Chapter 9

Complementary Measures

Introduction

9.1 The evidence received by the committee strongly indicated that the Carbon Pollution Reduction Scheme (CPRS) as currently proposed will not provide the incentives necessary to adequately reduce Australian emissions. Chapter 9 explores the arguments presented to the committee regarding the need for additional measures to reduce Australian emissions as well as issues regarding energy efficiency and lower emissions energy and fuel.

9.2 Please note the terms of reference of the committee include 'g. the role of alternative fuels to petroleum and diesel'. The section addressing alternative fuel contained in this chapter is restricted to the evidence received by the committee related to the CPRS. The committee will further explore the issues associated with alternative fuels when addressing term of reference 'g'.

Need for complementary measures

9.3 The committee received substantial evidence of the need for complementary measures because the CPRS will not provide the incentive required to generate sufficient investment in the low emissions technology required to reduce emissions. Such investment was also seen as an opportunity to expand Australia's economy. For example, the Australian Coal Association stated:

> An emissions trading scheme alone will not accelerate the early deployment of low-emission technologies, and complementary measures to support investment in R&D are an essential part of a comprehensive and effective climate change response…R&D…also represents an important investment in sustaining the value of national assets.[1]

9.4 The Construction, Forestry, Mining and Energy Union expressed a similar view:

> We think that the emissions trading scheme will not of itself set up Australia for the long term.
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> There is a need for complementary measures around renewable energy, around energy efficiency and around CCS carbon capture and storage.[2]

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1 Mr Burt Beasley, Acting Executive Director, Australian Coal Association (ACA), *Committee Hansard,* 2 February 2009, p. 59.

2 Mr Peter Colley, National Research Director, Mining and Energy Division, Construction, Forestry, Mining and Energy Union (CFMEU), *Committee Hansard,* 19 November 2008, p. 111.

9.5 The Clean Energy Council also argued that the CPRS 'will not do it alone. There is a need for a suite of effective and efficient complementary measures.'[3]

9.6 Environment Business Australia argued that:

> …what is urgently required is a government enabling framework so that policies are put in place to create a friendly marketplace for the next generation of technology and infrastructure, and drive that into the marketplace.[4]

9.7 Western Power argued that 'if we want to get results quickly, we have to have complementary measures and activities—actions—to achieve that.'[5]

Energy efficiency

9.8 Mr Matthew Warren, Chief Executive Officer of the Clean Energy Council highlighted the importance of energy efficiency measures in reducing Australia's emissions. Mr Warren informed the committee that the 'International Energy Agency predicts that up to 73 per cent of global emissions abatement will be derived from energy efficiency measures.'[6]

9.9 Dr Peter Brain, Executive Director of the National Institute of Economic and Industry Research argued that:

> The Treasury modelling seems to, at least in part, view energy efficiency as like manna from heaven being absorbed into the capital stock. But for the high-emission industries, the reality is that, to improve their energy efficiency by those means, they have to pull out the vintage of the capital that is embodied in that. It is just like a truck: you have to throw away a truck, put in a new truck, and it goes up the line with that sort of idea. So, in terms of a cap and trade system, the idea of simply setting a cap and letting the price put in the energy efficiency requirement in a given period is absurd.
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> There are inefficiencies there and that is why we support some price mechanism, but the heavy-lifting fact is that, to dramatically increase your underlying core energy efficiency, you have to redirect an enormous amount of investment quickly to replacement, rather than capacity expansion, which would be very costly. So the idea simply of setting a cap and letting the price fix it is just absurd. What would happen in that case is that, because industry is largely locked in in any given period to its

3 Mr Matthew Warren, Chief Executive Officer, Clean Energy Council, *Committee Hansard,* 17 February 2009, p. 2.

4 Ms Fiona Wain, Chief Executive Officer, Environment Business Australia, *Committee Hansard,* 19 February 2009, p. 17.

5 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs, Western Power, *Committee Hansard,* 17 November 2008, p. 26.

6 Mr Warren, Clean Energy Council, *Committee Hansard,* 17 February 2009, p. 2.

> accumulated investment over the last 20 or 30 years, you would get emissions down, but that would basically stem from businesses closing down their operations and selling their permits.[7]

9.10 Dr Brain also argued that only a relatively small percentage of households have the capacity to respond to a carbon price and invest in more energy efficient technology.[8] As discussed in chapter 8, the Australian Council of Social Service also pointed out the difficulties for low income households investing in low emissions technologies.[9]

9.11 The Australian Academy of Technological Sciences and Engineering argued that the types of incentives required to encourage small business to invest in energy efficient technology are 'an accelerated investment allowance…and accelerated or even free depreciation'.[10]

9.12 Environment Business Australia argued that energy efficiency could be improved by upgrading the standards for appliances and 'a national trade-in program for appliances.'[11]

9.13 As discussed in chapter 8, the Royal Automobile Club of Queensland (RACQ) argued that the CPRS 'will not reduce driving or greenhouse emissions.'[12] The RACQ argued that there are measures that, if adopted, would be effective in reducing emissions from vehicles. These measures include eco-drive programs, changes to road taxes and reducing congestion.[13] It was argued that eco-driving programs can 'reduce vehicle emissions by an average of 10 per cent.'[14] Another suggestion was:

> Initiatives such as purchase rebates for very fuel efficient cars have the potential to improve the average fuel efficiency of our vehicle fleet over a number of years. Government modelling has shown that improvements in

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7 Dr Peter Brain, Executive Director, National Institute of Economic and Industry Research, *Committee Hansard,* 17 February 2009, p. 23.

8 Dr Brain, National Institute of Economic and Industry Research, *Committee Hansard,* 17 February 2009, p. 24.

9 Mr Tony Westmore, Australian Council of Social Service (ACOSS), *Committee Hansard,* 19 February 2009, p. 13.

10 Mr Peter Laver, Vice President and Fellow, Australian Academy of Technological Sciences and Engineering, *Committee Hansard,* 17 February 2009, p. 14.

11 Ms Wain, Environment Business Australia, *Committee Hansard,* 19 February 2009, pp 23-24.

12 Mr Michael Roth, Executive Manager, Public Policy, Royal Automobile Club of Queensland (RACQ), *Committee Hansard,* 20 February 2009, p. 3.

13 Mr Roth, RACQ, *Committee Hansard,* 20 February 2009, pp 3-4.

14 Mr Roth, RACQ, *Committee Hansard,* 20 February 2009, p. 3.

> vehicle fuel efficiency will be the main means to reduce emissions from road transport.[15]

9.14 Qantas and Virgin Blue Airlines argued they have achieved significant improvements in fuel efficiency and that improving traffic management and investment in new aircraft are the most effective ways of reducing emissions from the aviation industry. Virgin Blue argued:

> Rather than tax the industry when the economy can least afford it, significant carbon abatement can be achieved in the short term by improved traffic management procedures, including flexible flight tracks, improved air traffic control sequencing and introducing continuous descent approaches. This should be the immediate priority.[16]

9.15 In terms of fleet renewal, Qantas pointed out:

> …we need to be a healthy industry to facilitate new aircraft. If we cannot afford to buy new aircraft…the benefits to the environment will not accrue. A financially healthy industry is an environmentally healthy industry.[17]

Carbon capture and storage

9.16 As discussed in chapter 5, the committee heard evidence regarding the importance of improving emissions from coal in addressing climate change, as coal is central both to Australia's energy supply and to its economy.

9.17 The Minerals Council of Australia argued:

> …there is no solution to this issue without a clean coal solution. We have to put all of our efforts into developing the technology, in conjunction with the rest of the world…That is the sort of technology that has got to be developed, to be able to be retrofitted on old power stations and installed in new power stations, if we are to make a dent in this issue. We are not going to do it any other way. It has to be a coal solution.[18]

9.18 The Australian Workers' Union argued:

> …Carbon Capture and Storage (CCS) technologies represent potentially the single most important abatement measure to secure safely future emissions without stranding enormous reserves of coal reserves and assets or the EITEs which rely upon it.[19]

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15 Mr Roth, RACQ, *Committee Hansard,* 20 February 2009, p. 3.

16 Mr Simon Thorpe, General Manager, Safety Systems, Virgin Blue Airlines, *Committee Hansard,* 20 February 2009, p. 13.

17 Mr Peter Broschofsky, Group General Manager, Environment and Fuel Conservation, Qantas Airlines, *Committee Hansard,* 19 November 2008, p. 45.

18 Mr Peter Coates, Chairman, Minerals Council of Australia, *Committee Hansard,* 8 December 2008, p. 12.

19 The Australian Workers' Union, *Submission 73*, [p. 9].

9.19 Mr Burt Beasley, Acting Executive Director of the Australian Coal Association, argued:

> The deployment of carbon capture and storage technologies is the only principal means of cutting emissions from coal, lignite, gas, diesel and other fossil fuel based power generation. It also has applications in other industrial processes, such as iron and steel, cement and metal manufacturing. The role of these technologies is particularly significant at a global level. The International Energy Agency projects that global demand for coal, driven principally by China and India, will grow by two per cent a year to 2030…It is really important therefore that we have available for them the technology to capture and store the CO2 that they generate.[20]

9.20 Mr Beasley explained that carbon capture and storage (CCS) technologies are yet to be proven on a commercial scale and the costs are not known at this stage.[21] Mr Beasley informed the committee that commercial scale operations are likely to take a further 10 years and argued that:

> …the contribution of funds to those early demonstrations is vital…When they reach the point of needing funding commitment, certainly the dollars in some of those projects can be quite large…We would certainly like governments, state and federal, to commit funding to the large-scale demonstrations.[22]

9.21 The Commonwealth Scientific and Industrial Research Organisation (CSIRO) also explained that 'In terms of the capture technologies, the issue there is the need to demonstrate that on a large scale' and raised the issue of the need for funding.[23]

9.22 Mr Peter Colley, from the Construction, Forestry, Mining and Energy Union, argued that complementary measures are needed for carbon capture and storage technology as 'the emissions trading scheme will not be sufficient to bring on carbon capture and storage at the required rate.'[24] Mr Colley further argued, 'We want to see a commitment by the developed world, including Australia, to bring on carbon capture and storage as a commercial scale technology by 2020.'[25]

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20 Mr Beasley, ACA, *Committee Hansard,* 2 February 2009, pp 58-59.

21 Mr Beasley, ACA, *Committee Hansard,* 2 February 2009, p. 64.

22 Mr Beasley, ACA, *Committee Hansard,* 2 February 2009, p. 69.

23 Mr Paul Graham, Theme Leader, Energy Futures, Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Committee Hansard,* 19 November 2008, p. 22.

24 Mr Colley, CFMEU, *Committee Hansard,* 19 November 2008, p. 111.

25 Mr Colley, CFMEU, *Committee Hansard,* 19 November 2008, p. 111.

9.23 The Australian Energy Company argued that: 'Perversely, the CPRS design has created a major barrier to the cost effective implementation of the Government's policies on low emissions coal and carbon capture and storage development.'[26]

9.24 In addition to the industry investment in research and development, the committee heard evidence of companies installing clean coal technology and ensuring new plants are clean coal ready. For example, Chevron Australia informed the committee that:

> …an integral component of the Gorgon project is to take the naturally occurring carbon dioxide that is contained in the reservoir gas. That carbon dioxide is extracted during gas processing and traditionally vented to the atmosphere, and the Gorgon project is proposing to take that reservoir carbon dioxide and safely inject it below Barrow Island—geologically store it below Barrow Island. When the project is up and running, it will potentially be the world's largest greenhouse gas storage project, so that is an integral component of the Gorgon project in Australia.[27]

9.25 Griffin Energy reported, regarding their new coal fired plants:

> …we are making those plants carbon capture ready, as defined by the International Energy Agency. So, coupled with our research as to locations of potential sites for geosequestration, we are in fact designing the plants to be are [sic] capable of it. Once the technologies are commercially viable, then we can marry the two and actually move forward.[28]

Alternative energy

9.26 The committee heard evidence that Australia has excellent resources to develop alternative energy, however most of these are as yet unable to provide a consistent, reliable alternative energy source. The majority of evidence received addressing alternate energy sources included renewables such as wind, wave and geothermal; and nuclear. The report will explore the issues raised regarding nuclear energy and the issues faced by the renewable energy industry, particularly in regards to newer technologies such as wave power.

Nuclear energy

9.27 Several witnesses expressed the view that Australia should consider nuclear energy when looking at options to substantially reduce emissions. The committee received minimal evidence objecting to the use of nuclear power.

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26 Australian Energy Company Limited, answer to written question on notice, 18 March 2009 (received 1 April 2009).

27 Mr John Torkington, Adviser on Climate Change Policy, Chevron Australia, *Committee Hansard,* 18 February 2009, p. 27.

28 Mr Wayne Trumble, Executive General Manager, Power Generation, Griffin Energy, *Committee Hansard,* 18 February 2009, pp 6-7.

9.28 Mr Michael Angwin, Executive Director of the Australian Uranium Association explained:

> …the nuclear fuel cycle—and that takes into account from the exploration and mining of the uranium through to the decommissioning of plant and the management of waste—produces about the same amount of greenhouse gas emissions as hydroelectricity and wind power, also measured over the cycle, and what we find surprising to many people is that all of those create fewer greenhouse gas emissions than solar and, obviously, much less than both coal and gas using existing technology. So the nuclear fuel cycle, for which our industry is a major supplier, is a key source of low-emissions clean energy for the world.[29]

9.29 Similar to the issues raised about the gas industry, the Australian Uranium Association made the point that uranium exports are part of Australia's contribution to global emissions reductions, as although the industry causes some emissions locally in the mining, milling and transport of uranium, it reduces global emissions when used as an energy source.[30] Mr Angwin stated, 'We know that expanding our exports will enable Australia to pull its weight in providing relief to the climate globally.'[31]

9.30 Mr Paul Howes, National Secretary of the Australian Workers' Union, argued:

> …it is important when we are addressing the energy security of the nation that we put all options on the table. We have one-third of the world's uranium here. If we look around the world at the expansion that is going on in China, South Africa, Sweden and France to make nuclear power part of their climate change solution, I think it should be at least investigated…To me it is something that needs to be debated and thoroughly investigated. I have never changed my position on that…[32]

9.31 A similar argument was put by the Australian Chamber of Commerce and Industry:

> We have the fuel source available in terms of uranium oxide. What we are saying principally at this stage is that it should not be arbitrarily excluded from the different fuel choices that we might have and it is obviously no coincidence that those countries that are more able to achieve their greenhouse gas abatement targets are those countries which have a fairly significant electricity generating portion flowing from nuclear energy.[33]

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29 Mr Michael Angwin, Executive Director, Australian Uranium Association, *Committee Hansard,* 8 December 2008, p. 17.

30 Mr Angwin, Australian Uranium Association, *Committee Hansard,* 8 December 2008, p. 24.

31 Mr Angwin, Australian Uranium Association, *Committee Hansard,* 8 December 2008, p. 17.

32 Mr Paul Howes, National Secretary, Australian Workers' Union, *Committee Hansard,* 2 February 2009, pp 73-74.

33 Mr Gregory Evans, Director Economics, Australian Chamber of Commerce and Industry, *Committee Hansard,* 8 December 2008, p. 61.

9.32 Mr Bernard Wheelihan, Chair of Pacific Hydro also stated, 'I am strongly in favour of it [nuclear]'.[34]

9.33 An alternative view was put to the committee by the Australian Conservation Foundation:

> The Australian Conservation Foundation does not support nuclear power and it does not support uranium mining. We believe we are much better off investing the substantial resources that go into nuclear energy internationally into renewable energies.[35]

9.34 The Clean Energy Council explained that:

> Nuclear energy is a proven technology, with known costs, so you would have to say that it is the wicketkeeper technology in this process and that, if all else fails, then you have that in your back pocket, and different economies have different social and political challenges in employing that, but it is available.[36]

9.35 Professor Anthony Owen, Professor of Energy Economics at the Curtin University of Technology, raised the issue of the economic viability of nuclear power:

> The economics just do not add up - that huge up-front cost waiting so long for the revenue stream…if smaller scale nuclear technology becomes available…then it might be a viable technology.[37]

Renewable energy

9.36 The Western Australian Sustainable Energy Association, Environment Business Australia and the Clean Energy Council argued that Australia has significant renewable energy resources.[38]

9.37 It should be noted however, that renewable energy does not currently provide reliable large scale energy. As explained in chapter 2, renewable energy does not currently provide effective baseload power, and as set out in chapter 6 significant additional investment is required to connect renewable energy to the grid.

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34 Mr Bernard Wheelihan, Chair, Pacific Hydro, *Committee Hansard,* 2 April 2009, p. 47.

35 Mr Owen Pascoe, Climate Change Campaigner, Australian Conservation Foundation, *Committee Hansard,* 2 February 2009, p. 88.

36 Mr Warren, Clean Energy Council, *Committee Hansard,* 17 February 2009, p. 6.

37 Professor Anthony Owen, Energy Economics, Curtin University of Technology, *Committee Hansard,* 17 November 2008, p. 48.

38 Dr Raymond Wills, Chief Executive Officer, Western Australian Sustainable Energy Association, *Committee Hansard,* 17 November 2008, p. 52; Ms Wain, Environment Business Australia, *Committee Hansard,* 19 February 2009, p. 18; Mr Warren, Clean Energy Council, *Committee Hansard,* 17 February 2009, p. 2.

9.38 Mr Phil Southwell, General Manager, Strategy and Corporate Affairs of Western Power argued that the CPRS will have minimal impact on the use of renewable energy in the short term:

> My expectation is that in the early days it will not have a major impact on the use of renewables…We expect that something like a focus on targeting renewables is required to give the impact in the early days…[39]

9.39 The committee heard evidence from Dr Michael Ottaviano from Carnegie Corporation, 'Australia's leading wave technology developer'.[40] Dr Ottaviano explained that 'because the Southern Hemisphere is not landlocked the wave resource is constant throughout the whole year and always there…it is a genuine baseload resource.'[41] Dr Ottaviano argued that Australia is behind 'the rest of the world in terms of incentives specifically for marine energy and wave energy'[42] and:

> …it is very difficult for renewable energy companies to develop projects in Australia and to finance them in Australia. An ETS or a carbon pollution reduction scheme will, however, favour or skew towards the cheapest form of proven renewable technologies. There is no doubt about that. What that means in reality is that we will see wind being taken up under that sort of program but it will not help new renewable technologies.
>
> …
>
> I think the government has a role to play but it should only be a limited or one-off role to help new technologies enter the market.[43]

9.40 Mackay Sugar explained to the committee that:

> …to counter falling sugar prices over time, Mackay Sugar has embarked on plans to install a major co-generation plant at Racecourse Mill, followed by a food grade ethanol plant. The co-generation plant will be 36 megawatts in capacity and will feed about 28 megawatts into the Mackay grid…[44]

9.41 Mackay Sugar explained the overall impact of the CPRS on their business:

> …our modelling has shown that the scheme will have a small negative impact on current operations. However, with a strategic plan to enter the renewable energy and ethanol markets, Mackay Sugar views the CPRS as a positive policy which will enhance both projects. But, more importantly for cane farmers in Mackay, the 20 per cent renewable scheme offers them a

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39 Mr Southwell, Western Power, *Committee Hansard,* 17 November 2008, p. 25.

40 Dr Michael Ottaviano, Managing Director, Carnegie Corporation, *Committee Hansard,* 17 November 2008, p. 63.

41 Dr Ottaviano, Carnegie Corporation, *Committee Hansard,* 17 November 2008, p. 63.

42 Dr Ottaviano, Carnegie Corporation, *Committee Hansard,* 17 November 2008, p. 65.

43 Dr Ottaviano, Carnegie Corporation, *Committee Hansard,* 17 November 2008, pp 65 and 69.

44 Mr John Hodgson, Projects Manager, Mackay Sugar, *Committee Hansard,* 6 April 2009, p. 17.

> more immediate and tangible scheme for the transition to low-emission renewable energy in Mackay.[45]

Alternative energy sources

9.42 As discussed in chapter 3, the committee received evidence from Envirogen, a power generation business that generates power from waste coal gas, therefore generating power 'through providing emissions abatement.'[46] Representatives of Envirogen explained that while the industry currently receives funding through state based arrangements that promote renewable energy, these arrangements:

> …are due to expire in 2012 and with them goes any incentive for mines to use productively what would otherwise be a waste product. In other words, mines will seek to abate by flaring gas, which we believe and have demonstrated we can use for power generation. In short, there are both negative environmental and economic impacts from the omission of waste coal gas from the CPRS or indeed from the renewable energy target. The result of that will be that our industry will have no future.[47]

9.43 Envirogen proposed that waste coal gas be included in the proposed expanded Renewable Energy Target.

Alternative fuel

Biofuels

9.44 The committee received evidence stating that there needs to be further research into second generation biofuels given that the currently produced biofuels are of minimal benefit.[48]

9.45 Mr Bruce Harrison, Chief Executive Officer of the Biofuels Association of Australia argued that:

> We have been very keen for the CPRS to be introduced so that we can see the pricing mechanism brought into play so that we can get a revaluing of the biofuels and we can get some investment in the industry. However, the interaction of the CPRS with the current policies that are in place we believe will have a negative impact on the biofuels industry over the next few years.[49]

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45 Mr Hodgson, Mackay Sugar, *Committee Hansard,* 6 April 2009, p. 17.

46 Dr David Hamill, Chairman, Envirogen, *Committee Hansard,* 1 April 2009, p. 39.

47 Dr Hamill, Envirogen, *Committee Hansard,* 1 April 2009, pp 39-40.

48 Mr Roth, RACQ, *Committee Hansard,* 20 February 2009; Mr Mark Proegler, Director, Environment Policy, BP Australia, *Committee Hansard,* 17 February 2009, p. 49.

49 Mr Bruce Harrison, Chief Executive Officer, Biofuels Association of Australia, *Committee Hansard,* 20 February 2009, p. 38.

9.46 Mr Harrison added that the fuel tax offset provided under the CPRS which effectively exempts fuels 'is concerning us because that stops the investment money coming into the industry.'[50]

9.47 Qantas and Virgin Blue Airlines made representations to the committee regarding the importance of biofuels. Qantas argued for the need for complementary measures to accelerate the commercialisation of alternative fuels, stating 'There is much the government can do in terms of accelerating the deployment and commercialisation of those types of fuels.'[51]

9.48 Virgin Blue Airlines argued that:

> …biofuels have the potential to not only substantially reduce greenhouse gas emissions but also contribute to diversification of supply and fuel security. This will require significant work to establish a sustainable supply chain. This does, however, represent a significant opportunity for economic development in Australia.[52]

9.49 The Australian Council of Social Service raised concerns about the impact of the ethanol industry on the global food supply and land clearing.[53] The Pastoralists and Graziers Association of Western Australia also raised concerns about measures to assist the biofuels industry stating, 'You are basically offering a subsidy to farmers to not grow food.'[54]

Coal to liquids

9.50 The committee heard evidence from Mr Thyl Kint, Chief Executive Officer of Spitfire Oil, a company 'working on technology to produce oil, coal to liquids, from [a] lignite deposit.'[55] This process 'will emit, compared to the conventional, about a quarter of the greenhouse gases associated with preparation of the fuel.'[56]

9.51 Mr Kint explained that 'If we can get this technology to work, it will enable a country like Australia to generate very large amounts of hydrocarbon.'[57] Thus, an important technology when considering Australia's fuel security.

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50 Mr Harrison, Biofuels Association of Australia, *Committee Hansard,* 20 February 2009, p. 40.

51 Mr Broschofsky, Qantas Airways, *Committee Hansard,* 19 November 2008, p. 45.

52 Mr Thorpe, Virgin Blue Airlines, *Committee Hansard,* 20 February 2009, p. 13.

53 Mr Westmore, ACOSS, *Committee Hansard,* 19 February 2009, p. 4.

54 Mr Sheldon Mumby, Policy Director, Pastoralists and Graziers Association of Western Australia, *Committee Hansard,* 18 February 2009, p. 39.

55 Mr Thyl Kint, Chief Executive Officer, Spitfire Oil, *Committee Hansard,* 18 February 2009, p. 31.

56 Mr Kint, Spitfire Oil, *Committee Hansard,* 18 February 2009, p. 32.

57 Mr Kint, Spitfire Oil, *Committee Hansard,* 18 February 2009, p. 32.

9.52 Mr Kint argued that the introduction of the CPRS, rather than encouraging this lower emissions technology, would jeopardise its further development in Australia. The increased costs imposed as a result of the price on carbon emissions in Australia, albeit lower emissions, not faced by overseas competitors, even those with much higher emissions, makes it much harder for products derived from this low emissions technology to compete. Even by emitting only a quarter of the emissions compared to conventional processes under this technology, Spitfire Oil will face an additional cost under the CPRS not faced by relevant overseas competitors.[58] Mr Kint proposed that consideration should be given:

> …for start-ups like this where you have got a new technology in an important sector of the economy, there could be an exemption at least during the start-up phase until it reached full commercial operation.[59]

Committee comment

9.53 The committee notes the evidence received indicating that the CPRS as currently proposed will not in itself encourage the development or adoption of low emission technologies.

9.54 The committee agrees that by expanding the exploration, mining and exportation of uranium, Australia can make a significant contribution to global reductions in greenhouse gas emissions.

9.55 The committee considers that the use of nuclear energy in Australia ought to be properly explored by government, both as an effective means to reduce domestic emissions and with the view to help ensure Australia's energy security into the future.

9.56 The committee notes the significant disincentive created by the CPRS in relation to the development of low emissions technology in Australia. Imposing costs on domestic lower emissions technologies not faced by overseas competitors will, in the absence of an appropriate global agreement, put the development of new low emissions technology in Australia at risk. Imposing a cost on domestic carbon emissions, even where those emissions are at world's best practice levels, will make products derived from those lower emissions processes less competitive than equivalent overseas products produced using more conventional and polluting processes. The case presented by Spitfire Oil was but one such example.

9.57 The committee is of the view that businesses such as Envirogen and Spitfire Oil, that are delivering or developing emission abatement or reduced emissions technologies, should be encouraged.

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58 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, pp 31-32.

59 Mr Kint, Spitfire Oil, *Committee Hansard*, 18 February 2009, p. 35.

9.58 The committee views carbon capture and storage as an important technology in reducing Australian and global emissions and encourages further support to develop this technology to a commercial stage.

9.59 The committee is of the view that there needs to be further research and development of second generation biofuels.

Recommendation 15

9.60 The committee recommends that the development of emission abatement or reduced emissions technologies be encouraged and facilitated, not constrained as they will be under the proposed CPRS. Consideration should be given by government to providing tangible recognition to businesses operating at world best practice levels.

Recommendation 16

9.61 The committee recommends that incentives be provided to encourage research and development of second generation biofuels.

Recommendation 17

9.62 The committee recommends that the Commonwealth and state governments remove restrictions on the mining and exporting of uranium.

Recommendation 18

9.63 The committee recommends that the Commonwealth Government explore the feasibility, advantages and disadvantages of producing nuclear power in Australia, as a means of reducing domestic emissions and providing energy security for Australia into the future.

Senator Mathias Cormann
Chair