ENERGY WHITE PAPER
SUBMISSION COVER PAGE

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Energy White Paper Submission

This submission has been prepared by the Consumer Utilities Advocacy Centre Ltd (CUAC), an independent consumer advocacy organisation, established to ensure the interests of Victorian consumers, especially low-income, disadvantaged, rural, regional and indigenous consumers are effectively represented in the policy and regulatory debate on electricity, gas and water.

We thank the Department of Energy Resources and Tourism (DRET) for the opportunity to provide feedback as part of the Energy White Paper (EWP) development process.

Of particular relevance to this review, CUAC engages in energy market design and related policy, such as energy efficiency and renewable energy schemes. CUAC has been engaged through stakeholder reference groups on the Australian Energy Market Commission (AEMC) review of energy market design in light of climate change policies, review of demand side participation, and review of distribution network planning and expansion arrangements. We have been active in developing network connection arrangements for small scale and remote generation.

In all our work, our particular interest is ensuring that markets, and policy interventions work in the interests of consumers, meeting the long term consumer interest being a fundamental objective of the national electricity markets.

This submission is supported by:

- The Alternative Technology Association (ATA) (Please note that the ATA will, however, provide additional comments by way of separate submission.)
- The Queensland Council of Social Service

Submission summary:

CUAC remains concerned that, despite the recent appointment of community and environmental representatives to the consultative committee for the EWP development process, the consultative committee remains unbalanced. Ten out of the nineteen committee members represent companies or organisations that principally extract or process fossil fuel for energy while only one member represents a business purely focused on commercialising renewable energy technologies. No committee members are from departments that solely represent community or the environment, while only two members represent consumer/community interests, one being environmental interests, the other being disadvantaged consumer interests. Furthermore, the appointing of those representatives of consumers and the environment was only done after the strategic directions paper and discussion papers were developed.

We believe this lack of balance has resulted in, and will continue to result in scene setting and a consultation process that is deficient, resulting in a framework unlikely to deliver the policy principles stated in the strategic directions paper. We believe DRET must take further steps to address the balance of interests represented by the consultative committee before it progresses the development of a green paper. Representatives of community and environment interests should represent a diverse range of the Australian community, and be at least equal in number to industry representatives. We suggest the process would be enhanced by the development of working groups/committees.

To address the lack of consultation on scene setting and strategic directions, we recommend DRET undertake a broad process of stakeholder engagement and backcasting to engage a wide range of stakeholder views on appropriate policy principles and strategic directions to be further developed, and ultimately delivered through defined policies and programs. This process should inform and refine the existing strategic directions paper and be used to address some of its deficiencies, outlined in more detail in this submission. We recognise that this process may delay the completion of the white paper, but we believe the existing consultation timeframes do not allow for informed and considered consultation on what are significant and complex issues. We believe it would be more beneficial to develop a strategy with broad input and support, than to rush a strategy that does not have "buy in" from the community.

The strategic directions paper places a high priority on markets and the CPRS to deliver innovation incentive and an efficient transition to a low carbon economy. However, Treasury modeling highlights CPRS will reduce Australia's domestic emissions by practically zero by 2020, and research has highlighted many, perhaps terminal deficiencies of offset schemes such as the Clean Development Mechanism (Wara, 2008) that CPRS will rely on for emission reductions, particularly in the early phases. Restructuring energy markets will require far more coordinated policy action than pricing emissions. Market rules and regulation, Research and Development (R&D) funding and policies complementary to CPRS will be critical to ensuring an efficient transition to a low carbon economy. DRET must ensure these complementary measures work to overcome technology lock-in, not exacerbate it.

Lastly, to address the deficiency in the policy principles adopted in the strategic directions paper, DRET must ensure the affordability of energy for domestic consumers is made a policy principal. It must also define and explain the rationale for the policy principles adopted in the strategic directions paper, particular sustainable economic development with particular reference to climate change risk. Recent research (Hansen, 2008, Ramanathan and Feng 2008) suggests at current levels of greenhouse gas emissions, the world is already experiencing significant risk of

severe climate disruption. Such findings, if accepted, have implications for what is understood by sustainable economic development.

The remainder of the submission sets out the rationale for these recommendations in full.

Consultation process

We believe the process by which the EWP is being developed is flawed and is unlikely to provide strategic direction in the interest of Australians. The framework for developing, and analysing issues through discussion papers appears to have been developed through consultation between Government and Industry alone. Consultation is limited to a prescribed set of issues identified in discussion papers. No community or environmental representatives have been consulted on what these issues should be and representatives have only been appointed after discussion papers were developed. The following paragraph outlining the policy development process in the strategic directions reflects this flawed consultation model:

> *"To foster an appreciation of the challenges for a National Energy Policy Framework and an understanding of the directions adopted in the Energy White Paper, policy development will be undertaken in an open and transparent manner with regular and comprehensive consultation across all levels of government, industry and the broader community."*

That is, the consultation is so framed as to assist stakeholders to understand the directions adopted in the EWP, rather than encourage stakeholders to provide input to the directions to be adopted. Consultation here is seen as a process of educating stakeholders, not engaging them.

Such a process means that any strategy developed will represent the interests of the community, or environment, in a very limited way. Subsequently, any outcome resulting from the process is unlikely to have complete or substantial support from organisations representing the Australian community and /or environment.

Policy principle: affordability

We believe that as a direct result of the flawed consultation model the fundamental policy principle of affordability has been overlooked and the proposed principles have not been adequately defined, or justified. Without defining policy principles, it will be impossible to judge the success of the strategy, and worse, we will not know if the policy principles have been met, calling into question the success or failure of the outcomes.

We believe that ensuring the affordability of energy for the most vulnerable in society must be adopted. Research has highlighted the link between utility stress and financial hardship. Households suffering utility stress are 12 times more likely than other households to suffer financial hardship. While only 20 per cent of those in financial hardship suffer income poverty, households are 25 times more likely to suffer both financial hardship and income poverty if they are in utility stress.[1] This suggests a strong link between utility stress and social disadvantage more broadly, emphasising the potential for utility stress to compound disadvantage, but also act as an indicator of the need for Government intervention and support.

[1] See http://www.cuac.org.au/database-files/view-file/2264/

The strategic paper emphasises the role energy has as a vital input to the economy, but focuses primarily on its importance to business operations. Social mobility and social stability are critically important to the functioning of any economy, and affordable energy supply is fundamental to both, because energy hardship can systematically lock-in and compound social disadvantage. For example, this can occur when low income households are forced to live in outer urban and rural areas to gain access to affordable homes, but are then forced to spend greater portions of income on liquid fuels for transport, and electricity and/or LPG for household energy. Households in Victoria using LPG for water and/or space heating are at particular disadvantage, sometimes spending 20 per cent or more of their incomes on energy during the winter months.[2]

In short, the EWP strategies must address likely impacts on all Australians, not just large energy users or mining and extraction industries, and be developed within the context of the whole of Government, including social outcomes, and not as a stand alone strategy.

Policy principle: sustainable economic development

The policy principles adopted in the strategic directions would benefit from further clarification and definition. In particular, the principle that economic development be sustainable and efficient appears, on the surface, to be a sensible one. However, the lack of definition of sustainability or efficiency means that there is no framework to assist our understanding of whether the principle is likely to be met, or adopted in the strategy.

A critical question that should be addressed by the discussion papers is: what is sustainable economic development; and what changes are needed to the energy industry to ensure this is possible. The discussion papers do not prompt this discussion.

We believe sustainability can broadly be considered to be the ability of a system or process to sustain itself over time. When defining sustainability, the risk that a system may irreversibly break down, or break down with unacceptable consequences due to the behaviour of the system, must be considered. That is, any system or process operates with a degree of risk of failure. We cannot reduce this risk to zero, but we must ensure system behaviour does not result in risk of system failure beyond acceptable thresholds.

In the context of climate change, understanding economic sustainability requires understanding the probability of certain emission levels resulting from economic activity leading to irreversible or unacceptably high risk of large scale economic breakdown or damage due to the effects of climate change. Such economic breakdown or damage could be caused by: global crop failures and resulting global food security issues, forcing nations to severely limit food exports; extreme weather damage around the world to major cities and populations causing significant redirection of economic production to disaster recovery and relief; and/or mass migration pressures resulting from some combination of the above.

The intergovernmental panel on climate change represents climate risks graphically in its 'burning embers' image, recently updated to reflect new understanding of climate change risks[3]. Essentially, it can be seen that at 2 degrees warming, the risks of negative impact across all

[2] See http://www.cuac.org.au/database-files/view-file/2513/ for case studies, including how renting households can be systematically disadvantaged through energy hardship

[3] see http://www.pnas.org/content/early/2009/02/25/0812355106.full.pdf+html for the image and accompanying report

metrics considered is significant. For example, there is significant risk of: large scale and/or irreversible damage to coral reefs; increase in frequency and intensity of flood, drought and heat waves; and partial or complete deglaciation of West Antarctic or Greenland ice sheets (Smith et al, 2009).

Stern (2006) says reaching 450ppm CO2e would entail a 3 per cent chance of runaway greenhouse warming and a 26-78 per cent chance of exceeding 2 degrees warming, often thought of as the point at which climate change becomes 'dangerous' due to the risk that processes such as West Antarctic and/or Greenland glacial melt are reversible. This analysis relies on the assumption that climate sensitivity is about 3 degrees to a doubling of CO2.

Problematic to this view in sustainability terms, is that recent research suggests climate sensitivity to a doubling of CO2 is 6 degrees when slow feedback process are included (Hansen, 2008), making the 450ppm goal even more high risk than has been previously thought. If we accept Hansen's' finding, then at current emission levels, we are already experiencing risk of exceeding 2 degrees warming, and therefore arguably at dangerous emission levels. This finding is supported by Ramanathan and Feng (2008) who find that at 2005 emission levels, the world is committed to 2.4 degrees warming, and therefore already committed to dangerous climate interference.[4]

In this regard, Australia's fate is intrinsically tied to actions taken by the global community, but given Australia's role as a major coal exporter to the world, and the potential for large untapped resources of fossil fuels in our region, our fate is very closely tied with choices we make about what energy resources we exploit. There is limited, or no value, in exploiting energy resources in the short term if that action will result in unacceptably high risks of irreversible or unacceptable breakdown of the economy in the long term. Therefore, fundamental to Australia's strategic direction on developing its energy resources, is to ensure it does so with a view to mitigating unacceptably high risk levels of dangerous climate change.

Of relevance to global emission targets, in its world energy outlook 2008, the International Energy Agency (IEA) highlight that to meet a 450ppm CO2 goal OECD countries will need to reduce emissions by 40 per cent by 2030, with other nations limiting growth to 20 per cent. Yet the strategic direction paper for Australia does not contemplate a 2030 emission target, and appears satisfied with the 2020, and 2050 targets set by the Australian Government to date, neither of which are compatible with a global 450ppm CO2 stabilisation. The strategic directions paper also fails to consider the implications of global emission trajectories, should Australia continue to fully exploit current and potential coal and natural gas reserves. It seems to imply without questioning that fully exploiting fossil fuel reserves in Australia would be a good thing, given forecast tight energy demand.

The IEA, whose forecasts are heavily relied upon for scene setting in the strategic directions paper, suggests that "even leaving aside the political feasibility of the 450ppm policy scenario, it is uncertain whether the scale of the transformation envisaged is even technically achievable as the scenario assumes broad deployment of technologies that have not yet been proven. The technology shift, if achievable, would certainly be unprecedented in scale and speed of deployment."

This forecasting exercise should ring loud warnings to policy makers, the implications being:

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[4] http://www.pnas.org/content/early/2008/09/16/0803838105.abstract

Nothing short of unprecedented global action to reduce greenhouse emissions from energy supply will enable a 450ppm target to be met, and based on the latest available science, a 450ppm target appears completely inadequate to avoid dangerous climate interference.

Yet the strategic directions paper and discussion papers, contemplate measures to exploit future tight energy demand scenarios by increasing the rate of fossil fuel exploration and extraction. This appears dangerously at odds with the strategic policy principle to incorporate sustainable and efficient economic development.

To address this issue, the Government must clearly define what level of risk it is willing to accept for runaway climate change, what global target it believes necessary to avoid this, and what domestic target it believes, if the principles upon which were adopted by all nations, could result in the global target being met. Only when this is done can the strategy be evaluated against the policy principle of sustainable economic development in a meaningful and transparent way.

Policy principle: markets and the need for intervention

The strategic directions paper places a heavy emphasis on the role of markets in delivering efficient investment outcomes, and thereby enhancing Australia's economic prosperity. In theory, if we assume perfect access to information and complete internalisation of all costs and benefits in the investment decision making process, this may be so. However, the reality is that markets have far from perfect information and do not factor in the cost benefits born by society, in the decision making process. Perfect markets are very much the exception, not the rule.

One example of this was highlighted in a recent paper by The Australian Academy of Technological Science and Engineering (ATSE) outlining work done in Europe to more fully quantify all externalities associated with energy production, including health impacts caused by particulate emissions[5]. The report recommends that work be done by Governments on quantifying the value of such externalities to help inform policy making. The cost of carbon is only one externality of many that markets have not internalised.

On internalising carbon costs specifically, the strategic directions paper suggests that:

The CPRS, as a market-based solution, is the lowest cost way to move to a lower carbon economy while protecting the interests of business and households. It will drive investment in new technologies that will support continued economic growth.

However, with the emission reduction targets being contemplated by Australia, and the ability for all reductions to be met through offsets in international Kyoto compliant markets, CPRS, if implemented, is highly unlikely to generate any new investment in clean energy technologies in Australia before 2020 unless caps are significantly altered and scheme design changed. Highlighting this, Treasury modeling does not forecast a reduction in emissions from energy supply in Australia by 2020. Investment in new technologies will be driven by 'complementary' policies including the Mandatory Renewable Energy Target (MRET), energy efficiency schemes and R&D programs.

Exacerbating the deficiency of the CPRS is that the vast majority of emission reductions that have occurred through emission trading mechanisms to date have been through the Clean Development

[5] See http://www.atse.org.au/index.php?sectionid=1283 for press release relating to the report

Mechanism (CDM). New hydro, gas and potentially super critical coal plants[6] are generating offsets through CDM. However much of this investment is driven by issues relating to energy demand outstripping resource availability, air pollution and the economics of generation, quite independent of greenhouse emission costs. For instance, hydro power can compete with conventional coal given the right geography. Almost all new gas and hydro plants being built in China are claiming emission credits (Wara, 2008), suggesting that none of these would be built without emissions trading – given soaring energy demand and coal scarcity in China, this is a highly improbable scenario.

In short, CPRS in its current form does not efficiently support sustainable economic growth for the domestic or international economy, or efficient new investment. At worst, emissions trading generally can encourage technology lock-in and undermine an efficient transition to a new, low emission economic equilibrium (Kline 2001). Kline emphasises the need for complementary policy to overcome this risk, particularly R&D funding. On R&D funding, the strategic directions paper highlights that:

"The (energy resource) sector employs around 1 per cent of the Australian labour force. The value of Australia's net energy exports has grown in real terms by an average 5 per cent a year over the past 20 years to around $38 billion in 2006–07. The value of energy imports has grown by an average of 8.8 per cent over the same period to around $22 billion."

and that,

"Nearly 10 per cent of total research and development in Australia was devoted to energy research in 2006–07, of which nearly 75 per cent focused on the mining and extraction of energy resources."

So while the energy resource sector employs 1% of our labor force and is worth around 3.8% of GDP, 7.5% of R&D, or $1.5b was spent on R&D relating to mining and extracting energy resources. That is, a disproportionate amount of the nation's GDP is being spent on energy resource R&D and it is likely that ***R&D spending to date has actually exacerbated the risk of technology lock and so is most likely increasing the cost of transitioning to a low carbon economy.*** This must be addressed as an urgent priority.

Much of the R&D spending in this sector has been on developing clean coal technology. This appears to be based on the premise that clean coal is fundamental to Australia's economic prosperity, because if successful, it would allow Australia to continue developing its coal resources. Yet the cooperative research centre (CRC) for clean coal suggests solar thermal could be competitive with coal, even with very low, or no emission price in the near future (pre 2015)[7]. Based on this, it is difficult to see the logic of pursuing a clean coal strategy when the technology remains unproven, the costs are unknown, and conventional coal may be uncompetitive with clean, renewable baseload alternatives in the near future.

We appreciate generation costs are a function of both generation and distribution of power and that this would affect solar thermal costs. However this uncertainty applies to clean coal also, with generation costs a function of energy required to liquefy, transport and bury carbon dioxide.

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[6] We are not aware that any supercritical coal plants have yet created certified emission reductions, but the methodology exists to allow it and there are applications being made by proponents of these plants

[7] see http://www.ccsd.biz/publications/files/TA/ACF4FBF.pdf for the full report

In developing its EWP, we recommend that the Government present analysis on the relative prospects of different energy generation technologies, both domestically and internationally. Only with such analysis can stakeholders make meaningful judgements on the merit of different R&D strategies.

Reducing carbon emissions from the stationary sector efficiently ultimately requires an efficient restructuring of the National Electricity Market (NEM) which is significantly more complex than pricing emissions. In this regard, processes for connecting new renewable generation, the incentives of network and retail companies to deliver efficient energy services, competitive access to networks for demand side aggregators and distributed generators, the efficacy of policy interventions such as energy efficiency targets, all have significant roles to play.

This suite of policy interventions aimed at restructuring the NEM need to be developed with a more complete analytical framework than has been applied to date. While useful, economics provides a constrained framework for understanding the complexity of human behaviour and decision making which is often not rational. We believe there is a greater role for the social sciences to play in market design and policy interventions.

For example, to date, energy efficiency interventions have focused on evaluating costs and benefits in terms of operating savings using flat, two, or three tiered tariff structures, and/or imputed emission savings. The impact this has on market efficiency, particularly where there is such a huge cost disparity between building infrastructure to supply peak demand and baseload demand, is significant.

Efficiency measures that can reliably reduce consumption at peak times have significant value in terms of savings in deferred capital and these are not considered in current energy efficiency policies. For example, an air conditioner can be upgraded from three star to six star for $600, saving typically 600W at peak times, or $1 per peak watt, and is almost guaranteed to be on at times of peak demand. The Western Australian Government estimates it costs around $3000/kW to build the infrastructure required to supply peak demand - the top 20 per cent of demand (Office of Energy, 2004). The implication is that it is three times more expensive to supply an air conditioner at peak times in Western Australia, than it is to reduce the capacity used by that air conditioner at peak times by using a more efficient appliance. The Queensland Government has previously estimated the infrastructure cost of new air conditioners installed in Queensland at $13,000 each.

We expect a similar result for Victoria and perhaps worse for South Australia which suffers from a needle peak summer demand profile. Yet this is not factored into any program on energy efficiency designed to upgrade the efficiency of appliances in the home.

Price signals for consuming energy are often thought of by policy makers as the key to driving energy efficiency. However this thinking fails to account for how people make decisions about the costs and benefits of their actions. Energy efficiency is a function of appliance use, but also purchasing decisions. Relying on price signals to improve energy efficiency is likely to see consumers choosing to switch off air conditioners in response to extreme prices, for significant loss of amenity, but the problem may be more simply and cost effectively resolved by sending appropriate price signals and/or rebates at the point of appliance purchasing.

Best practice policy development

The strategic directions paper relies heavily on forecasting issues for scene setting. While forecasting is a useful tool for exploring potential future trends and outcomes, it is less useful for setting strategic direction. Strategic direction setting requires backcasting – a process of envisioning a desired future objective based on necessity, and then working out what is required to get there. Forecasting attempts to determine future scenarios based on information and data analysis today. Backcasting attempts to determine what change is necessary to achieve a desired future scenario (Jansen 2001).

Backcasting is useful for policy making in that it helps policy makers think in terms of what is necessary to fulfill essential needs, not what appears possible given today's circumstance, and so can stimulate creative new thinking and problem solving. By involving a range of stakeholders in policy development through backcasting, policy becomes more than just a consultative process to determine the detail of policy delivery, it can galvanize a collective strategy based on a shared policy objective (Van de Meulen 99). We firmly believe that in setting the strategic direction for the development of energy resources in Australia, the Government must engage in a process of backcasting.

If you have any queries in regard to this submission please do not hesitate to call both myself and/or Tosh Szatow on (03) 96397600.

Yours sincerely

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