against the false claims they knew to be false.

3. Are "Renewables" the future or the past?

"Renewables" covers a diverse range of energy generation methods. In Australia, there is no logic as to what are classed as "renewables". It seems that to be classified as "renewable" in Australia requires the process to pass two hurdles:

- It must not use carbon fuels such as coal or oil, but carbon fuels such as wood, biomass and even gas may be acceptable. (It is quite bizarre that in Queensland, electricity consumers who opt to pay more for "renewable" energy notionally receive their power from gas generators as hydro supplies have long since been allocated. Maybe some science teacher should tell our leaders that burning gas produces the same two greenhouse gases as coal – water vapour and carbon dioxide).

- It must not use nuclear power.

This leaves as the main “renewables”:

- Hydro and tidal power
- Geothermal Power
- Wind and Solar power
- Wood and biomass
- Muscle power – maybe the Carbon Cassandras will bring a new lease of life for the old “green” power sources - bicycles, ponies, bullock teams and treadmills?

Hydro power is very useful source of energy, but has little potential for supplying additional future power for three reasons:

Firstly, the most practical sites near the centres of demand (in the Snowy Mountains and Tasmania) are already developed, or have been sterilised by World Heritage blankets.

Secondly, the most feasible hydro and tidal sites that remain (mainly in the Kimberleys) are too far from the centres of growing electricity demand.

Thirdly, hydro power requires construction of huge dams that will flood large areas of land. Any proposal to develop new dams or hydro power would probably face even greater objections than a new coal fired power station eg the battle for the Franklin, the Mill Stream Falls, the Mary River Dam and the long delayed Nathan Dam. The attitude of the Green movement to more dams is illustrated by the quote below:

> *“Dams typically do more environmental harm than good.”*
>
> *Amory Lovins (2000)*

Geothermal power may be feasible but it will be decades if ever before it can contribute significant unsubsidised power. The main areas of investigation are in central Australia (around Innamincka). Geothermal will require completely new technology but this location will also require enormous investment in transmission lines (which always bring transmission losses). Carbon taxes will close the Yallourn coal power station long before renewable subsidies deliver Innamincka geothermal power to a single home in Melbourne.

Wind and solar are the darlings of the Greens and the media. But these are the technologies of the past. Windmills and sunshine will always play a part in supplying energy in remote locations. But no amount of technology or mandating will eliminate their three fatal flaws:

- Firstly, the energy is supplied in a very diffuse way, so very large areas of land must be used to gather sufficient energy to power a large city or a big industrial plant. Their environmental impact is severe, negative and obvious. This is a fact of the natural world and cannot be changed no matter how much research money is thrown at it, or how many laws are passed.

- Secondly, the energy supply is intermittent and varies uncontrollably. The wind blows and stops, the sun rises and sets and clouds come and go, interrupting the supply of solar power to the surface. These facts exist, even if there is no politician smart enough to recognise them. Therefore to supply stable uninterrupted electric power from wind or solar power will necessitate that EVERY wind and solar generation plant must be shadowed by a standby conventional power station ready to power up the instant the wind drops or clouds obscure the sun. On a cold still night, zero power will come from all the wind and solar plants, and every bit of demand will have to be supplied by conventional power.

  To be able to power up quickly, the standby power needs to be either hydro or gas, and gas will be chosen in most circumstances. Intermittent power from gas and hydro are both more expensive than base load power from coal.

  Thus every wind and solar plant will add greatly to the capital and operating costs of electricity for consumers by virtue of this simple truth....duplicate generating facilities are a basic requirement. Home power bills will soar and large industrial plants will lose their competitive edge, all sacrificed on the Global Warming altar.

  Wind farms need a site with year-round supply of strong steady wind. Solar farms needs clear skies and long hours of strong direct sunshine with few clouds and minimal dust and smoke. Therefore, selecting an optimal site for collecting renewable energy requires good forecasts of future wind patterns, cloud formation, rainfall and solar cycles. But we are told daily that the climate is changing, and all we know that no one can claim accuracy in weather forecasting. Coal deposits do not shift with each theory on the origin of coal, but every new climate theory has a new weather forecast. Whose forecast is followed to site the wind farm or the solar array?

  Power grids are designed to maintain stability and produce the bulk of their power from the lowest cost sources – in Australia this is coal for base load power with higher value hydro and gas reserved to supply the fluctuating but largely predictable peaks. Wind and solar, with their wildly fluctuating supply, play havoc with grid stability, produce high cost power and force higher operating costs onto other parts of the supply grid. (Just recently, a sudden wind drop on the plains in Texas caused the Texas power grid to collapse, and, without warning, all power deliveries ceased for 90 minutes.)

  Wind farms do not allow the system to close even one coal power station. They add no reliable capacity to the system, and their instability requires that they supply no more than 10% to modern power grids (Compare this 10% figure from power grid engineers to targets promoted by politicians - the Federal Government Target of 20% renewables by 2020, or Al Gore's latest target of ZERO electricity from carbon energy by 2018)

  Wind power is a good way of pumping water into storage ponds for later or continuous use, as on farms for stock water. It is a costly wild card in a modern electricity grid. (It is thus no surprise that BP UK has withdrawn from its wind power program.)

Solar suffers from similar fundamental problems. Solar hot water systems make good sense for homeowners in sunny climates, because insulation can be used to retain the stored heat for when it is needed. (However, even this is of limited benefit to the electricity grid. Power utilities have the ability to switch off electric hot water systems at peak demand periods thus assisting them to produce stable power at lowest cost. Removal of this stabiliser is therefore of far less benefit than is commonly believed.)

But adding a roof-top solar panel to feed electricity into the grid is a feel-good political statement by the resident that will never recover its total real costs. And when all the costs and materials are properly accounted for, solar panels may even have a negligible contribution to reducing greenhouse gases. Government subsidies or market mandates should not assist or force such a silly waste of resources and capital.

"Nothing conveys the futility of wind power more vividly than this: that all the electricity generated by the 2000 wind turbines already built in Britain is still less than that produced by a single medium sized conventional power station."

Christopher Booker, The Sunday Telegraph, 29th June 2008.

- Thirdly, the best wind and solar resources are also often far from the big centres of demand, and transmission costs will be large. Solar power is best collected from large areas of land in tropical deserts like the Tanami of the Northern Territory. Wind power is best collected from large areas of land in the path of the Roaring Forties – down in the Great Australian Bight in places like King Island or western Tasmania. However, future growth in demand for electricity will be along the east coast of Australia. Of course transmitting electricity over long distances is technically feasible. However, the cost will be very large and who does the carbon accounting for the dozers to clear the line, the paper used to get the permits and approvals, the mining operations to provide the iron and copper needed, the coal to smelt the metal for the towers and cables, the forests and scrub burnt and destroyed along the way, the transmission power losses and the vehicles and fuel needed to maintain (and clean) the lines, the panels, the mirrors and the whirling blades?

"Total worldwide electric capacity from solar cells is less than that of one single nuclear power plant. Moreover, the solar cells have a capacity factor of 15% to 20%, the year round equivalent of producing full power for less than 20% of the time."

Dr Howard C Hayden (Professor of Physics) "The Solar Fraud – Why solar energy won't run the world" (2004)

Farm windmills and solar hot water systems make sense and will stand alone without government featherbedding.

However, the main people who will profit from solar and wind power in the generation of electricity for the grid are those making the panels, towers and blades (eg the canny Danes who specialise in making solar panels and General Electric who has a huge backlog of orders for wind turbines.) And the nuclear industry is already booming as a result of the demonisation of harmless emissions of carbon dioxide. Finally countries like France, heavily reliant on nuclear power, are not unhappy to see their competitors reliant on carbon fuels being crippled. These are the real beneficiaries of Australia's sacrifice.

Private investors should be free to invest or speculate their own funds on technology for generating electricity. But investors, taxpayers and consumers should not be forced to invest in, subsidise or buy electricity from "renewables".

Finally, what about the new fad for electricity generation, ***biomass***? This is just a fancy new name for an old fashioned fuel that our grandmothers despised – things like wood, paper, cow dung, grass, sawdust, woodchips and sugar cane bagasse. Many people in the world are still forced to use biomass, and the pollution from their open fires chokes the Asian and African skies. What energy do those people dream about? The same thing my mother dreamed about (but without the noisy smelly diesel generator in the shed). They want clean, silent electric power available in their home, at the touch or a switch, 24 hours a day. Biomass is the dirty, inefficient, low grade fuel of the past, not the fuel of the future.

Here is a biomass conundrum. Burning organic matter in a combustion chamber to produce electric energy and carbon emissions is classed as good, green and renewable, and may earn carbon credits. But burning the same organic matter in a sheep's belly to produce food energy and carbon emissions (as well as returning valuable organic residue to the soil) is classed as bad and will be subjected to a carbon tax? There is no logic here, so perhaps there are other agendas in play?

> ***"Burning biomass fuels (wood, crop wastes and dung), is a desperation measure taken by destitute people lacking other fuel sources. Using these materials as fuel leads to a steady depletion of soil nutrients and fertility, causing a stark deterioration of farmland . . ."***
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> *Paul & Anne Ehrlich (1991)*

Muscles once fuelled all of man's industry and power. Muscles powered spinning wheels for textile production, mule trains for transport, coaches for travel, horse teams for agriculture and armies were based on foot soldiers and cavalry. Muscles are the ultimate renewable resource. If this "forward to the past" regression proceeds, we may see a rejuvenation of muscle power. Maybe gym training and horse breaking will qualify for renewable subsidies?

But they will not generate much electricity.

Our ***conclusion*** on renewables is this. No matter what taxes, subsidies or mandates are applied, "renewables" will not supply 20% of Australia's electricity by 2020 without causing dramatic damage to our economy, our costs of living and our ability to compete in the face of competition from smarter regimes in India, China and South America.

Therefore to minimise the damage from the attempts to decarbonise the power industry, we should repeal all subsidies, tax breaks or mandated market sharing for every method of generating electricity. Even if Parliament forces the introduction of the silly Emissions Trading Caper, let that be the end of the distortions of the energy markets. Do not play favourites any further. Remove the shackles and the blinkers, let the market work, and its magic discovery tools will develop the energy for tomorrow.

> ***"Fundamental to the multi-billion government subsidies for solar and wind energy companies is a direct transfer of wealth and money from the poor to the well off. By subsidising green companies and their uncompetitive products, ordinary taxpayers are forced to foot the bill for green gadgets that have little if any effect on the climate but are making green businessmen rich at the expense of ordinary families."***
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> *Benny Peiser, Financial Post, 27 May 2008*
> http://www.financialpost.com/story.html?id=541948

Forward to the Past?

(As part of its plan to boost renewable energy, the Department of Climate Change proposes to spend "more than $500 million" on "Solar Cities, National Solar Schools and Green Precincts". This is also a road forward to the past. We had a "green school" when I attended the one room Wheatvale State School on the Darling Downs, Queensland in the middle of last century. Our sole sources of energy were solar, wind and biomass. The sun heated the iron roof whether you wanted it heated or not; air conditioning was supplied by wind power if you opened the front and back door at the same time; and biomass powered the small wood heater in one corner of the one-room school. As there was a shortage of wood, and few volunteers for splitting and carrying the blocks, biomass was not used except when the frost was deep on the ground. My nephews, nieces and their kids at that school were pleased to have electricity from coal to moderate nature's weather extremes. And royalties earned by the Government from coal exports built them a new school. To those who lived with them, solar, wind and biomass are the fuels of the past, not the hope of the future.)

4. Mandated Plans are not Market solutions, they are "Sand in the Gears".

We are continually told that an energy framework that relies on Emissions Trading Schemes (ETS), Mandated Renewable Energy Targets (MRET) and prohibitions on certain proven technologies for ideological reasons is a "market solution". This claim makes as much sense as the brave new world slogan "Truth is Lies". All of these legislative impediments are merely sand in the gears of a market based energy supply.

Markets need to be free to seek technical solutions without regard to government edicts. Markets need to be free to invest or not in any technology they chose. Markets need stable tax regimes, not ones subject to taxes that are variable, unpredictable and subject to the risk of sudden political reverses (or daily variations as permits become trading playthings for speculators).

A true market system would levy the same low predictable taxes on all energy sources and would guarantee owners of generating assets protection or full compensation should changing government policies, taxes or mandated shares destroy their businesses.

Mandatory Renewable Energy Targets of any kind are not "market based solutions", they are market destroyers and will themselves be the cause of market failures.

5. Are Renewables Feasible Energy Sources?

Before we mandate that Australia must get 20% of its electricity from "renewables" we need to investigate carefully whether this is possible, and at what cost. This has not been done.

However, despite decades of subsidies and mandates, modern renewables have made no appreciable contributions to man's energy supplies in any country of the world. This suggests that renewables are not feasible options for supplying future base load electric power for our big cities or industrial enterprises.

> *"Photovoltaics (solar cells) are at least seven times as expensive as wind for the same amount of energy, and no wind farm on the planet survives without massive subsidies".*
>
> *Emeritus Professor of physics, Dr Howard C Hayden (2004).*

6. Conclusion – Abolish MRET's

In summary, our conclusions are:

- There is no climate benefit in taxing carbon fuels.
- "Renewables" are not the energy of the future, they are the fuels of the past.
- "Renewables" are so inefficient, so dilute in strength, and so variable in supply that there is no hope that they will supply 20% of Australia's electricity by 2020. They can never produce more stand-alone electricity generation capacity, but they will produce more costs for all Australian consumers and industry.
- Mandatory Renewable Energy Targets are not market solutions – they are Sand in the Gears of an efficient electricity market.

Our recommendation is clear and unambiguous:

"Abolish all Mandatory Renewable Energy Targets."

The Carbon Sense Coalition is happy to appear before the Committee of Enquiry or answer questions posed by this submission.

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Disclosure of Vested Interests: The chief author of this paper, Viv Forbes, and the members of the Carbon Sense Coalition, have a big vested interest in this debate. Many of them (like most governments) earn income from the carbon fuels (coal, oil and gas), or rely on industries that will be greatly harmed by anti-carbon legislation such as cement, minerals processing, steel, transport, power generation, farming and tourism. They will also pay the increased costs caused by featherbedding of energy playthings like most of the renewables. They believe strongly that government is not competent to be trusted with total power to dictate the future of the electricity market. Some of them even invest or work in the uranium industry which will benefit greatly from all this demonization of carbon. Finally, they have kids and grandkids and have a vested interest in lifting the shadow of gloom and despair being spread over their lives by the Climate Scare Mongers.