

SUBMISSION

The Secretary
Select Committee on Fuel and Energy
PO Box 6100, Parliament House
CANBERRA ACT 2600

Greenpeace submission into the Senate Select Committee on Fuel and Energy

Introduction

Greenpeace appreciates the invitation to make a submission to the Senate Select Committee on Fuel and Energy (the Committee). We will keep this submission as brief as possible, outlining the areas of greatest relevance to the Committee's inquiry and referring to and providing supplementary material where appropriate. We understand that there may be questions and areas that the Committee may wish to follow up from this submission, so we would be pleased to follow up by providing direct testimony to the Committee.

Summary of key points

- Climate change must be moved to the core of climate change debates and policy making, recognised as the overwhelmingly dominant issue surrounding the future of energy.
- The aim of energy policy in Australia must be to base our society on 100% renewable energy by 2020
- Our success in shifting to a renewable energy-powered society will depend critically on the action taken in the next few years that prepares our economy and for the transition and transformation that is needed.
- Even a conservative model of transforming our energy sector demonstrates that major shifts from fossil fuels to renewable energy are possible.
- Coal with Carbon Capture and Storage and Nuclear Energy are false climate change solutions, that will play no role in a genuine cleaning up of our energy sector. They are dangerous distractions from achieving a real energy revolution.
- Governments must be proactive in promoting and delivering a "Just Transition" for affected individuals and communities as part of a shift to a renewable energy-powered society.
- Taxation and government subsidies be refocused to penalise greenhouse-polluting behaviour and encourage the cleanest possible energy production and use.
- Coal to liquids be abandoned as a liquid fuel option, as it is even more greenhouse-intensive than oil.
- Biofuels have an important but limited role to play in our future energy mix, dependant on meeting strict sustainability criteria.
- The government should immediately introduce feed-in tariffs for developing all renewable energy technologies to their fullest potential, and ban the construction of new coal-fired power plant.

About Greenpeace

Greenpeace is an independent campaigning organisation that uses non-violent direct action to expose global environmental problems and force solutions that are essential to a green and peaceful future. Greenpeace has been operating in Australia since 1977 and currently has over 100,000 supporters. Greenpeace Australia Pacific has campaigned on climate change and has been a strong advocate for clean energy solutions to climate change for over 20 years.

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Climate change: the dominant factor in energy policy today

The importance of climate change in debates and policy-making surrounding energy is clear. However, it is evident in the current direction of climate and energy policy that climate change still does not sit at the core of energy-related debates and decision-making, which is where it belongs.

The dynamics of energy debates in 2009 would be unrecognisable from what we are currently experiencing if climate change was not such a critical issue. The urgency of the need to act on climate change is difficult to overstate. In a nutshell, we are standing on the verge of (and may even have passed) a tipping point on climate change, where environmental processes are triggered that escalate global warming beyond our control and bring about catastrophic and irreversible climate change impacts. While there remains hope of avoiding catastrophic climate change, we must reduce greenhouse gas emissions as much and as fast as is humanly possible.

Earlier this year, Greenpeace released a summary of some of the latest climate change science, entitled: *Final Warning: the world's rapid descent into runaway climate change*. It is attached to the submission and I urge the Committee to consider it very carefully.

At the United Nations Framework Convention on Climate Change meeting in Bali in December 2007, scientists acknowledged that in order to keep overall temperature rise to between 2-2.4°C, developed nations needed to reduce greenhouse pollution by between 25-40% by 2020, based on 1990 levels. However, allowing temperatures to increase to 2°C invites economic, social, political and environmental disaster. Even an overall temperature increase of 1.5°C would put us well into the danger zone of triggering catastrophic climate change. This is one of the reasons why Australia must reduce its emissions by at least 50% below 1990 levels by 2020 if we are to preserve a safe climate for humanity.

That scale of emissions reduction has massive implications for the direction Australia takes on energy policy over the coming few years. The implication of more than halving greenhouse gas emissions over the next decade is a complete transformation in how we produce and use energy. Fortunately, such a transformation is possible but achieving it will depend most on action taken over the next few years. Political process such as the Renewable Energy Target, Energy White Paper and this inquiry will ultimately decide whether Australia lays the necessary groundwork to revolutionise the way we produce and use energy.

The Australian community is increasing its support for a goal of 100% renewable energy by 2020 and Greenpeace thoroughly supports this aim. Setting this target in place would trigger the necessary paradigm shift in energy debates and policy-making, forcing us to contemplate and overcome the questions and challenges that will need to be confronted as we move to a renewable energy-powered society.

In order to deliver such a massive change in how Australia produces and uses energy, we will need to act early, building the industry, workforce and infrastructure to support such a major transition. This will only take place if we are clear about the level of our ambition, another reason to declare a goal of 100% renewable energy by 2020 immediately.

It is clear that the resources and technologies are already sufficient to power Australia entirely with renewable energy. The only question is how quickly they can be rolled out. A good example of the technical potential of renewable energy in Australia is in the attached report *Global Concentrating Solar Power Outlook 09: Why Renewable Energy is Hot*, which demonstrates that Australia could install 9000 MW of large scale solar power by 2020, almost enough to meet the Government's renewable energy target with this single technology.

Principles for energy policy

Given the urgent need to completely transform how Australia produces and uses energy, Greenpeace proposes that climate change be moved to the core of decision-making and that energy policy acts to:

- Ensure that all new electricity needs are met by renewable energy and energy efficiency.
- Maximise the efficiency of energy production and consumption, allowing our economy to operate at the lowest possible energy intensity.
- Scale-up the deployment of renewable energy in Australia as early as humanly possible.
- Allow renewable energy to replace fossil fuel electricity generation as much and as fast as possible.
- Aim to turn the Australian renewable energy industry into a powerful international player and an energy export industry.
- Allow all renewable energy technologies that have commercial potential to come online.

The Energy [R]evolution: A sustainable Australia Energy Outlook

In June 2008, Greenpeace released the report *Energy [R]evolution: A Sustainable Australia Energy Outlook*. The report is attached as part of this submission. It modelled a relatively conservative scenario of what could be achieved to decarbonise the energy sector under existing political constraints. Some of the key findings of the Energy [R]evolution scenario were:

- By 2020, at least 40% of our electricity can come from renewable energy;
- By 2020, more than 50,000 additional jobs can be created as we shift towards renewable energy and maximise energy efficiency;
- Australia's energy-related greenhouse gas emissions could be reduced by at least 37% by 2020;
- Between 2020 and 2030 it is entirely possible to have phased out coal-fired electricity entirely using a combination of energy efficiency, renewable energy and gas as an interim fuel;
- Electricity costs can be stabilised, compared with a tripling of energy costs by 2050 under a business as usual scenario.

The Energy [R]evolution scenario did not attempt to demonstrate what could be achieved if we broke free entirely from political constraints. Rather, this was a conservative analysis that demonstrates unquestionably that major transformations in how we produce and use energy are entirely possible. Sadly, this is still in stark contrast to present-day policy for renewable energy.

Importantly, the Energy [R]evolution was much more than an exercise in decarbonising our energy supply. This scenario is also one where energy is more economically and technically secure, as the Energy [R]evolution uses a combination of seven different renewable energy technologies, most of which do not require a fuel input, delivering a much more diverse energy supply than under business as usual, which depends fossil fuels, which are economically volatile and often geographically controversial, for the vast bulk of energy supply.

Carbon Capture and Storage: nowhere to be seen

The Energy [R]evolution only used technologies that are presently available, which meant assumptions about improving efficiencies in renewable energy were deliberately discarded. It was also the reason why Coal with Carbon Capture and Storage (CCS) was not used, as it does not exist on a commercial scale. Attached to this submission is a report entitled *False Hope: Why Carbon Capture and Storage Won't Save the Climate*, which outlines the many reasons why Greenpeace considers CCS to be a dangerous option to take, especially when attempting to rapidly decarbonise our energy sector. Despite the expense, energy penalty, storage risks and liability

issues, it is clear that coal with CCS simply will not be ready at commercial scale sufficiently to make a meaningful impact on reducing greenhouse gas emissions in the timeframe we have for avoiding catastrophic climate change.

It is also clear that very little is understood regarding the behaviour of carbon dioxide once injected underground, as detailed in the attached briefing: *Reality Check on Carbon Storage*. Despite the lack of reliable information regarding the world's storage capacity and behaviour of CO₂ once injected underground, several nations, including Australia, are blindly pushing ahead with legislation to facilitate this risky practise. This cannot be allowed to continue.

Nuclear energy: no solution to climate change

Noting that the Committee requests information concerning the role of nuclear energy, Greenpeace is attaching to this submission a report entitled *Nuclear Power: a dangerous waste of time*. In a nutshell, this report makes clear why nuclear energy is not a solution to climate change and is a dangerous, expensive and unsustainable energy option which carries with it numerous risks and safety issues that have been unresolved for decades. Aside from the risks and barriers that have plagued the nuclear industry for decades, it is simply not an option to deliver real reductions in greenhouse pollution within the timeframe we have to avert catastrophic climate change. This fact was underscored by the Switkowski report of 2006, which was apparently in favour of nuclear energy for Australia, yet determined that the emission reductions achieved by building 25 expensive nuclear reactors would be a mere 6-18% of national emissions. It is for these reasons why Greenpeace does not support either coal with CCS or nuclear energy as a climate change solution.

Looking out for coal communities

It is important to mention that an essential element of Greenpeace's advocacy is for a Just Transition, where those affected by the shift from fossil fuels to renewable energy are duly supported. Moving to a renewable energy-based society in a just and fair manner requires opportunities to be created that protects the social and economic fabric of communities currently dependant on coal, and minimises any adverse impact on these communities.

Plan B: An Agenda for Immediate Climate Action includes the following options for a support package for coal communities:

- Retraining and skills development
- Direct income support
- Priority access to employment services
- Broad support for community services and facilities that may be affected by demographic and social changes due to the transition.

Plan B also includes positive ways of growing the green job economy and ensuring low-income householders are prioritised for support in the transition to a decarbonised energy supply.

The attached report: *A Just Transition to a Renewable Energy Economy in the Hunter Region, Australia* is important in demonstrating that even in communities heavily dependant on coal today, there are opportunities to retain the economic stability in a shift to a renewable energy-powered society and even increase employment and economic activity.

Greenpeace strongly recommends that governments take a proactive approach and work with coal communities to minimise adverse impacts on vulnerable communities. At the same time, opportunities to bring economically and socially beneficial aspects of a transition to emission-free energy for coal communities, rural communities and low-income households be identified and pursued.

Taxation mechanisms

Greenpeace notes that the Committee's terms of reference seek information relating to taxation arrangements on fuel and energy products. We understand that transforming Australia to a renewable energy-powered society will require a restructuring of our taxation system and financial incentives that penalise greenhouse-polluting behaviour and encourage the cleanest possible methods of energy production and use.

In 2007, Greenpeace released a report entitled: *Energy and Transport Subsidies in Australia*, based on work commissioned from the Institute for Sustainable Futures, Sydney. It identified close to \$10 billion in annual government subsidies that encourage the use of greenhouse-polluting fossil fuels. \$7.8 billion of this was of federal funding. Since the report's release, one of these subsidies (fuel condensate) has been removed. However, this still leaves at least \$7 billion per year of taxpayer money being used to encourage environmentally and economically damaging subsidies.

Greenpeace recommends that all fossil fuel subsidies be immediately redirected towards supporting the shift to a renewable energy-powered society, and access to the necessary renewable energy technologies.

Additionally on fuel taxes, we would like to highlight the pointlessness of including transport in the Federal Government's Carbon Pollution Reduction Scheme when the effect of internalising the environmental impact of greenhouse pollution from transport has been cancelled out by adjusting fuel excise taxes to counterbalance the carbon cost. Taking such action belies the point of including transport in the CPRS.

Coal to liquids: increasing greenhouse pollution from transport fuel

The attached briefing entitled: *Oil from Rock* outlines Greenpeace's strong concerns regarding the option of pursuing liquid fuels from coal, including the impact it would have on our already scarce water resources, and the increase in coal-related pollutants. Most importantly, the notion of producing liquid fuel from coal is frankly absurd, as we are supposed to be reducing greenhouse gas emissions and liquid fuel from coal is more greenhouse-intensive than using oil. In terms of greenhouse policy, this would be a regressive move.

The role of biofuels

Greenpeace believes that biomass and biofuels have a role to play in decarbonising our energy sector, but this is limited by several critical constraints. Biofuels are only acceptable when the net carbon impact of producing and using that fuel, including the impact on the land, is a strong reduction. Further, biofuels should not cause ecological destruction and cannot be sourced from crops that deprive communities of their ability to feed themselves or impinge upon their rights as owners and custodians of land. The briefing: *Greenpeace Position on Bioenergy* is attached to provide more detail on the appropriate use of biofuels.

Reducing the impact of transport fuels through electric vehicles

Greenpeace is very encouraging of the role that electric vehicles can play in reducing greenhouse gas emissions in the transport sector. Electric vehicles are not only proven and in use today, but are also becoming more technologically advanced, able, for instance, to cover longer distances between recharges. Electric vehicles encourage the deployment of more renewable, zero-emission and distributed electrical energy and provide enormous potential for managing fluctuating energy demand, as they can also act as stored energy when plugged in to recharge networks.

Positive policy responses

Despite the climate change debate being dominated by the so-called Carbon Pollution Reduction Scheme, there is much that the Government can be doing on energy and fuels to reduce greenhouse gas emissions and put us on a path towards a complete transformation in how we produce and use energy. Rather than detail all of these here, we will refer you to the attached document *Plan B: An Agenda for Immediate Climate Action*.

Plan B contains numerous practical measures for cutting greenhouse gas emissions, but it is worth focusing on several of the critical ones here.

The first step to ensuring we take a different direction in energy policy is to make sure that no new coal-fired power plant is built. Aside from being the single-biggest contributor to climate change, coal causes billions of dollars in hidden costs to society; externalities that are not factored in to the price of coal-fired electricity, yet society pays for through loss of human health and livelihood. Examples of such costs are provided in the attached report *The True Cost of Coal*.

We also need to ensure that the renewable energy industry can scale up early enough to be able to deliver the required reductions in greenhouse gas emissions through energy. As the attached briefing *Will Australians be starved of a renewable energy feed-in tariff* explains, feed-in tariffs are the most effective, and most cost effective mechanism for driving industry development in renewables worldwide, responsible for numerous international success stories such as the Spanish and German renewable energy industries. Greenpeace strongly recommends that the Federal Government introduce a strong, gross-metered feed-in tariff policy that is applicable and tailored to all renewable energy technologies and ensures they meet their full technical potential.

Summary of supporting material

A number of additional materials have been referred to throughout the course of this submission, and are summarised here. These reports will all be sent as attachments to this submission and are considered essential to substantiating the points made in this document:

- Energy [R]evolution: A Sustainable Australia Energy Outlook
- Plan B: An Agenda for Immediate Climate Action
- Global Concentrating Solar Power Outlook 09: Why Renewable Energy is Hot
- Final Warning: The world's rapid descent into runaway climate change
- The True Cost of Coal
- Briefing: Will Australians be starved of a renewable energy feed-in tariff?
- A Just Transition to a Renewable Energy Economy in the Hunter Region, Australia
- False Hope: Why carbon capture and storage won't save the climate
- Reality check on carbon storage
- Energy and Transport Subsidies in Australia
- Briefing: Oil from Rock
- Greenpeace Position on Bioenergy

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