L.I.V.E.
Locals into Victoria's Environment

15 March 2012

Energy White Paper Secretariat
Department of Resources, Energy and Tourism
GPO Box 1564
Canberra ACT 2601

By email: Secretariat.EWP@ret.gov.au

Submission to the Draft Energy White Paper

Dear Sir/ Madam,

Thank you for the opportunity to provide a submission regarding the critically important issue of energy security for Australia.

> *The door is closing. I am very worried – if we don't change direction now on how we use energy, we will end up beyond what scientists tell us is the minimum [for safety]. The door will be closed forever.*
>
> Faith Birol, Chief Economist
> International Energy Agency, November 2011[1]

In its Synthesis Report (2007) the United Nations Intergovernmental Panel on Climate Change (IPCC) claimed that *"Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level"*[2] and called for urgent, drastic cuts to global greenhouse gas emissions. According to one the world's most respected climate scientist, NASA Goddard Institute for Space Studies' Director, Dr James Hansen continued coal use will result in "***catastrophic climate change and a 'transformed planet"***.[3] Yet more than 75 per cent of Australia's electricity needs (and over 90% of Victoria's and NSW's) are being generated by coal-fired electricity, with plans for the massive expansion of fossil fuel use and mining exports being fast tracked by all Australian governments.

The Energy White Paper (EWP) claims to be a plan to achieve a 'secure, resilient and efficient energy system' that will provide 'accessible, reliable and competitively priced energy for all Australians'. However, upon close inspection the EWP's motherhood statements are revealed to be no more than hollow rhetoric. By refusing to directly support renewable energy and energy efficiency technologies that are capable of realising a 'secure, resilient and efficient energy system', the EWP policies will serve to further entrench highly polluting, inefficient fossil fuel based energy systems in Australia.

The EWP is riddled with assumptions that fail to account for reality. For example the paper does not properly account for the impact on Australian consumers of rapidly escalating global oil and

gas prices. Given that the price of oil has risen by around 300 per cent over the last seven years, it is bizarre that the EWP has estimated rises of only 54% between now and 2035.[4] By contrast, and despite earlier publicly acknowledging its use of out-dated figures for renewable energy capacity and costs, the EWP was published citing figures that finance analysts at Bloomberg revealed had been exaggerated by 50 per cent in the case of wind power and by 300 per cent in the case of solar power!

We submit that, in its current form, the EWP's key aim is to protect fossil fuel interests. For anyone reading past the rhetoric to the detail of the policies, preserving the current status quo is the central theme of the paper. The following lines from the paper illustrate this point:

> 'Australian coal production is expected to continue its strong growth over the course of the decade and beyond…Australia has many decades worth of known gas resources and at least a century of coal.'
>
> "…the Australian Government has decided not to proceed with the introduction of an emissions standard or carbon capture and storage standard for future coal-fired generation investment. An emissions standard is unnecessary in the presence of carbon pricing. Similarly, a carbon capture and storage standard would impose unnecessary regulatory and administrative costs and would be difficult to implement until a greater understanding of carbon capture and storage requirements is available. The government also considers such regulatory interventions to be inconsistent with a market-based approach to reducing greenhouse gas emissions."

If the aim is to reduce the soaring levels of greenhouse gas pollution that are forcing climate change, why would a government remove the 0.8 tCO2e/MWh emissions standard that applied to energy generating infrastructure? After all, this was a very low bar (measuring emissions from a generator on a 'sent out' basis), but at least Australia had a bar. Under the policies outlined in the EWP, Australia will have NO emissions standards at all.

Regarding Carbon Capture and Storage, why - under the guise of 'low emission technology' - is our governments giving the lion's share of Research & Development (R&D) funding to coal-commercialising technologies to benefit the coal industry? Is it acceptable for public money to be used for the funding of experimental, clean coal infrastructure and technologies that are unproven, may never be technically or economically feasible, and which represent another massive subsidy to an already heavily subsidised, private and highly profitable sector? On technical grounds, nobody is convinced that CCS is safe or secure. Escaping plumes of CO_2 from underground reservoirs are known to be deadly.[5] In Cameroon, Africa during the mid-1980s, 1,700 people suffocated to death when CO_2 escaped from Lake Nyos, which is situated over a volcanic site.[6]

There is no way for any government to ensure that CO_2 pumped underground can be kept secure — now, or many centuries into the future. Because CO_2 expands as it rises, thus increasing pressure, geophysicists are concerned that if enough CO_2 is injected into aquifers, it could reactivate faults and trigger earthquakes and tsunamis.[7] There are also concerns that CO_2 in a compressed form could act as a lubricant on underground rock, making it shift more easily. With this uncertainty, who would want to live near a CO_2 dumping site? And, assuming CCS could be made economically feasible, who would be held liable if toxic plumes escaped and destroyed the surrounding area and/or if pressure within aquifers triggers earthquakes or tsunamis? If it was

possible to clean up such a mess, would it be within the capacity of any single private company, or is it more likely that taxpayers would be left holding the bill for the damages?

The EWP assumes that it is in the best interests of Australians consumers for their energy systems to be privately owned and unregulated. Is there any other energy system in the world that is entirely unregulated and if so, in whose interests does this serve? Given what has occurred with deregulated financial markets, on what grounds can the authors of the EWP claim that an extremely low price on carbon pollution (although higher than the free market would set) in an otherwise unregulated energy market will best serve Australian energy consumers? How could any decision maker argue that a highly vulnerable carbon price of only $23 per tonne will provide the incentives required to transition Australia's energy system away from highly polluting fossil fuel energy to zero emission energy sources in time to prevent catastrophic impacts from climate change? By any measure, the EWP's faith in the invisible hand of the market to preserve our safe climate and environment, while delivering us safe, secure energy systems is simply preposterous.

We suspect that the EWP's lack of vision, poor assumptions, and errors in relation to renewable energy is as a direct result of its reference group. In selecting his advisors, Minister Ferguson failed to include a single person with expertise in renewable energy and excluded representation from community and environment groups. This may also explain why the more than $10 billion in annual fossil fuel subsidies was not questioned.

The Green Economy is the Future Economy

In recent years investments in renewable energy capacities and manufacturing have grown strongly and steadily, up from just $30 billion in 2004 to more than US$211 billion in 2010 (a 540 per cent increase).[8] Since 2008 each year more money has been flowing into new renewable energy capacity than in new fossil fuel capacity[9]. This happened even while fossil fuel energy sources continue to enjoy massive public subsidies, a virtual monopoly of the energy market and the rights to freely pollute. Even in the heat of the Global Financial Crisis, the renewable energy industry grew by 32 per cent per annum worldwide. With such serious money now being injected into alternative technologies, all indicators are suggesting that a major transformation in the way the world makes and uses energy is well on its way.

With only a fraction of our renewable energy resources, countries such as Denmark, Germany, Spain, China, USA, Austria and Sweden, to name a few, are enjoying the **social and economic benefits** of a burgeoning, multi-billion dollar renewable energy industry. By 2010 Germany had created more than 367,000 jobs in renewable energy and energy efficiency industries.[10] As a result of a decade of feed-in-tariffs, solar power systems in Germany generated more than 18 billion kilowatt (KW) hours of electricity during 2011.[11] Over just 12 days during December 2011, Germany installed more than three GW of solar PV.[12] This represents more solar power than Australia has installed in its entire history. Turning to China, in mid 2011 a national feed-in tariff was introduced for solar projects and the official growth forecasts for solar energy have nearly doubled to 50 gigawatts (GW) by 2020. Some analysts are conceding that, with the current rate of growth, and the quickening pace at which the cost economies are converging, China could be producing as much as 100GW of energy from solar PV by 2020.[13] In many other places around the world renewable energy is generating substantial new investment and new jobs in rural and regional areas while stabilising local greenhouse gas emissions and increasing **energy security**. Given the success of feed in tariffs in other parts of the world, why would the EWP authors dismiss them as a 'market distortion'? This is particularly galling in light of the EWP's refusal to address fossil fuel subsidies and tax payer support for CCS.

In May 2011 the IPCC (aforementioned) published a special report for policymakers, demonstrating that by 2050 nearly 80% of the world's energy supplies could be met by renewable energy.[14] According to Beyond Zero Emissions peer reviewed report *Zero Carbon Australia 2020* S*tationary Energy Plan*, within a decade Australia could change its stationary electricity system from polluting energy to zero emission energy using off the shelf renewable energy and energy efficiency technologies, all readily available now. The report reveals that such a transition would: 1) be feasible, 2) be affordable, 3) create an estimated 140,000 new jobs in regional economies (where they are needed most), and 4) ensure energy security in Australia for at least the next 70 years. It would use a dozen concentrated solar thermal plants in sites around Australia to provide approximately 60 per cent of our electricity, with wind power providing the remaining 40 per cent, and with 2 per cent coming from biomass and hydro as contingency. The cost to construct a zero emission energy infrastructure to secure our energy supplies for the next 70 or so years, will be around $37 billion a year over the next decade, which is 3 to 3.5 per cent of GDP or $8 per household per week. As its authors readily claim, the *Zero Carbon Australia 2020* S*tationary Energy Plan* is not the only path to a low carbon economy but it demonstrates that it can be done. Also, it is worth noting that nearly all of the more than 50 experts who contributed to the plan have fossil fuel energy based backgrounds but would prefer to work with clean energy instead.

Logically, if air conditioners were required to be powered using solar energy then we would have no more blackouts or brownouts during heat waves. And through the merit order, electricity prices overall would come down more than enough to cover the costs of the feed-in tariffs required to enable the widespread adoption of renewable energy. This is already happening in Germany.

Unless we move quickly to develop our rich zero carbon energy resources, our reliance on coal-fired electricity will not only continue to force dangerous climate change but will also ensure that our economy falls behind because everything coming out of Australia will carry an enormous carbon footprint at a time when **world economies are transitioning** away from polluting technologies and practices.

Health Impacts of fossil fuel use vs renewable energy

Acknowledging that the sounds from wind power generation could be disturbing to some people living in particularly close proximity to them, no current research from anywhere in the world has directly linked adverse health effects to wind farms. Further to this, after examining both peer reviewed and validated scientific research, we note that the Victorian Department of Health (Worksafe, 2010) concluded that '*the weight of evidence indicated that there are **no direct health effects** from noise (audible or inaudible) at the levels generated by modern wind turbines*.'
By contrast, pollution from coal combustion has been directly linked to serious diseases including asthma, lung cancer, heart disease, and stroke. It interferes with lung development, increases the risk of heart attacks, and compromises intellectual capacity.[15] Of major concern is that the particulate (that is very tiny) nature of dust pollution (from coal mining) is fine enough to enter the bloodstream through the lungs. Elevated rates of mortality, lung cancer and chronic heart, lung and kidney disease have all been reported among people living near coal mines.[16] The calculation is that for every ten micrograms increase in the concentration of dust pollution from coal mining, the findings show a half-a-per cent increase in the mortality rate.[17] In the upper Hunter Valley of NSW in 2008 alone, 113 tonnes of toxic metals and their compounds (including antimony, arsenic, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium and zinc) were emitted

into the air from mines and electricity generators, along with 132,700 tonnes of sulphur dioxide and 62,600 tonnes of oxides of nitrogen. [18]

Meeting 21st Century Challenges

If Australia is to maintain living standards and quality of life for current and future generations, we must **immediately commence a rapid transition away from 'old' centralised and highly polluting fossil fuel based infrastructure and energy sources towards 'new' decentralised and more sustainable alternatives**. In addition to drastically reducing GHG emissions, the adoption of renewable energy sources located close to end power users will ensure a more **robust and secure power supply** than the current one. This is because centralised power supplies are more vulnerable to major disruptions caused by accidents, fires and storms (which are predicted by scientists to become even more frequent and ferocious[19]), accidents and/or deliberate attacks.

We know the big test for Australia, and indeed all countries, will be how to manage the **twin challenges of climate change and peak oil.** Climate change is here and our environment is already showing the predicted signs due to excessive GHG emissions in our atmosphere, as clearly demonstrated by our nation's recent toll of tragic events. Further, the era of cheap crude oil for transportation is gone. Given the tyranny of distance and our increased vulnerability to draught and flooding, it is even more critical for Australia to prepare itself for the changed economic and ecological circumstances that will be part of life in the 21st Century.

Given the billions Australians are now spending to mop up after successive climate related natural disasters, alternative technologies are looking cheaper and more attractive by the minute.

A safe climate and healthy environment are the **foundations** on which all else we know and value depends. The most cited argument for slow and inadequate responses to climate change and peak oil, are driven by a combination of ignorance of the current science, greed by those with vested economic interests, fear of change and the failure to recognise the bountiful economic opportunities that are ready to be taken up. Climate deniers typically fall into one or more of the categories above. Yet, as previously stated, with the adoption of renewable energy as a much greater proportion of our energy mix—in addition to mitigating catastrophic global warming—there will be the added benefit of a boost to our local economies and **new, more secure and sustainable 'green collar' jobs**.

Further, I emphasise the point that we only have to look at a few recent extreme weather events in Australia and around the world to appreciate that the cost of inaction far outweighs the cost of taking preventative measures. The more climate change we experience the more costly it will be for the nation's economy.

In concluding I wish to emphasize that this submission, along with numerous others located at http://www.live.org.au/submissions, has been prepared to voice the deep climate concerns of private citizens associated with LIVE (an independent, non profit climate change action group representing more than 3,000 people). In other words, we have no vested interests, nobody is paying or compensating me in any way and there is nothing covert about LIVE's access to our democratically elected representatives.

Thank you for your attention to this submission. I would welcome the opportunity to discuss any part of this submission with you.

Yours faithfully

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Please note that LIVE's submission has been endorsed by the Lighter Footprints climate action group representing more than 600 Victorians in Melbourne's eastern suburbs:

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[3] David Spratt and Phillip Sutton, *Climate Code Red* (Scribe Publications, 2008)

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