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SELECT COMMITTEE ON FUEL AND ENERGY

Reference: Issues relating to the Fuel and Energy Industry

WEDNESDAY, 18 FEBRUARY 2009

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**SENATE SELECT COMMITTEE ON
FUEL AND ENERGY**

Wednesday, 18 February 2009

Members: Senator Cormann (*Chair*), Senator Hutchins (*Deputy Chair*), Senators Bushby, Fielding, Fierravanti-Wells, Joyce and McEwen

Senators in attendance: Senators Bushby, Cormann, Farrell and Fifield

Participating members: Senators Abetz, Adams, Arbib, Barnett, Bernardi, Bilyk, Birmingham, Mark Bishop, Boswell, Boyce, Brandis, Carol Brown, Cameron, Cash, Colbeck, Jacinta Collins, Coonan, Crossin, Eggleston, Farrell, Feeney, Ferguson, Fielding, Fisher, Forshaw, Furner, Heffernan, Humphries, Hurley, Johnston, Kroger, Lundy, Ian Macdonald, McGauran, McLucas, Marshall, Mason, Milne, Minchin, Moore, Nash, O'Brien, Parry, Payne, Polley, Pratt, Ronaldson, Ryan, Scullion, Stephens, Sterle, Troeth, Trood, Williams, Wortley and Xenophon

Terms of reference for the inquiry:

To inquire into and report on:

- a. the impact of higher petroleum, diesel and gas prices on:
 - i. families,
 - ii. small business,
 - iii. rural and regional Australia,
 - iv. grocery prices, and
 - v. key industries, including but not limited to tourism and transport;
- b. the role and activities of the Petrol Commissioner, including whether the Petrol Commissioner reduces the price of petroleum;
- c. the operation of the domestic petroleum, diesel and gas markets, including the fostering of maximum competition and provision of consumer information;
- d. the impact of an emissions trading scheme on the fuel and energy industry, including but not limited to:
 - i. prices,
 - ii. employment in the fuel and energy industries, and any related adverse impacts on regional centres reliant on these industries,
 - iii. domestic energy supply, and
 - iv. future investment in fuel and energy infrastructure;
- e. the existing set of state government regulatory powers as they relate to petroleum, diesel and gas products;
- f. taxation arrangements on petroleum, diesel and gas products including:
 - i. Commonwealth excise,
 - ii. the goods and services tax, and
 - iii. new state and federal taxes;
- g. the role of alternative fuels to petroleum and diesel, including but not limited to: LPG, LNG, CNG, gas to liquids, coal to liquids, electricity and bio-fuels such as, but not limited to, ethanol;
- h. the domestic oil/gas exploration and refinement industry, with particular reference to:
 - i. the impact of Commonwealth, state and local government regulations on this industry,
 - ii. increasing domestic oil/gas exploration and refinement activities, with a view to reducing Australia's reliance on imported oil, and
 - iii. other tax incentives; and
- i. the impact of higher petroleum, diesel and gas prices on public transport systems, including the adequacy of public transport infrastructure and record of public transport investment by state governments.

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Committee met at 9.13 am

CHAIR—I declare open this public hearing of the Senate Select Committee on Fuel and Energy. The Senate has referred to the committee matters associated with fuel and energy, including the price of fuel, the impact of an emissions-trading scheme, regulation and taxation arrangements and alternative fuels. The committee is due to report to the Senate on 21 October 2009, but there will be an interim report due somewhat earlier. Today the committee is focusing mainly on the impact of an emissions-trading scheme. I welcome you all here today.

This is a public hearing and a transcript of the proceedings is being made. Before the committee starts taking evidence I remind all witnesses that, in giving evidence to the committee, they are protected by parliamentary privilege. It is unlawful for anyone to threaten or disadvantage a witness on account of evidence given to a committee and such action may be treated by the Senate as a contempt. It is also a contempt to give false or misleading evidence to a committee.

The committee prefers all evidence to be given in public, but under the Senate's resolutions witnesses have the right to request to be heard in private session. It is important that witnesses give the committee notice if they intend to ask to give evidence in camera. If a witness objects to answering a question, the witness should state the ground upon which the objection is taken and the committee will determine whether it will insist on an answer, having regard to the ground which is claimed. If the committee determines to insist on an answer, a witness may request that the answer be given in camera. Such a request may of course also be made at any other time.

I would also ask witnesses to remain behind for a few minutes at the conclusion of their evidence in case the Hansard staff need to clarify any terms or references. I remind people in the hearing room to ensure that their mobile phones are either turned off or switched to silent. Finally, on behalf of the committee, I would like to thank all those who have made submissions and sent representatives here today for their cooperation in this inquiry.

[9.15 am]

CREMIN, Mr Shane, Market Development Manager, Griffin Energy

TRUMBLE, Mr Wayne, Executive General Manager, Power Generation, Griffin Energy

LUMB, Mr Matthew, Chief Projects Officer, Griffin Coal Mining Co. Pty Ltd

CHAIR—Welcome. I invite you to make a brief opening statement, and then the committee will ask questions.

Mr Cremin—Thanks. I will make a brief opening statement for the *Hansard*, consistent with our submission. Griffin Energy is part of the diversified Griffin group of companies. It was established as a direct response to recent reforms in the Western Australian electricity generation and supply markets aimed at encouraging private generation, investment and retail entry. Griffin Energy is developing a portfolio of generation assets within the isolated WA market. These include a wind farm in operation, the Bluewaters coal-fired power station nearing commissioning, and a diverse range of both renewable and conventional generation technologies under development.

Griffin Coal Mining Co. has been operating in Western Australia for around 80 years. Its open-cut mining operation produces three million tonnes of coal per year. Around half of this is supplied to the Western Australian electricity sector and the remainder to industrial customers in the alumina, cement and mineral sands industries, as well as to a small but growing export market.

The Griffin Group has consistently supported the concept of an Australian emissions-trading scheme as part of an international effort to price the emission of greenhouse gases from otherwise productive industry. We have maintained that such a scheme should be broad based where practicable, offer a high level of certainty to investors, and strike an appropriate balance between the benefit of Australia's likely contribution to the global emissions reduction effort and the potential disruption to Australia's relatively emissions-intensive economy. Importantly, it must be understood that the transitioning away from carbon-intensive economy takes time. We believe that, over time and given the appropriate incentives, innovation will move Australia from a relatively high- to a low-carbon economy. However, the scheme design in the interim period must give regard to the physical and financial constraints in implementing low-emission technologies.

The principal pillar of the government's Electricity Sector Adjustment Scheme is that of direct assistance to eligible coal-fired generators. A sizeable capital investment will be required in the Australian electricity sector over the coming decades. The rationale for assistance is in the mitigation of regulatory risk attached to the attraction of this capital. A way to mitigate the perception of regulatory risk is to compensate generators that suffer significant losses attributable to the CPRS policy. This shows that, while a government may undertake significant economic reform, it does not do so at the expense of capital providers that have, in good faith and under a different policy paradigm, invested in growing the capital stock of Australia's electricity industry and the productive capacity of the nation.

Griffin believes that the position of the white paper regarding the Electricity Sector Adjustment Scheme is inadequate to achieve this outcome. The Treasury modelling forecast for asset value losses, whether intentional or not, is conservative compared to other credible industry modelling. Understating the potential losses that might be expected by rational investors only serves to undermine the credibility of the Electricity Sector Adjustment Scheme in mitigating the perception of regulatory risk.

We also believe that the CPRS white paper has not adequately addressed the issues unique to Western Australia. The WA electricity market is different to the NEM. The WA market is a capacity and energy market. It operates on a net pool basis, rather than a gross pool market, as is the NEM. Quite simply, this means that the overwhelming majority of energy—or around 95 per cent historically—is traded under bilateral contracts rather than through a spot market. This leads to a very important outcome when developing and financing new generation assets. Without a liquid energy market or a credible market price signal, a generation developer is required to underpin the financing of the asset with a long-term bilateral off-take contract, typically in excess of 15 years.

The Treasury modelling does not recognise this. It has assumed the same market conditions as exist in the NEM and has based its forecast of likely impacts on these assumptions. These forecasts bear little resemblance to reality. Griffin's Bluewaters unit 1 and unit 2 were financed on the back of several contracts of 15-plus years in duration. These contracts were struck prior to any indication on the current government's policy

position with regard to assistance to strongly affected industries. Griffin believes that the government must address the discrepancy of treating Western Australian generators in the same manner as those in the NEM.

There is an additional aspect specific to the Western Australian context that should be highlighted. The Western Australian electricity market is an energy island—that is, not interconnected to any other electricity system. As such, the WA market needs to be self-sufficient when managing its long-term system security. The WA market is also characterised by a high reliance on gas relative to other Australian jurisdictions. The gas used to generate electricity is sourced primarily from fields 1,600 kilometres away and connected to the south-west by a single pipeline. These fields are mostly controlled by international oil and gas majors, with a predominant focus on the export LNG market.

At issue is that the WA electricity market is already exposed to significant security of supply risk, evidenced just last year by both the Varanus Island explosion in June and the North West Shelf joint venture supply interruption in January. Increasing the WA market's reliance on gas to even greater levels would increase the risk of a catastrophic loss to the Western Australian economy resulting from another major gas curtailment. Put simply, absent other non-gas baseload technologies, there will always be a position in the WA market for coal-fired generation.

Much of Verve Energy's coal generation fleet consists of ageing assets and several large generators have either recently been closed or are scheduled for closure in the coming years. Griffin's Bluewaters unit 1 and unit 2, with a capacity of 416 megawatts, falls short of replacing the 480 megawatts of retiring Verve plant at Muja A/B and Kwinana A.

Griffin understands that one of the goals of the CPRS is to ultimately replace emission-intensive generation assets, or coal, with low- or zero-emission technology, hence our investment in the renewable energy space in response to these price signals. However, the long lead times required to alter the fundamental make-up of an energy market, coupled with the WA market being an energy island with an inherently high reliance on gas, makes the WA scenario a tricky policy issue. Developers of new generation assets must convince the same financiers, those that stand to lose significant amounts in recent investments, to again invest in generation assets in the WA market, based on their perception of the risk of their investments not being similarly impaired by further economic reform or government intervention.

CHAIR—Thank you very much, Mr Cremin. I note that you read from a prepared statement. Would you be able to table a copy of that statement for the committee this morning?

Mr Cremin—Certainly.

CHAIR—Thank you very much. From the nature of your comments, I assume that you do not believe that the government has got the balance right yet between designing a scheme that is environmentally effective and economically responsible while still focusing on ensuring energy security, certainly from the Western Australian point of view. Is that a fair summary of what you are saying?

Mr Cremin—In summary, we have long supported an emissions-trading scheme as a good market mechanism to ensure the environmental outcomes and to allow the market to more efficiently move to and achieve those environmental outcomes. Our point here is that the transition from what is an inherently high-emission-intensive economy to a low one takes a fair bit of time and so the policy settings around those transitions, we feel, are not adequately addressed in the white paper, and specifically in the Electricity Sector Adjustment Scheme.

CHAIR—What are some of the changes that you think ought to be made? You think that eventually, in the long term, the design settings are right, but you think that the time frame and perhaps some of the policy settings in the transitional period ought to be changed. Can you summarise for us what your time frame and policy-setting requirements are for the transitional period?

Mr Cremin—Sure. I think the design is fundamentally correct. The market will, given the correct price signals—if we are specifically talking the generation sector—invest in generation assets of low-emission intensity. However, as I mentioned in my opening remarks, that is going to take several decades to do. In the Western Australian context we have a very high reliance on gas, and we have coal generation also competing with gas. That sets pricing and system security in this market. To transition too quickly or to disincentivise the investment in other baseload generation assets—whether it be conventional coal, clean coal or anything else that might compete with gas in the early decades—I think is going to lead to system security issues here in Western Australia.

CHAIR—Why is the competition between coal and gas important from a Western Australian point of view?

Mr Cremin—There are two major issues. The first is that there is price competition between coal and gas. That exists in virtually all markets. That price competition has developed over decades, where the relative costs or marginal costs of producing electricity from coal and gas compete with each other in a market, or in the bilateral market as we have here. The second issue, as I have pointed out, is system security. We have around 60 per cent of our installed capacity operating on gas at the moment and, as evidenced in the Varanus Island explosion, we have a very tenuous supply link: a 1,600-kilometre pipeline and only a couple of major fields up in the north-west. Any disruption to that leads to very significant disruptions to the electricity supply sector here in the south-west.

CHAIR—Can you describe for us the role that Griffin Energy plays within the WA energy market and, if there is no change to the policy settings, how that will be impacted moving forward.

Mr Cremin—Griffin Energy is, effectively, investing in the WA generation market. We are also moving into the retail space. That is as a result of opening up the market and the state inviting private investment into this market. Griffin Energy has a natural coal base and so it has a natural advantage in replacing the generation assets that Verve will be retiring in the coming years and decades. Verve has a 3,000-megawatt cap in this market, so cannot invest further, and has made statements to the effect that they are not particularly interested in investing in thermal generation anyway. Effectively, Griffin is moving into this market and investing in private or IPP generation.

CHAIR—I am keen for you to be a bit more specific. What have been your investments in recent years? How have they been impacted? What are your expansion plans moving forward? How does the CPRS, as it currently stands, impact that? What could be some of the flow-on consequences? There is a series of questions here for you.

Mr Cremin—Sure. Our specific investment started with the Emu Downs wind farm, a fifty-fifty joint venture with the Stanwell Corporation, and we have the Badgingarra wind farm ready for development right next to the Emu Downs wind farm. Together, that is around 200 megawatts of wind generation. The Bluewaters coal-fired power station unit 1 and unit 2 are both scheduled to be commissioned this year; so 400 megawatts of coal-fired power coming onto the system.

Importantly, Bluewaters unit 1 was financed—a long-term contract—with Boddington Gold Mine, which, coincidentally, arrived into the market at the same time, and I will just point out that it is quite rare to have a very large 150-megawatt load like that arrive in one big lump into a market; and so that was able to finance the Bluewaters I power station. As a result of that, Bluewaters II was fast-tracked a little, because we anticipate that the growth in the market would be able to accommodate Bluewaters unit 2, and we also know that there was scheduled retirement of Verve plant going forward. Griffin's future developments. The Bluewaters unit 3 is—

Mr Trumble—It is before the Environmental Protection Authority at this point in time for approval. Approval is expected in 2009, with construction to start in 2010. That would, of course, be dependent upon the continued financial health of the Western Australian market. In making that investment decision, certainly the impact of this Carbon Pollution Reduction Scheme on those plants, in light of the value that has been pulled away from the first two plants, will be a matter for serious consideration by our lenders who financed Bluewaters I and II.

CHAIR—So, if there is no change, it could well be that there is a reconsideration of the investment decision. What would that mean in terms of energy supply and energy security in Western Australia?

Mr Trumble—I think broadly—if I could start at that level—you would find that the foreign banks, as they are known, probably provided something in the area of 60 per cent of the project financing associated with private investment into the power generation industry over the last five years. The introduction of the CPRS will provide an opportunity for those banks, known as a review event, where they are allowed to consider whether to continue their investment or in fact make the investment they had originally considered making into that industry.

Our major concern in this area is that, as you are well aware from other industries, the foreign banks are looking for ways to extract themselves from Australia, and particularly Western Australia, and to return to their banking markets at home. One of our major concerns is that the introduction of this policy will provide the opportunity for those banks to review their situations with regard to this lending, in the same fashion that you

are seeing those banks move away from the commercial property markets that have been already touted in the press.

CHAIR—If that were to happen, what would be the consequence from a Western Australian energy security point of view?

Mr Trumble—Our forecast as put forward by our independent market operator is for a requirement for an additional 1,500 megawatts in Western Australia between 2010 and 2018. To give you an indication, that would on average be about a \$4 billion investment. I would suspect that nonsupport from the banking sector, and particularly those foreign banks of that size of investment in our power generation field, will certainly lead to a lack of supply to meet that demand as it comes up in the next five years.

CHAIR—Is it fair to say that in Western Australia, because we are not part of the national grid, we by necessity have to be self-sufficient in terms of our energy supply?

Mr Trumble—Absolutely. As was evidenced by the failure of the Varanus Island gas supply in June that was mentioned by my colleague, you will note that while the economy suffered—and the WA CCI has estimated that the economy suffered to the tune of \$3.6 billion of economic activity—we were able to keep the lights on across Western Australia and the South West Interconnected Grid and keep everybody's heating in place as a result of having a diversified fuel portfolio of gas, coal and renewable energy.

Our argument is that if, as a result of this policy, (1) that diversity is lessened as a result of coal being disincentivised or (2) we do not provide incentive for—disincentivise, if that is a word—bankers to invest in our future requirement, we will ultimately find that we are short capacity in this energy island.

CHAIR—Is there any capacity technically for Western Australia to ever join up to the national electricity grid?

Mr Cremin—Technically it is possible. Economically, it is probably not.

CHAIR—So it is likely that, for the long term, Western Australia will have to have its own energy-generating requirements.

Mr Cremin—Yes, that is correct. That is why they specifically designed the Western Australian market differently to the NEM. They designed the market as a capacity and energy market—in other words, they incentivise there to always be enough capacity in the market to meet its security issues.

CHAIR—And the Treasury modelling hasn't taken that into account?

Mr Cremin—No. Effectively, the Treasury modelling treats the Western Australian market the same as the NEM: as a whole spot price based market.

CHAIR—And what is the impact of that?

Mr Cremin—The impact of that is that we do not have generators here that are financed on those long-term spot market forecasts. Our generators here are financed on long-term bilateral contracts and so, at one point in time, there is a lumpy decision for 15 years or more that locks in pricing going forward.

Mr Trumble—Let me see if I could tackle that one, Senator. The Treasury modelling assumes the unfettered ability of the generators to pass on the increased cost of the imposition of a carbon pollution reduction scheme or tax. That unfettered ability is based upon a spot market through which all energy is traded: the National Electricity Market. The Western Australian market, as stated, is different. It is based on long-term contracts. For that very reason we are unable to have unfettered ability to pass through the increased cost.

There are two effects. Obviously, it affects the financial performance of the asset itself, given that it was based upon a certain level of costs and now those costs are different. The second effect is that our lenders, who made the decision to lend money against those plants based on those long-term contracts, are now faced with a less attractive investment on their part.

CHAIR—In the context of us having to look after our own energy supply, if there is going to be less investment into future supply increases in the context of increased demand, we could potentially face a significant problem in Western Australia that is quite different from any challenges facing the eastern states. Is that right?

Mr Trumble—That would be correct. Our challenges here will be different as a result of our position.

CHAIR—In closing, could you give me a short, sharp answer: can you describe to me how the compensation arrangements for the coal industry operate across Australia in terms of brown coal/black coal? What is the national dynamic in terms of the way the compensation arrangements for coal work themselves through the system in the CPRS as currently designed?

Mr Trumble—As designed for the coal-fired generators?

CHAIR—That is right, yes.

Mr Trumble—The program provides for industry transitional assistance to the coal-fired generators based on how dirty your plant is. The modelling that a group we belong to, the National Generators Forum, has put together suggests that a \$10 billion to \$12 billion transfer of wealth will take place between the coal-fired generating industry and Canberra for redistribution. In exchange, under this program, they are looking at redistributing \$3.9 billion to the coal-fired generation industry for industry transitional assistance. Of that amount, 90 per cent is going to approximately four very large brown-coal-fired plants in Victoria and South Australia.

CHAIR—How much of it is going to Western Australia?

Mr Trumble—\$24 million of the \$3.9 billion is returning to Western Australia to two plants owned by the state owned generator, Verve Energy.

CHAIR—Why is there such a discrepancy? Is that because the cake is not large enough or is it because there is an inequity in the formula that spreads that transitional assistance around?

Mr Cremin—Effectively, as Wayne pointed out, the \$3.9 billion falls a fair way short of the \$10 billion to \$12 billion that other credible modelling suggests is the asset value loss; but, importantly, the distribution is based on an emissions intensity cut-off level of, I think, 0.86 tonnes of CO₂ equivalent and, effectively, is then biased towards those plants with much higher emissions, which is why the brown coal generators get the lion's share of that.

CHAIR—So it goes to the highest priorities and by the time it comes to Western Australia the money has run out.

Mr Trumble—Yes. In Western Australia, in our case, in striving to bring on the best available technology that we could at the time when we made the decision to make this investment, we have put in the best plants, the newest plants, and as a result will not receive any transitional assistance. Only those that have either brought old plant out of retirement or are still running very old plant are receiving transitional assistance.

CHAIR—So doing the right thing disadvantages you under the CPRS as it is currently designed?

Mr Trumble—Yes, sir.

Senator FARRELL—You are not in the national grid. Was that a Western Australian decision or was it a national decision?

Mr Cremin—No, it is just the physical constraint of joining the markets. The National Electricity Market is an interconnected market and, as you can see, Tasmania has recently joined the National Electricity Market via the Basslink.

Senator FARRELL—A lot of companies are now looking at this issue of carbon sinks, carbon storage. Santos at Moomba, for instance, is one company that it is looking at it. Is there any similar research or development going on in Western Australia?

Mr Trumble—There is. We belong to a group Collie Industry, where our coalmines are located, as well as a state organisation known as the Collie Coal Futures Group. It, supported with some federal money, is currently investigating locations that would lend themselves to geosequestration within striking distance of the Collie coalfields. We are just now moving into our second phase of that study, which will be completed later this year.

Senator FARRELL—Is there any projected time frame where you might be able to get some progress in that area?

Mr Trumble—We expect that the study, including drilling wells to test the formations, will take us through to approximately 2012-13. In the case of Bluewaters III and IV, which we mentioned earlier are our next coal-fired plants, by commitment to the Environmental Protection Authority, 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 capable of it. Once the

technologies are commercially viable, then we can marry the two and actually move forward. I am not trying to avoid a date in your question; I just do not know when that date is.

Senator FARRELL—I do not think anybody has got a date anywhere in the country yet.

CHAIR—Your evidence is consistent with what the CSIRO told us as well.

Senator FARRELL—My final question was hot rocks. That is obviously some new technology that is starting to look promising, although there still seem to be plenty of technical problems to overcome. Is there any research or any prospects for hot rocks in Western Australia?

Mr Trumble—I believe there are, but we as a company are not involved in that field. We have limited our investments in renewables to wave, some solar work, and predominantly wind.

Senator FIFIELD—I think some of us from the east had a sneaking suspicion that a separate Western Australian energy market was part of a cunning plan to keep secessionist hopes alive, but you have confirmed that that is not the case. Thank you for that. I appreciate the economics of the situation. But on the point of Treasury's failure in its modelling to take into account the difference in operation of the national and the Western Australian market, I was wondering if you have taken that up directly with Treasury or with government and, if you have, what their response has been?

Mr Cremin—Yes, we have taken this up with Treasury. However, in a sense, the Treasury modelling was done on a holistic manner that—

CHAIR—One size fits all is what you are looking for.

Mr Cremin—It is one size fits all, but in the broad brush, over the long term, that is a fairly consistent way of doing things, without going into the details of looking separately at the Western Australian market. We also are associate members of the National Generators Forum, who undertook similar modelling. A lot of the output of this modelling is based on or predicated on what types of technologies might be capable of moving in under certain price scenarios to transition to a low-carbon economy. So in one sense that sort of modelling has some valid output. However, in direct relation to the Electricity Sector Adjustment Scheme where you are looking specifically at the loss in asset value of assets, you have to more specifically look at the Western Australian context, and that was not done.

Senator FIFIELD—Do you have any confidence that Treasury will take into account the unique circumstances of the west?

Mr Trumble—We visited with Treasury at least three times before the white paper was released. We thought we had gotten our message across that we are different. We have met with them subsequent to the white paper release and pointed out the issues again. I think they hear us and they nod appropriately at the appropriate points in time. Whether or not it will actually show up in the modelling, I cannot be guaranteed of that.

Senator FIFIELD—So you are living in hope.

Mr Trumble—We are poised for good luck.

CHAIR—It is in the too-hard basket, is it? On that point, between the green paper and the white paper, there has not been any progress at all in terms of recognising the specific energy market circumstance of Western Australia?

Mr Trumble—In fact, between the green paper and the white paper it took a step backwards.

CHAIR—From a Western Australian energy market point of view?

Mr Trumble—From a Western Australian energy market point of view, yes.

Senator FIFIELD—So you are indeed very optimistic in the face of that. I think Mr Cremin commented on the conservative estimation of asset value loss. Again, that is something you would have taken up with Treasury. Again, what was their response?

Mr Trumble—Broadly, their response was that, in creating carbon pollution reduction policy, it was not their intention to recover value loss impacted upon the industry by the policy; it was their intention to assist industry in the transition.

Senator FIFIELD—That is easy for them to say.

Mr Trumble—It is.

CHAIR—They are not assisting you in your transition really.

Mr Trumble—That is our point—that they are not assisting us. They are neither returning to us the value loss associated with our assets, nor are they assisting us in the transition to a lower carbon economy. In the particular circumstances of Western Australia, we find that that, in effect, is Canberra driving energy policy in Western Australia.

Senator FIFIELD—In light of those two examples where Treasury are not listening, are not hearing or are not responding, do you think it would be better to take the time to try and get this right, even if that means not implementing an ETS by 2010?

Mr Trumble—Absolutely—particularly in the face of the current financial circumstances in which we find ourselves. As a company, as we have stated, we support the longer term goals, but there is also, hand in hand with that, policy settings which will not affect the economy in such a staggering fashion.

Senator FIFIELD—Do you think it is possible to have an ETS in place and to get it right by 2010, or do you think that is unrealistic?

Mr Trumble—It would be a very big ask to have it ready to go in what is now 16 months time.

CHAIR—In a responsible fashion.

Mr Trumble—In a responsible fashion.

Senator FIFIELD—There might be some cause for cautious optimism. You are probably aware that the House Economics Committee has a reference to look at the choice of an ETS as the prime policy response of government to reducing carbon emissions. So that may be an indication that they are looking to kick the time frame out, but I guess we will wait and see.

Mr Trumble—We saw that announcement. As you have stated, we would be very hopeful that there would be some sort of consideration by that committee.

CHAIR—Can you tell me, in as straight a sentence as possible, what the impact would be in terms of energy security in Western Australia if there are no adjustments to the policy settings for the transitional arrangement? What would it mean from an energy security point of view?

Mr Trumble—Chairman, you are asking me to crystal ball here a little bit, having put that caveat on it. Obviously, historically the security of the Western Australian system has been based around not gas or coal or renewables. Our security is based upon a balanced portfolio of fuel types that provide that security. The best evidence I can give you is the example I gave you where 30 per cent of our gas supply failed and yet the general populace carried on. The town did not shut down.

As we go into the future, without some transitional assistance it will obviously move us away from the use of coal in our portfolio mix. We will become that much more dependent upon gas as the main fuel for power generation. I would suspect that anyone that is a student of risk would suggest to you that a 1,600-kilometre-long single point of failure is just too high a risk. It is too high a risk to have all of your economic activity hanging off the end of that long a pipeline. Again, if we look backwards at history, the loss of 30 per cent of our gas supply, when it represents only 60 per cent of our installed capacity, has a net effect of a \$3.6 billion hit to the economy of Western Australia, as estimated by the CCI. If you increase that percentage and have the same kind of incident—which we will have at some point—then that number just continues to get bigger.

It is a long answer to your question, but I think you have to look at what it does to our security and the value of that security, and historically when we have had other events, what has the cost been, and compare that to what it might be in the future.

Senator BUSHBY—Thank you, gentlemen, for coming along and appearing before us today. A lot of the questions I wanted to ask have already been asked, but I have still got a few. Just for my own benefit, what percentage of the Western Australian energy market do you supply?

Mr Trumble—Once we become operational this year, it will be approximately 15 per cent.

Senator BUSHBY—So it is reasonably substantial. You, like many other energy generators, have indicated that you support the concept of an ETS. I have asked a number of them and got similar answers, but I am interested in yours. What is the motive behind your support? Is it because you want to be a good corporate citizen or because you are looking for certainty in terms of your future planning and where you are heading?

Mr Cremin—I think if you agree with the outcomes of what an ETS is trying to achieve—if you agree with those goals—then you agree an ETS is probably the best way of going forward, but certainly certainty is paramount to the investments that we make. They are 40-year investments. They are very large and lumpy, and

they are made in a period where you have 40 years for that asset to have a useful life, so investment certainty is key.

Senator BUSHBY—It is the primary driver of your support. Would that be fair to say?

Mr Cremin—Yes.

Senator BUSHBY—Mr Trumble, you were talking about the risk if you move to a higher reliance on gas for energy in Western Australia. Obviously, it will increase the risk for the reasons you outlined, but what is the effect on cost? Does the current mix exist because it actually is an efficient way of the market working out how to provide energy in WA or would it actually distort cost or the market in any shape or form and have a cost impact on consumers?

Mr Trumble—It must have an effect on consumers ultimately. Certainly coal as an energy source and gas as an energy source compete with one another.

Senator BUSHBY—And they must do so reasonably efficiently at this point in order to both exist in the market.

Mr Trumble—That is right.

Senator BUSHBY—If you introduce something which distorts the market and shifts something away from one of those to the other, then presumably that must come with some sort of economic cost.

Mr Trumble—It will.

Mr Cremin—To elaborate on that a little, a lot of the modelling work that has been undertaken looks to forecast future gas pricing, and a lot of this has been done in the NEM, where there are certain sources of gas. There is coal seam gas becoming available et cetera. Here in WA we have experienced over the last two years a step change in the price of gas, from \$2 to \$3 a gigajoule up to nigh on \$8 to \$9 a gigajoule delivered gas at the moment, so that has its own price implications here in the Western Australian market and has an impact on the relative efficiencies or the relative cost efficiencies of gas versus coal. That in itself will give a bit of a precursor to what we can expect going forward if there are shocks to the long-held balance between those prices caused by external policy decisions.

Senator BUSHBY—Quite clearly, placing a price on carbon will increase the cost of delivering energy that comes from carbon based sources, but what I am asking here is: will also the change in the structure of the market add an additional cost over and above the additional cost of carbon pricing itself? I think it would be fair to say that you are suggesting it may well do.

Mr Trumble—Only from the perspective that, if you dampen competition on one side, the other player gets a bit of a monopoly rent.

Senator BUSHBY—You are introducing a distortion to the market, which comes with consequences.

Mr Trumble—Yes, absolutely.

Senator BUSHBY—I was interested in your description of why the WA market is different, particularly in terms of the bilateral contracts. This has been explored to some extent, but I think this is slightly different. What are your options if your concerns regarding the differences of the WA market aren't addressed by the government? Where do you go from there? You have got contracts that you are signing up, as you said, without knowledge of the ETS and that has consequences with your financiers and also in terms of your return on the investments you have made. What are your options looking forward with new contracts? Is this going to affect the cost of energy that you supply to the people you deal with in future? How is it going to impact on your future investment plans? What impact is it likely to have?

Mr Trumble—Let's see if we can deal with those one at a time. Firstly, with the contracts which we have signed we have limited capability to move. Those are signed contracts that were signed at—

Senator BUSHBY—Excuse me for interrupting, but what sorts of time frames?

Mr Trumble—Fifteen to eighteen years. Certainly, going forward, we would find ourselves in a position where we would be negotiating any future contracts in the face of CPRS and attempting to ensure that those costs are passed on from ourselves to the retailers and ultimately to the consumer. That brings its own issues in Western Australia, in that we have a regulated tariff market here, regulated by the government and their view of how much of the CPRS they wish to see passed on to the retail consumers of Western Australia.

Senator BUSHBY—We might have an opportunity to ask questions about that later today.

Mr Trumble—Ultimately, this is a new spectre, a new influence on our investment decision making and those of our lenders, and I think it will become much more difficult, as I mentioned earlier, to attract both the private equity and the capital required to build that 1,500 megawatts that we need in the state between now and 2018.

Senator BUSHBY—And, presumably, between the squeezing of your costs going up and controlled tariffs, the incentive that you have to go out there and invest is probably lowered as well.

Mr Trumble—Yes.

Senator BUSHBY—The potential for return is lowered.

Mr Trumble—It is, yes.

Senator BUSHBY—Changing the tack slightly, I read in the paper today that the international carbon price has fallen, and they were talking about that having consequences for the amount of money that will be raised by the government and that it may well lead to compensation. They are having to dip into the budget, basically, to pay compensation to people. If the carbon price remains low—and this is a completely different question to what we were talking about before—what impact does that have on the incentive for energy producers to invest in low-carbon technology? If there is a low carbon price, effectively, is the ETS going to work?

Mr Cremin—It will certainly work a lot better if there is a carbon price which adequately incentivises investment in something that is going to be able to have a marginal cost of production that is lower—in other words, low-emission technology. Yes, a low carbon price will not incentivise a change in technology as quickly.

Senator BUSHBY—But it will still impose a cost on consumers?

Mr Cremin—It will still impose a cost, yes.

Senator BUSHBY—So it will put up the price of energy but not necessarily deliver the outcomes that the ETS is designed to achieve?

Mr Cremin—Not as quickly as is perhaps planned.

CHAIR—Given the state of the energy market in Western Australia, obviously there are already some cost pressures in the system. Verge Energy is not breaking even. Demand increases their network. There are issues with network costs, in particular if we want to bring on more renewables, through wind and whatever else. So there are a few cost pressures already in the system. Can you advise the committee how the energy cost in Western Australia currently compares to the cost in the eastern states, what sorts of pressures are currently in the system and how the CPRS might impact on that?

Mr Trumble—I was at a presentation yesterday which showed that the wholesale cost of electricity in Western Australia is now quite a bit less. I think the comparison was with New South Wales or Victoria, and I cannot give you specific numbers, but it is quite a bit less. In terms of our cost pressures, yes, the retail tariff that we mentioned previously has not had an increase of any substantive nature for approximately 15 years—no CPI, no real increase, no increase at all—which has led to, ultimately, the losses that you mentioned being experienced by Verve under their vesting contract with the state owned retailer. So it needs to move to be cost reflective of simply the cost of generating electricity.

Beyond that, our network company has recently suggested that they would be seeking over a 100 per cent increase in the tariffs associated with the use of the electricity system. They are targeting \$6 billion of required investment over the next three years in the transmission system. Overlay that with a \$27 or \$25 per tonne CPRS cost, and you are probably facing—as was suggested by the Office of Energy to the government two weeks ago—increases in excess of 100 per cent at the retail and small commercial level here in Western Australia.

CHAIR—In relation to the CPRS, what does the \$27 that you mentioned mean across the WA market?

Mr Trumble—I would be loath to try and quote you a number on that.

CHAIR—Do you know what it means for your company?

Mr Trumble—For our company, we know that it is affecting the value of our asset, yes, in our inability to pass it on.

CHAIR—Have you quantified how much that means?

Mr Trumble—Again, it is a matter of what assumptions you wish to put into the Treasury modelling. We are having the same difficulty, as I read you are, in getting some of the Treasury assumptions that are in their models, so I would be loath to put a number on the table that is based upon assumptions that I cannot credibly back up.

CHAIR—Thank you very much for your contribution to the committee.

[10.04 am]

CUSWORTH, Ms Nicola Claire, Director, Macro-Economic Policy, Department of Treasury and Finance, Western Australia

LOMAS, Ms Amy, Assistant Director, Emissions Trading Unit, Department of Treasury and Finance, Western Australia

CHAIR—I welcome Ms Cusworth and Ms Lomas from the WA Department of Treasury and Finance. I remind senators that the Senate has resolved that an officer of a department of the Commonwealth or of a state shall not be asked to give opinions on matters of policy and shall be given reasonable opportunity to refer questions asked of the officer to superior officers or to a minister. This resolution prohibits only questions asking for opinions on matters of policy and does not preclude questions asking for explanations of policies or factual questions about when and how policies were adopted. Officers of the department are also reminded that any claim that it would be contrary to the public interest to answer a question must be made by a minister and should be accompanied by a statement setting out the basis for the claim. I invite you to make a brief opening statement and then the committee will ask some questions.

Ms Cusworth—I will give a very broad introduction. Since we last appeared before this committee, the most significant development, obviously, has been the release of the white paper. We found that some of the concerns that we had discussed at our previous appearance were addressed in the white paper. Specifically, issues which have been of concern to us were to do with eligibility for compensation, the inclusion of a measure of trade exposure in the entitlement to compensation, and the option for value added as being a denominator in the calculation of exposure. Having said that, the state government has yet to formalise a response to the white paper and therefore we are not in a position to describe to you in any detail what the government's position is likely to be on that development.

The other issue which we discussed last time and which remains a concern to us is the timetable for implementation. We still feel that the middle of next year is ambitious to get the process properly up and running. We have had a few disappointments with access to data, which was also an issue which was raised when we last appeared before you, and my colleague Amy might describe in a little bit more detail our response to those developments since November.

Ms Lomas—Since we last met, as Nicky has outlined, we have had the release of the white paper, your committee has released its peer review of the Commonwealth Treasury modelling, and I understand in the last couple of days the Commonwealth has released its guidance paper for industry on compensation to emissions-intensive trade-exposed industries. There are workshops to accompany that, although they have not been announced just yet.

In addition to the developments that Nicky has run through in relation to our position in the green paper and the changes that we saw in the white paper, one of the other differences relates to the eligibility for coalmining as an emissions-intensive trade-exposed industry—that is, that it is no longer eligible. Unlimited use of international permits is now allowed as part of the scheme. Nicky mentioned that the compensation arrangements for emissions-intensive trade-exposed industries have been changed so that now we have value-add. We have had lower threshold, which means some industries that were not previously eligible now will be. We have had the scheme coverage for waste lowered and we now have a measure of trade exposure.

As Nicky mentioned, our delay in developing a state government position is, in part, to do with access to the Commonwealth Treasury modelling. We have undertaken a number of different steps to obtain access to the data that supports the release of the *Australia's low pollution future* report by the Commonwealth Treasury and we have had a response via email which indicates to us that they are not able to provide us with any data other than what is already in the public domain. That has meant that we have had to rethink our approach to how we advise the state government on how the CPRS is likely to affect Western Australia.

Obviously, a measure as significant as the emissions-trading scheme will have impacts on Western Australia and, as policy advisers, we have to try and pull together that advice from an information source, so we have instead been reviewing other publicly available modelling results to try and get scenario settings of what we might be likely to see, in the absence of the Commonwealth Treasury's underlying data. I can list for you what we are seeking from the Commonwealth Treasury, if that is helpful.

CHAIR—Yes.

Ms Lomas—For Western Australia, we are after time series data of industry growth output in millions of dollars and employment numbers for the two scenarios that they modelled for the CPRS—that is, the CPRS minus five per cent and the CPRS minus 15 per cent—and obviously the reference case scenarios that would apply as well. That would give us data for every year out to 2050 for Western Australia. Sorry, that is for Australia. We are also after the equivalent for Western Australia so that we can compare it, and any substate information that is comparable, so industry gross output by, say, regions—the Pilbara region or the south-west. We do not have any substate regional data.

We are also after gross state product time series data, again for those two scenarios, so that we can actually see what the nominal values would be for gross state product out to 2050. We are after time series data of emissions. If you look at the Commonwealth Treasury modelling, there is no information in there for states and territories on their actual emissions levels, so I could not tell you if Western Australia's emissions are forecast to decline relative to 2000 in the Commonwealth Treasury modelling report, and we are also after price changes for household consumables. We do not have any indication of which products households would be purchasing and what the relative changes in prices would be for those.

That obviously affects things like the demand for state government services, so this information would essentially give us enough to go on to be able to estimate what it is likely to do to the state economy, the demand for state government goods and services, and just general changes in consumption patterns in Western Australia. I think that is everything.

CHAIR—Thank you very much, Ms Cusworth and Ms Lomas. I have two comments to make at the outset. Firstly, this committee has taken the view that it is in the public interest for all of the underlying Treasury data that has not yet been publicly released to be publicly released; in fact, there is an order of the Senate dated 4 February, putting that request to the government. It is a request that the government has refused, referring to commercial-in-confidence in relation to some of the contracted consultants that they have been dealing with, although they have not actually provided any feedback in relation to some of the other data that we have asked for. Anyway, we continue to pursue it, and we intend to continue to pursue this through the Senate into the future, and we are hopeful that at some point, in the public interest, all stakeholders, including the state government of Western Australia, will be able to get access to that information.

Secondly, in relation to your statement that the state government of Western Australia has not formed a formal position yet in relation to the ETS as proposed in the white paper, we as a committee do not intend to ask you any questions on matters of policy, but we would like to ask you questions on matters of fact as they relate to concerns or issues that you have raised with us following the green paper. But we really are trying to assess, even before the exposure draft of the legislation comes out, which and how far issues that have been raised since the green paper have been addressed in the white paper. But we will not as a committee be putting you into a position where we will ask you to present a policy decision of the state government. I thought I would start off with that as a clarification.

At the November hearing you did comment that it was your assessment that the Commonwealth, in putting together the CPRS as proposed in the green paper, may not have properly understood the distinct nature of the Western Australian energy market. Griffin Energy, who was a witness earlier this morning, essentially gave evidence along the same lines and has actually stated—and I think you might have been in the room—that since the green paper, if anything, the situation from a WA energy market point of view has got worse. I invite you, from a factual assessment point of view, to comment on that.

Ms Lomas—The Commonwealth Treasury modelling really only looks at the South West Integrated System. One of the issues that we raised the last time we appeared before this hearing was that Western Australia does not have a fully integrated market, so, if you only model one element of that, that is going to distort the outcome.

CHAIR—Even in terms of the South West Integrated System, the way Griffin Energy explained it to us, and the way I think you might have mentioned it to us in the past, is that Western Australia is a capacity market, with long-term bilateral contracts, whereas in the National Electricity Market you have got a spot market where there is much more capacity to pass on costs. The proposition that has been put to us is that the Treasury modelling and, as a consequence, some of the design features, work on the assumption that electricity generators are able to pass on costs. In Western Australia that will not be the case, including the south-west integrated grid. I guess I am trying to get your assessment.

Ms Lomas—My response would be that, as a government entity, it is very difficult for us to ascertain the nature of the contracts that exist. We know that a very large proportion—and I think Griffin suggested it was

about 95 per cent—of the electricity supplied in Western Australia is under long-term contract. We do not know the capacity under which the parties engaging in those contracts have built-in provisions to pass through the carbon price. You would assume that there would be some provision to pass through those sorts of costs through a contract. So even if we do have a highly contract based market, you could still see the carbon price pass through and, in that regard, the modelling results may not be as far off the mark as could be suggested. But, ultimately, it comes down to speculation and whether the parties involved are willing to divulge whether carbon pass-through is a factor in their contract.

Ms Cusworth—It is an issue that we have discussed with the coal companies. They have been understandably reluctant to give us details of exactly what is in their contracts, so we cannot ourselves, as Amy has said, ascertain precisely how much pass-through is possible.

CHAIR—There is a real public interest issue here potentially, isn't there? If it does affect the financial viability of a significant part of our energy generation market, from an energy security point of view in Western Australia, and our economy, that could be a real issue, couldn't it?

Ms Cusworth—Yes, it could. Again, because we do not know the nature of the contracts, we cannot know precisely what the threat might be. But we can know that fundamentally, if coal-fired generation remains competitive and viable, as the modelling suggests, that is likely to be the longer term outcome. So you have a commercial and a business problem more than a fundamental economic problem.

CHAIR—You listed a whole series of things that have happened since we last met. One thing you did not mention is the further downturn in global economic conditions. In November, you mentioned that Western Australia is the most trade-exposed state in the country. With 45 per cent of revenue, six or seven per cent is from exports, as opposed to 20 per cent nationally. As such, we are also the most exposed, I suspect, to a global economic downturn. Does that reality in any way influence your assessment of the impact of a CPRS on the Western Australian economy?

Ms Cusworth—Probably not, in the short term. The consequences of what is unfolding globally—which are still very unclear—potentially could be very significant for Western Australia. The boom that we had up until the middle of last year really was very much driven by very high demand and prices for the commodities which we export. Clearly, that has changed very rapidly, and we are now seeing fairly substantial decreases in the international prices of many of the products that we export. To an extent, that has been offset, at least for the time being, by the depreciation of the Australian dollar, so business revenues and royalty revenues have not declined by as much as the decreases in prices themselves would suggest. But we are looking very nervously at how this global downturn will unfold, how long it will last, how severe it will be, and where commodity prices are likely to be once the downturn finally passes. There are many scenarios; they are almost equally plausible. Unfortunately, the more pessimistic ones are looking perhaps more plausible than the optimistic ones. So that is going to be a huge driver of the pace of new development of the resource sector over the next two to five years, I should have thought.

Where will emissions trading fit in all of this? Given the magnitude of the changes in prices and revenues and outlook, it is a relatively small component. It does add a little bit to costs and to uncertainty, so it perhaps makes even more imperative the need to make sure that the objective of preventing carbon leakage—which is the underpinning driver of the compensation proposals—is actually achieved. But the reality is that the global market is going to be the big shaper of our resource outlook for the next few years, to a greater extent than previously.

CHAIR—I am trying to understand what you are saying there. Perhaps I can put it into context. The federal government tells us that this is the worst economic crisis since the Great Depression. We have also had evidence that the proposed Carbon Pollution Reduction Scheme would bring with it changes to the economy that are more significant than what happened post GST—that is, bigger reform to the economy. If we are in the worst economic depression—and what I hear you say is that it is too early for us to really assess, but you have to assess where the Western Australian economy is most likely to go—are you saying that, if the worst-case scenario develops, because we are the most trade-exposed economy, it does not really matter in terms of the time lines and the design of a CPRS? Are you saying that the economic outlook for Western Australia does not influence in any way your assessment of the impact of a CPRS?

Ms Cusworth—I am saying that the global conditions will be a far greater influence than the CPRS.

CHAIR—But the CPRS comes on top of what happens globally.

Ms Cusworth—It goes over and above. If we get the CPRS wrong, then it will make the difficulties that we are going to face even more difficult. There is no doubt about that. It is going to be global demand and global prices which are going to be the key shapers of what is going to happen to Western Australia's economy in the next few years, where CPRS could potentially make a bad situation worse or, if it is handled well, will be a relatively minor contributor.

CHAIR—I hear what you are saying. If I sum it up in a positive fashion, it is even more important to get the design of the CPRS right, given the economic conditions and what they were when we last met in November.

Ms Cusworth—That is certainly true, especially given that many businesses will be reviewing their forward investment plans in the light of what has happened in the last year. That reinforces the point that getting the CPRS right is particularly important.

CHAIR—LNG was another issue that you raised in November. I think you were concerned that, if the CPRS resulted in less investment in expansion of LNG, that would impact, because of the 15 per cent gas reservation policy, the supply of gas into the Western Australian market. How, in your view, has the white paper dealt with that? There has been some recognition of LNG, but can you describe for us what changes there have been from your point of view and what your assessment is of them.

Ms Lomas—LNG is obviously eligible for the 60 per cent allocation of free permits. The guidance paper that was released in the past couple of days is proposing that there are two levels of assessment as far as defining the exact parameters around which compensation is provided, and it lists a number of industries that operate in Western Australia who have already made a case to the Commonwealth government that they are definitely in the mix as far as providing compensation goes and that they would go to the next level of assessment. LNG is in there.

The challenge, though, is that the details around how the compensation is to be calculated are still to be agreed. We have not seen any sensitivity analysis that says how 60 per cent free allocation of permits works for the LNG industry as opposed to 90 per cent or some other measure. This was a point that we raised last time we met: that the compensation arrangements are not necessarily tied to what we can see as a clear proxy for what would be defined as the risk of carbon leakage. So I do not know whether 60 per cent is the appropriate level or not, but I think from the perspective of the LNG industry it is better than what they had under the green paper, which was nothing.

But, in terms of getting into the detail, the LNG industry has indicated to me that, when you look at the formula for calculating the compensation, the actual level of permits that they would be eligible for would be more like 40 per cent, and that is again to do with the detail of how you calculate this. I do not know whether 40 per cent is an inappropriate level or not either, and that is the broader issue about what is the appropriate level.

My understanding is that the LNG industry are keen to work with the Commonwealth on getting through the detail of the compensation levels and that they are still concerned about the impact that this will have on their viability, particularly in relation to some of the big projects like Browse.

CHAIR—Picking up on the compensation issue, evidence we had this morning is that certainly from the coal-fire power generation point of view in Western Australia they are only getting \$24 million out of the \$3.9 billion of transitional assistance for the coal industry nationally, which is of course a very small amount, and that 90 per cent of it goes to the higher emitting coal-fired power stations in Victoria. Is that something that you have assessed in terms of the impact on the WA energy market and the WA economy?

Ms Lomas—There is some information in the public domain about how much compensation will be provided to different industries, and we have looked at that, but it has to be relative to something. So it is very difficult for us to ascertain whether that is enough or not, which is why the Commonwealth is proposing to have detailed workshops with industry and asking industry to provide what would otherwise be commercially sensitive information so that they can work out the exact parameters. That is not something as a state government, without the provision of commercially sensitive information, we could assess effectively.

CHAIR—It might be simplistic, but \$24 million is less than one per cent of the overall transitional assistance available. It would not, on the face of it, look that equitable, would it, unless there is a clear explanation?

Ms Lomas—I do not necessarily have a view about whether the coal compensation is fair or not. It all comes back to how much is enough, which is the issue that we have been raising all along. This is about

preventing carbon leakage, this is about what is the correct amount to ensure that Australia's international competitiveness is not harmed by the emissions-trading scheme. The mechanism that is being proposed does not necessarily connect those two together. It is not clear how 60 per cent or 90 per cent for an emissions-intensive industry, however the Commonwealth chooses to define that, will stymie the—

CHAIR—Carbon emissions.

Ms Lomas—loss of investment.

Senator FIFIELD—Would it be unfair to characterise the compensation regime as arbitrary?

Ms Cusworth—‘Arbitrary’ implies that there is no rule at all underpinning it.

Senator FIFIELD—So there is some rule?

Ms Cusworth—Yes. We do not have a view on the appropriate equity principles that would be used to distribute compensation to coal generators.

CHAIR—Beyond preventing carbon leakage.

Ms Cusworth—Yes. Our focus is on that objective.

Senator FIFIELD—To someone who is sitting on the outside—not sitting within government—it does appear as though the choice of equity principles in itself is arbitrary: ‘We can throw up these equity principles. Okay, you don't like those; let's negotiate some new equity principles.’ It seems as though it is a moving negotiation. When I characterise it as arbitrary, you are not clear what the equity principles are or what are the appropriate equity principles.

Ms Cusworth—Our focus as a treasury is more on the consequences than on the principles and alignment. Obviously the principles matter, but the question of equity between coal companies is not fundamental to the economic consequences of the process.

Senator FIFIELD—Are you saying that we should actually be working back the other way, starting with the economic consequences and then working back from there—what the principles are, which will inform the compensation, that does not see adverse economic consequences?

Ms Cusworth—That is the way that I would approach it as an economist, but I am conscious that there are other points of view.

Senator FIFIELD—That sounds a pretty good way to me.

CHAIR—Let's go back a step. Picking up on the evidence from Ms Lomas, we have to remind ourselves that the stated objective of an emissions-trading scheme is to reduce global emissions and to do it in an economically responsible fashion. Of course, one of the things that is important there is to prevent carbon leakage. What I heard you say is that—and, please, I do not want to verbal you, so correct me if I am summarising it wrongly—in the absence of seeing proper data and proper analysis, you are not convinced yet that a 60 per cent free permit arrangement for LNG and a 90 per cent free permit arrangement for other industries will stop carbon leakage from happening. Is that what you are saying?

Ms Lomas—That is correct. If I go back to what we put in our green paper proposal, we had a number of issues with the compensation parameters. Some of them were more philosophical: how do you align the risk of carbon leakage with some form of assistance? Then, given that the Commonwealth was proposing this particular approach to compensation, we said, ‘Okay. If that's what you're proposing to do, then we have some specific concerns,’ which were around the issue of no measure of trade exposure; we felt that there needed to be an inclusion or consideration of an alternative measure of emissions intensity along the lines of value-add—that type of thing. But the fundamental point that we had up-front was that there had been no debate, I suppose, about what is the correct proxy for carbon leakage when you are considering the compensation mechanism. I still have that position.

CHAIR—It is a pretty good point actually.

Ms Lomas—There was no process up-front about, ‘What are the best ways of addressing carbon leakage? Let's explore those.’ We sort of started with the emissions intensity measure and then these two-tier levels of compensation. We also proposed in our green paper that there be a large number of tiers so that there was not one group that gets 90 per cent and one group that gets 60 per cent. We could see why they had chosen those mechanisms, but it is probably a little bit cruder than a measure where you have a number of levels of compensation based on your risk of carbon leakage. I am not proposing that we would have a solution that

would necessarily satisfy everyone. There are always winners and losers. But the objective is about maintaining the strength of the Australian economy in the absence of equivalent measures overseas.

CHAIR—Let's take it one step further, because carbon leakage is at the negative end where we essentially lose industries overseas that might be more polluting overseas in economies that are less carbon expensive. But also, at the other end of the scale, Western Australia could actually contribute to reducing emissions in the world by exporting more LNG to China, by exporting more LNG to Japan. Is that something that Treasury in Western Australia is assessing, in terms of the potential of the Western Australian economy, through an expansion of our LNG industry and what the necessary policy settings are, to make sure that there is a recognition in the policy settings as they come through in the Carbon Pollution Reduction Scheme? Is that something that you are looking at?

Ms Lomas—It is not something that we have looked at.

CHAIR—Should you? Sorry, that is a policy question.

Ms Lomas—There are some issues with modelling things like investment in LNG to do with the lumpiness of the investment. So we have had internally some goes at working out how you would resolve those issues.

CHAIR—Let me rephrase it. There is some modelling out that was commissioned by APPEA.

Ms Lomas—Yes.

CHAIR—You might be aware of it. One tonne of emissions in Australia producing LNG can result in a saving of 5½ to 9½ tonnes of emissions in China and 4½ tonnes in Japan. These are approximately the figures. If that is the case, then we have got an environmental responsibility, as well as an economic responsibility, to help make that happen. So inasmuch as the Carbon Pollution Reduction Scheme as currently designed would prevent it from happening—that is, would prevent us from helping the world environment and would prevent us from growing our economy through the LNG industry—then that would be a problem, wouldn't it? Is the state government in Western Australia doing any work—and I am not asking you now for your policy assessment. I am asking you whether that is something that you are putting to the Commonwealth as an issue to be seriously considered?

Ms Cusworth—It is an argument that we have heard raised and it certainly has validity. It is not something that you could model, simply because the markets are so diverse.

CHAIR—APPEA has done some modelling.

Ms Cusworth—Yes. They have done it in terms of volume, but not necessarily in terms of financial consequences. To my mind the best solution to that issue is to have proper carbon markets in the export markets to which we sell gas, coal or whatever.

CHAIR—Sure. That is the nirvana, but that is not currently the circumstance.

Ms Cusworth—Japan, for example, who is a large destination for our gas exports, has explicitly been looking to reduce its emissions; even China, although it is not obviously tied up in an emissions-trading scheme or similar. So, yes, I would agree with you that Western Australian gas exports, certainly in the medium term, have the capacity to contribute to lessening global emissions. The market mechanisms to achieve that I suspect rest beyond the capacity of what the state government can influence.

CHAIR—I understand that. But I am looking at the Western Australian economy. Haven't we got a great opportunity here where we can both grow our economy through expansion of the LNG industry and at the same time offer a solution to the world in terms of reducing greenhouse gas emissions? If that is the case—and you are custodians of the Western Australian economy—haven't we then got a responsibility to make the case to the Commonwealth that the policy settings have to recognise that?

Ms Cusworth—As long as that is phrased in such a way that it is not seen to be giving specific and disproportionate assistance to one sector compared to others.

CHAIR—Let's explore that. I am not talking about LNG to pick a winner. If there was any other industry that could help reduce emissions globally and contribute to our economic growth, then I think we should back them too. I am talking about a very principled framework.

Ms Cusworth—I would certainly agree with you that it would be a perverse outcome if the implementation of the CPRS in Australia led to a result which added to global emissions.

CHAIR—Thank you very much. That is what I was looking for. So essentially we have got to make sure that the Carbon Pollution Reduction Scheme is designed in such a way that even a reduction in emissions domestically does not end up in an overall increase in emissions globally. Is that fair?

Ms Cusworth—Yes. What you are talking about there is essentially an inverted carbon leakage type of story.

CHAIR—People focus on carbon leakage, but they do not actually focus on the opportunity cost of not maximising our potential to reduce emissions globally. That is what I am getting at.

Ms Cusworth—Again, as an economist, the ideal solution to that is simply to have a proper global carbon price. That would capture then not only the potential in industries like LNG but the similar and parallel arguments you get, for example, from businesses which believe that they have the potential to export renewable or low-emissions technologies.

CHAIR—Yes.

Ms Cusworth—So it is not an argument which is unique to LNG.

CHAIR—No.

Ms Cusworth—Although it has obviously got a specific relevance in that sector.

CHAIR—Yes.

Ms Cusworth—The solution to that is to have a proper global carbon price, rather than to try and, I suspect, tweak the existing—

CHAIR—Yes. In an ideal world, if there is global agreement, then all problems are resolved in terms of the competitive distortions. But if there is no global agreement, what are some of the things that we would have to do to make sure there is not that perverse effect?

Ms Cusworth—I am possibly going beyond what I should be doing as a Treasury officer here. I do not think it is the responsibility of Australian governments to compensate for externalities in other jurisdictions.

Senator BUSHBY—Thank you for appearing again. It is good to see you again. I am interested in the fact that you are having difficulty getting information from the Commonwealth. How essential is that information to you being able to do your job in terms of properly advising the state government here in a timely and accurate manner?

Ms Lomas—We can survive without it, but it is a key piece of the puzzle, so I guess it reduces the effectiveness of or the certainty around the advice. That said, the Commonwealth Treasury modelling is not some panacea. It does have a number of issues associated with it, many of which were fleshed out in the report commissioned by this committee. But to not even be able to say, based on the design proposed by the Commonwealth government, whether Western Australia's emissions will increase or decline, and over what time period, is a problem, and it is very difficult for us to replicate that type of modelling exercise because of the way it was undertaken. I would like to be able to provide the government with an indication of that sort of thing. However, even if I had that information, I would have a caveat around it which says, 'Modelling is not the answer. It just gives us an indication of what we can expect.'

Senator BUSHBY—But at least you can compare apples with apples, essentially.

Ms Lomas—Yes.

Senator BUSHBY—Effectively, by the Commonwealth refusing to provide that information to the Western Australian Treasury, it is frustrating its ability to respond in as informed a manner as it can to the proposal that the government is putting forward.

Ms Lomas—That is correct.

Senator BUSHBY—Since the Western Australian state election, has it become any easier or any harder to obtain information from the Commonwealth departments, or is there no change? Have you noticed any difference?

Ms Lomas—No. I think it is the same.

Senator BUSHBY—Will you be making a submission to the House economics committee?

Ms Lomas—That is not something I have been given instructions to do either way.

CHAIR—I recommend you do.

Senator BUSHBY—Yes.

CHAIR—But take that on notice.

Senator BUSHBY—On the effect of the global financial situation and how this works, Senator Cormann explored this to some degree, but one question I do not think he asked specifically was: in order to get a better picture of what the impacts of the CPRS will be, given the different potential outcomes from the global situation, do you believe that it is possible to include in the models that the Treasury has done those potential scenarios or outcomes from the current difficulties?

Ms Cusworth—It certainly ought to be possible.

Senator BUSHBY—It should be possible?

Ms Cusworth—I would have thought that, if they were to sit down and do the modelling again, it would be with a somewhat different set of assumptions. A lot of the modelling tends to have a longer term focus and we are hoping that the current economic difficulties are a one- to three-year event rather than a 15-year event. Nonetheless, it would particularly have an effect on the trajectories in the early years, and the demand and so forth, which would have been fed into the model, so it would be, from my point of view, interesting to see what other scenarios might deliver in terms of the trajectory in the early years.

Senator BUSHBY—If you were asked as the WA state treasury to undertake such modelling, and you had access to the information to do it, would you choose to include that information regarding the likely or possible consequences of the global situation in your modelling?

Ms Cusworth—Yes. You would inevitably be putting in different export price—

Senator BUSHBY—Do you think that would be the right thing to do, as an economist, to give you the best indication of outcomes to provide your advice on?

Ms Cusworth—Yes.

CHAIR—Can you go back and explain to us the way the state government of Western Australia first became involved in the Garnaut process. I think that at the last hearing you mentioned modelling that was done in the context of the Council for the Australian Federation. Do you remember that?

Ms Lomas—Yes.

CHAIR—In a few sentences, can you summarise how the Western Australian state government first got to be involved in this Garnaut review process.

Ms Lomas—You are talking about two different processes there. There was the Council for the Australian Federation national emissions—

CHAIR—Who is part of that?

Ms Lomas—The Council for the Australian Federation is all of the states and territories.

CHAIR—And?

Ms Lomas—That is it.

CHAIR—It was convened at the time by the then Leader of the Opposition, wasn't it? The then Leader of the Opposition, Kevin Rudd, was working with the states and territories and he first made the announcement of some of the research work that was being done.

Ms Lomas—That was as part of the Garnaut Climate Change Review. The Council for the Australian Federation, prior to the announcement of the Garnaut Climate Change Review, was just the states and territories working together on coming up with a design that could be implemented nationwide under the auspices of the National Emissions Trading Taskforce. Then in the lead-up to the election campaign the states and territories jointly funded, with the opposition at the time, which was the Labor opposition, an exercise by commissioning Professor Garnaut to do the Garnaut Climate Change Review.

CHAIR—So the state of Western Australia and every other state and territory funded a review that was part of an exercise with the then opposition?

Ms Lomas—That is right.

CHAIR—Was there any modelling involved in that?

Ms Lomas—Yes, there is modelling.

CHAIR—It was actually the states that funded the commission and you, obviously, then would have access to the information that came out of that.

Ms Lomas—That is right.

CHAIR—And the then federal opposition had access to the modelling that came out of that?

Ms Lomas—The modelling results were made available after the transition to the new government.

CHAIR—But the then new federal government had access to all of the data that came out of the state and territory funded process?

Ms Lomas—That is right. They were also given full and open access to the National Emissions Trading Taskforce modelling results.

CHAIR—So a process that was funded by all of the states and territories and involved the Labor federal opposition resulted in information that was holus-bolus made available to the new Commonwealth government, but the Commonwealth government is not prepared to share all of its information with the states and territories. I do not invite you to comment on that. I am just reflecting that that is a pretty curious circumstance. But I do not want you to comment on it. Thank you so much for your contribution to the committee.

Proceedings suspended from 10.47 am to 11.00 am

EGGLESTON, Mr Peter, External Affairs Manager, Chevron Australia Pty Ltd

TORKINGTON, Mr John, Senior Adviser on Climate Change Policy, Chevron Australia Pty Ltd

CHAIR—I welcome Mr Eggleston and Mr Torkington from Chevron. I invite you to make a brief opening statement and then the committee will ask some questions.

Mr Eggleston—Thank you. We would like to thank the committee for the opportunity to appear before it and indeed for travelling to Perth to hear from ourselves and others. We note the committee's wide-ranging terms of reference and would like to confirm that Chevron's interests in this matter are principally related to the terms of reference (d) looking at the impact of an emissions trading scheme on the Australian energy industry.

CHAIR—Which is what we are looking at today specifically.

Mr Eggleston—And (h), the domestic oil and gas exploration. Chevron is one of Australia's largest publicly owned energy companies, with activities in more than 100 countries and a global workforce of approximately 60,000. We employ about 1,700 here in operations in Australia. Our operating assets include the Barrow Island and Thevenard Island oilfields. We are a partner in the North West Shelf gas project. We are a significant holder of natural gas resources in Australia and are looking to develop those through the Gorgon and Wheatstone LNG projects, and we also have a very active exploration program here in Australia.

The proposed Carbon Pollution Reduction Scheme and its impact on the energy industry is of particular importance to companies such as Chevron, and it will certainly influence the investment sentiment towards oil and gas exploration and development in Australia and has an impact on the projects to develop these resources. We believe that LNG is clearly part of the solution and that the supply of LNG is an important component of the global energy market. Australia competes with countries in the Middle East and South-East Asia to supply LNG in the Pacific Basin.

However, it is not well understood that we also compete with domestic and indigenous coal sources in the South-East Asian region in particular. For example, if you look at the life-cycle benefits of LNG compared to coal, the LNG from, say, a Gorgon project could displace coal in an energy market such as China and the net reduction in global greenhouse gas emissions is estimated at about 45 million tonnes. That is equivalent to reducing about two-thirds of Australia's road transport emissions, so it is a very substantial contribution. So we see it as part of the solution in terms of global greenhouse emissions, but also a very significant contributor to the economic activity in Australia and, of course, job creation in the current climate. That is quite significant. Gorgon will be estimated to deliver about 6,000 construction jobs and about 3½ thousand direct and indirect jobs during the 30 years of its operation.

The increased use of natural gas in the domestic market also offers some opportunities to lower emissions abatement, compared to Australia's reliance on other fuel sectors, and the proposed Gorgon and Wheatstone LNG projects will be providing gas into the domestic market. We see that as a cleaner, lower emissions fuel supply for Australia.

It seems logical therefore that any government concerned about the risks posed by climate change should look to encourage and support the further development of LNG projects in Australia; not only LNG for export but natural gas for domestic purposes. With those few comments, I would like to pass on to my colleague, John Torkington, to make some specific comments in relation to the Carbon Pollution Reduction Scheme.

Mr Torkington—Thank you, Peter. In Australia generally, Chevron has been supportive of moves towards an emissions-trading scheme as an effective and efficient policy response to managing greenhouse gas emissions. We see an emissions-trading scheme as a preferred policy outcome compared to the range of existing ad hoc policies that we are currently faced with as an industry in Australia today. So it is not a matter of the CPRS or nothing; it is a matter of the CPRS versus the current inefficient policy framework that we are having to deal with.

We are generally very supportive of many of the design features that are in the CPRS, but remain concerned about the impact that the scheme will have on the export industry, particularly LNG. The way it is designed results in the imposition of additional costs, which actually do not alter our ability to reduce emissions under the scheme and which are not shared by our international competitors. This is a critical issue for the future development of Australia's liquefied natural gas industry. It is critical, until such time as our international trade

competitors adopt comparable emissions constraints, that appropriate weight be given to maintaining the competitiveness of Australian industry.

This is not to say that export and import competing industries should be placed outside the scheme. We believe these industries should be included in the scheme so that they have an incentive to reduce their emissions, but in such a way as not to expose them to significant additional costs.

We would also like to highlight that our support for the CPRS, and we believe the support of many in the industry, is predicated on the rationalisation of the current existing plethora of climate change policies that are used to regulate greenhouse gas emissions. The continuation of many of these policies will ultimately undermine the economic and environmental effectiveness of the CPRS and will do little to further emissions reductions when we have the CPRS in place.

We feel that the best way to avoid the deterioration in competitiveness on export and import competing industries is via the administrative allocation of emissions permits. Fundamentally, we need to improve the understanding in the community that an allocation of emissions permits to particular industries does not remove that industry's motivation to reduce emissions, and we feel that is something that is not well understood. As an example of that, we look to the North American acid rain program which has been in place for a number of decades now. It has been very effective at reducing acid rain emissions in the United States and Canada, and it is a program that allocates over 95 per cent of its emissions permits into the marketplace, rather than relying on auction.

We maintain eligibility to receive emissions permits should be based on the level of international competition from countries that are not yet embracing comparable emissions constraints. That should be the primary discriminator about who should receive emissions permits. We do not support the use of revenue or value added to determine emissions intensity as we feel these metrics fail to adequately reflect the true cost impact on a particular industry. In particular, the way value added is being defined under the CPRS materially disadvantages capital-intensive industries such as LNG.

Importantly, we think consideration should be given to how permit allocation under this scheme will impact on global greenhouse gas emissions. That goes to the point that Peter made earlier that the LNG industry has potential to significantly reduce global greenhouse gas emissions through displacing other fuels such as coal. We can also see little justification, apart from government revenue raising, to reduce emissions allocation by an annual percentage rate.

Turning briefly to domestic oil and gas, Chevron has a strong long-term commitment to exploring and developing oil and gas resources in Australia. Our exploration program has been successful in Australia and is growing, and it is estimated that several hundred million dollars is planned to be spent on exploration over the next two years. An important distinction between the oil and gas industry, including LNG projects, and many other industries, is that the commercial return from an oil and gas project investment must be attractive enough to justify and motivate the funding for the initial up-front exploration campaign. That is a very different parameter for our industry.

While Chevron's concerns with the CPRS are primarily focused on the impacts on Australia's LNG projects, the scheme will also potentially impact on issues such as domestic energy security. There are many factors which dictate the exploration attractiveness of a particular area. These include the area's geological potential, construction and labour costs, the level of resource and company taxation. Issues such as sovereign risk and approvals complexity also contribute to what we term 'the risk return relationship'. By imposing additional costs on Australia's oil and gas industry, the CPRS will shift this risk return relationship away from Australia. In closing, it is worth pointing out that there is a fundamental link between energy policy and climate change policy. This does not appear to have been given appropriate weight in the current design of the CPRS. With that, Peter and I would be happy to take questions.

CHAIR—Thank you very much, Mr Eggleston and Mr Torkington. In your submission to the green paper, you made the point that in formulating climate policy Australia must look at how we can contribute to global emissions reduction—that is, 'global' emissions reduction—particularly through supplying LNG to the global energy market. Do I take it from the gist of your comments this morning that you do not think the CPRS according to the white paper sufficiently achieves that?

Mr Eggleston—Certainly our view is that the white paper's prime focus—and it is quite explicit in that—is on the Australian emissions reduction, whereas our view is that LNG can contribute very actively as part of the

solution to reducing greenhouse gas emissions on a global basis; so it can contribute not only in Australia but make a very substantial contribution, particularly in the South-East Asia region.

CHAIR—If we were to reduce emissions in Australia, and at the same time increase overall emissions globally, that would defeat the purpose, would it not?

Mr Torkington—If I could perhaps give some assistance here.

CHAIR—Sorry, you nodded but Hansard cannot pick up a nod. Is that a yes?

Mr Eggleston—Clearly, the ultimate aim is to reduce global greenhouse gas emissions, and clearly the more that we can do to support LNG, the more we can help provide that solution and reduce emissions on a global basis.

Mr Torkington—As Peter indicated in our opening remarks, Australian LNG competes in a global energy market. It competes not just with LNG coming out of places like the Middle East and South-East Asia, but it also competes with coal to provide primary energy. It is well recognised that gas has about half the lifecycle greenhouse gas emissions compared to fuel such as coal; so for every power station you can get built that uses gas for its energy supply rather than coal, you can get a significant reduction in greenhouse gas emissions.

Australia's LNG industry is quite embryonic. We have two projects in Australia today currently producing about 17 million tonnes of LNG per year, but agencies like ABARE have estimated that Australia could be producing about 76 million tonnes of LNG within a couple of decades. Indeed, that figure could actually be higher. If that LNG export potential is realised and it does displace energy sources like coal—which is for the energy markets to determine—that is potentially a 200 million tonne per year greenhouse gas emissions benefit compared to if that energy had been provided by coal.

I think the LNG industry's position has been that, when looking at how it deals with trade-exposed industry in Australia, the Australian government should give due consideration to how the decisions it makes in Australia will impact on global greenhouse emissions, not just Australia's emissions. That position does not seem to have been reflected in either the green paper or the white paper. Certainly the white paper improves the position of the LNG industry significantly from where we would have been under the green paper model, but the white paper would still impose significant additional costs on our LNG projects.

CHAIR—But when this whole process started, the identified problem was—if I can call it a problem, or the identified challenge—reducing global greenhouse gas emissions. That is right, is it not?

Mr Torkington—That is the challenge, yes.

CHAIR—So what we do in Australia should contribute to resolving that global challenge.

Mr Torkington—That is right.

CHAIR—And we could actually be doing more. The focus is always on the risk of carbon leakage, but what you are raising I think is a different issue altogether, which is that we are actually undermining our capacity to help address the greenhouse challenge in the world by not encouraging the expansion of LNG.

Mr Torkington—That is correct, yes.

CHAIR—So how could that be done better?

Mr Torkington—I think there is a lot of focus on carbon leakage in the policy space in Canberra. We see the situation being a bit more complicated than that. Fundamentally, this issue only arises because Australia is taking action to reduce its greenhouse gas emissions ahead of much of the rest of the world. There is a lot to be said for that, but it does create the problem for its trade-exposed industries or its export and import competing industries. If Australia fails to adequately deal with that, not only do we have potential industries moving offshore into jurisdictions that do not have these constraints but we lose economic activity in Australia.

CHAIR—Without a related benefit.

Mr Torkington—That is right. During this period where we are not working in a global framework, Australia is getting ahead of much of the rest of the world. The issue is not just about carbon leakage but maintaining a positive investment climate in Australia for these sorts of projects. Now, if industries do not want to invest in LNG, oil and gas exploration or even car manufacturing and they would prefer to go and invest those funds elsewhere, we do not get a benefit in terms of global greenhouse emissions and Australia loses a lot of economic activity as a consequence. It is broader than just avoiding carbon leakage. There has to be balance: it has to be avoiding carbon leakage, but also maintaining a positive investment climate for Australian industry across the board.

CHAIR—In particular for Australian industry, that can help solve the greenhouse gas emissions challenge for the world?

Mr Torkington—I think there is an issue for Australian industry more generally, but clearly where some Australian industries such as LNG can help to reduce global gas emissions, then that has to be a policy priority to make sure that that industry is promoted and encouraged rather than held back.

Mr Eggleston—In answer to your question, clearly what we are looking for is the LNG sector to be supported and encouraged so that it can be internationally competitive. By imposing additional costs in Australia which are not borne by our international competitors, that makes us less competitive and in fact is a hindrance rather than an encouragement. What we are looking for is for the sector here in Australia to have a level playing field compared to our competitors internationally, until such time as there is an international agreement in place.

CHAIR—So if there are no adjustments to the CPRS as it is currently proposed in the white paper, quite practically in a concrete fashion what would that mean for some of the projects that Chevron is involved in?

Mr Eggleston—It still imposes a substantial additional cost on those projects that needs to be borne by the project proponents. It just makes it more difficult to get those projects across the line.

CHAIR—But is it a cost that would have to be borne that you can bear or is it a cost that would potentially put any of those projects in doubt?

Mr Eggleston—It is an additional cost that makes us less competitive with our international competitors and it is also an additional cost that raises the hurdle to actually making an investment decision.

CHAIR—You mentioned your Gorgon project in your opening remarks. Can you advise the committee as to where that project is at in terms of the investment time line, and where you are in terms of investment decisions? I am not expecting you to give me any trade secrets, but tell us what is on the public record and what perhaps the implications would be if the CPRS policy settings are not adjusted.

Mr Eggleston—Happily. The Gorgon project is gathering quite a bit of momentum at the moment. We are currently assessing the cost to our construction bids in the marketplace, in terms of assessing the costs for that project. At the same time we are still finalising the environmental approvals for train three. We anticipate that those environmental approvals will be completed during the early part of this year. Once those environmental approvals are completed, and the costs should be in, we can then move to making a final investment decision in the second half of this year.

Should the joint venture partners—and I might add that Chevron is the operator and 50 per cent owner; Shell and ExxonMobil each have 25 per cent—then make a decision to proceed, that will be a very substantial investment in a project that will have a life of in excess of 40 years. Our estimates are that it will bring government revenue benefits of about \$40 billion—additional government revenue; that it will bring a flow to Australian goods and services of about \$33 billion, and it will also increase Australia's GDP by about \$65 billion NPV. So it will make very substantial contributions in addition to the job creation that I mentioned earlier.

CHAIR—And while it will increase emissions in Australia, and specifically in Western Australia, it will help reduce emissions globally.

Mr Eggleston—That is correct, yes. There will be some increase in emissions in Australia, largely from process emissions. We are looking at one of the world's biggest carbon dioxide injection and storage projects which will store a lot of the carbon dioxide from reservoir gas, but the export of LNG globally, as we indicated, will make a very substantial decrease in global greenhouse emissions compared to the use of other fuels.

CHAIR—Have you made an assessment of the net effect globally, once the Gorgon project gets off the ground, in terms of greenhouse gas emissions?

Mr Eggleston—Yes.

Mr Torkington—That is the 45 million tonnes per year. So the project will emit about 5½ million tonnes per year of greenhouse gases in Australia but, compared to the burning of coal in markets like China or Japan, the net global reduction is about 45 million tonnes per year.

Mr Eggleston—Which is the equivalent of taking about two-thirds of vehicle emissions off Australian roads.

CHAIR—To sum up what you are saying, your project, if it gets off the ground, will have a significant impact on the Australian economy—including the Western Australian economy. It will generate a significant benefit to the global environment.

Mr Eggleston—That is correct.

CHAIR—But, as the CPRS is currently designed domestically in Australia, it might actually make it harder to get it off the ground.

Mr Eggleston—It will make it harder because it imposes an additional cost on the project which is not borne by our international competitors.

CHAIR—It sounds a bit counterintuitive, does it not?

Mr Eggleston—We agree with you: it does sound counterintuitive. Clearly, what we are looking for is governments to support and encourage these projects, not only for the domestic benefits but for the contribution that they can make as part of the solution to reducing global greenhouse gas emissions.

CHAIR—Just going back to some of the changes between the green paper and the white paper, there would be a public perception in the way some of the public relations around the white paper have been managed that, while LNG was, dare I say, somewhat ignored in the green paper, in the white paper it is now all okay and the LNG industry has been looked after, because there are now more appropriate transitional arrangements. You would be aware that that is the public perception.

Mr Torkington—Can we give you an assessment on that?

Mr Eggleston—We would acknowledge that there has been some accommodation of the LNG sector in the white paper and we are obviously appreciative of that. But I return to my earlier comment: notwithstanding that, there is still a cost impost on these projects and it makes them less competitive than international projects.

Mr Torkington—To give you an idea of the cost impost, under the current white paper proposal, we are looking at the Gorgon project—and there are obviously a lot of assumptions behind this in terms of what the price of emissions permits are in the market and how many you will be allocated, but in rough terms we are potentially looking at, in 2015, which is shortly after this project comes online, an additional operating cost of about \$75 million a year to buy permits, and that increases to over \$100 million a year by 2020. That is in today's dollars. So there are still very significant additional cost imposts on particular projects.

I might add that having to outlay that money to buy emissions permits does not actually change your motivation to reduce emissions. This is a fundamental problem with the CPRS. There seems to be a view behind the CPRS that firms have to physically be out of pocket to have any incentive to reduce emissions, and that is not the case. Our ability to reduce emissions is set by the price in the market and our marginal costs of abatement, not by whether we have permits allocated to us or have to purchase them—that is, a cost impost on an industry and on a project does not actually change the ability to reduce emissions anywhere.

CHAIR—What are your views on the EITE assistance as it is set out in the white paper? Do you think it is sufficient? I take it from what you have said so far that you do not.

Mr Torkington—No.

CHAIR—To prevent carbon leakage and to—

Mr Torkington—I think fundamentally the government's policy appears to be around partially preserving the trade competitiveness of the most significantly impacted industries. We would advocate that there is a fundamental issue for all trade-exposed industries here, and all trade-exposed industries should not have their competitiveness undermined. So, whilst the white paper does provide more assistance to those industries than the green paper model does, we do not think it goes far enough. Indeed, we have seen some modelling from the Australian Industry Greenhouse Network that looks at the proportion of permits under the scheme that would probably need to be set aside for trade-exposed industry. The current proposal is about 25 per cent of permits, and the modelling by AIGN has shown that that probably needs to be up around 40 per cent in terms of what proportion of the economy is exposed to this international competitiveness issue.

CHAIR—Looking at the current economic circumstances, we are now in an environment of global economic downturn. Does that add to the complications in the context of reaching a final investment decision?

Mr Eggleston—It does. Clearly it is a factor that the joint venture partners will take into consideration.

CHAIR—Yes.

Mr Eggleston—However, clearly these are long-term projects, with a life in excess of 40 years, as I indicated, and the partners will look at the dynamics over the longer term in terms of energy demand and the economics of the project over the longer term. So, yes, it is a factor. Clearly, the long-term nature of these projects means that you have got to take a long-term view.

CHAIR—In terms of the impact of the CPRS, is it fair to say that, if there were global agreement and all of the relevant emitters and all of the relevant competitive nations—for want of a better word—were part of that agreement and part of a global scheme, all of your challenges that you have raised with us so far would be resolved?

Mr Eggleston—One would assume so. Subject to the nature of that agreement, one would assume that—if you have a level playing field and you are on the same basis as your international competitors. At the moment, Australia is acting ahead of its competitors and therefore is disadvantaging projects in Australia compared to projects elsewhere.

Mr Torkington—This issue is only a transitional issue until such time as our competitors embrace comparable emissions constraints. I think the important word there is ‘comparable’. I cannot speculate on what the thinking is in Canberra, but you get the feeling that some of the issues around the trade-exposed industries have been framed in the context of, ‘We’ll get a global emissions framework very quickly,’ maybe five or 10 years out, and therefore it is only a fairly short-term problem. I think our view is that it will be many decades before the people we compete with, such as the Middle East, embrace comparable emissions constraints and therefore it is a much bigger problem if it has that sort of timescale than if it is a shorter term issue.

CHAIR—From a prioritisation point of view, is it unfair to say that the priority ought to be to reach a reasonable global agreement as opposed to chasing what could be described as an arbitrary deadline?

Mr Eggleston—From our point of view, our focus is really on the LNG projects, and clearly what we want to see is that some of those projects are not disadvantaged compared to competitors elsewhere, and we would see, because LNG is part of the solution, that the priority really is to support and encourage those activities which actually help to arrive at a global solution.

CHAIR—So you essentially agree that a global solution is the priority. But if we go back to the original intent—we want to reduce emissions globally and do it in an economically responsible fashion—your industry could help us achieve both. If the current design of the CPRS does not help us make that happen, should we delay implementation until we have got the design right and until we have ensured that the global settings are such that your industry is not disadvantaged, given what you can contribute?

Mr Torkington—Chevron has not advocated a delay in the CPRS for delay’s sake. We are very mindful that there is a climate change policy framework out there today. It is very costly, it is very inefficient and it is probably not environmentally effective. We see the emissions trading scheme as a much better policy framework to work within. Our position has been that the government should take the time to get the policy right and allow an appropriate period of time for its implementation, and that suggests that maybe 2010 is a bit too soon. For example, the quality of emissions reporting data that we will have under NGERs, on which the government will base its permit allocation, is probably not going to be to the standard that it needs to be by early next year. Also, we have difficulty seeing how the government is going to get the legislation and the regulations in place, establish a scheme regulator, get the scheme regulator staffed and established, have it develop all the rules, policies and procedures, and have it running by the middle of next year. We would urge the government to take the time to get it right, but I do not think we would urge the government to delay the scheme for delay’s sake.

CHAIR—I do not think that anybody has suggested that there ought to be delay for delay’s sake, but what I am hearing you say is, ‘Let’s take the time to get it right.’ In this committee, what we get all the time is people saying, ‘We support an emissions trading scheme,’ but then they give us a plethora of concerns that they think ought to be addressed before it works properly. Then they say, ‘Well, we don’t really promote a delay, but we think these things have to be done, and that probably won’t be happening in the right period.’

Mr Torkington—Perhaps I can give you an example. We are looking at a period of less than six months between having the legislation in place and having the scheme go live, and we feel that is perhaps fraught with difficulties for government and industry in terms of preparing for its implementation. It runs the risk that we will go into a scheme and there will be difficulties, teething problems, in the first years that will need to be rectified, and that will mean changes to legislation and what have you. We do not think that is in anybody’s interest.

If you contrast that with the North American acid rain program, after they passed legislation for that program, it was three or four years before the scheme actually went live. That provided three or four years where government could get its regulatory framework established and running and where industries, in particular, could prepare for its implementation. That scheme, in contrast to, say, the European emissions-trading scheme, has worked, and it has worked successfully from day 1. That is an illustration of how important it is for the implementation of these things to be well thought through and to allow plenty of time for them to be implemented effectively.

CHAIR—Take the time that is needed.

Mr Torkington—That is right.

Mr Eggleston—It is particularly important to develop a framework that supports and encourages those industries that make a net contribution to global greenhouse gas emissions.

CHAIR—In the context of the global financial crisis we have seen various stimulus packages around the world, and particularly in the United States of America through some buy-American clauses. There was, if anything, a move towards a—dare I say it—more protectionist sort of outlook. Chevron is an organisation that works globally. Does it concern you from an Australian operating environment point of view that, while other economies are getting more protective, Australia, through a Carbon Pollution Reduction Scheme ahead of the rest of the world, actually becomes even less competitive—that is, our exports become less competitive and imports are becoming more competitive?

Mr Eggleston—From our point of view the concern is adding additional costs on the business and making our projects less competitive than those internationally. We would see a policy priority being to put in place a framework that encourages and supports investment in these sorts of projects that deliver not only the national benefits but the global benefits.

Senator FARRELL—Thank you, gentlemen and lady, for coming along today.

Mr Eggleston—Our pleasure.

Senator FARRELL—You refer to the fact that you run some geothermal operations. Could you tell us a little bit about those?

Mr Torkington—Yes. Chevron is the world's largest producer of geothermal energy. That comes through a number of projects that we have in Indonesia and the Philippines, and it is geothermal in the context of what I might describe as traditional geothermal as opposed to the discussion in Australia currently around hot dry rocks. Both these areas are, volcanically, very active areas and have a lot of heat flow potential, with steam coming out of the ground around some of these plants, and we harness that geothermal energy to make electricity which we supply into local communities. We got into that because we are a large oil and gas producer in Indonesia and this was harnessing some of that geothermal energy that was near those oil and gas fields.

Senator FARRELL—This is volcanic?

Mr Torkington—Yes, it is a volcanic area.

Senator FARRELL—Where is the one in the Philippines?

Mr Torkington—I am not exactly sure. We could take that on notice and get back to you.

Senator FARRELL—All right. Do you have any Australian geothermal interests?

Mr Torkington—No, we do not.

Senator FARRELL—The other thing I want to talk to you about is carbon storage. Do you have any plans or programs in Australia in terms of carbon storage?

Mr Torkington—As you may be aware, 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.

One of the reasons that we feel the LNG industry needs to be supported is that, when you look at greenhouse gas storage, it is often thought about in the context of the coal industry and coal-fired power

generation, but if you look globally it is actually the gas industry and the LNG industry that are at the forefront of the commercial-scale deployment of this technology.

There are three gas projects around the world, one of which is an LNG project, that are doing this today. Gorgon will potentially be the fourth. So it is going to be the LNG industry in Australia that will be at the forefront of the commercial-scale demonstration of this sort of technology—at the forefront of getting the legislative, legal and policy frameworks in place; at the forefront of developing community acceptance. By promoting the LNG industry, the government is also promoting the uptake of this technology that will have flow-on benefits for its uptake in other industries.

Senator FARRELL—How far away are you from a commercial application?

Mr Torkington—We would not describe it as a commercial application. We talk about commercial scale because we are talking about injecting about 3½ million tonnes of greenhouse gases per year, but today there is no price on greenhouse gas emissions, so it is a tremendous cost to the project. I think it is reported in forums like the IPCC that, for its wide-scale uptake, you are talking about requiring a carbon price in between \$50 and \$150 a tonne to make them commercially viable in their own right. So we do not see the Gorgon project as being a commercial money-making project. We are doing it because we have a source of carbon dioxide and a very good storage location in which to do it and, despite some people's perception of the oil and gas industry, the oil and gas industry is always looking to continue to improve its environmental performance. This is one way we can do that.

Senator BUSHBY—Thank you for your submission. You gave some reasons for your support for an ETS as the most appropriate process to follow in order to achieve the overall aim of reducing greenhouse gas emissions. Primarily, in summary, that would be because you see that as the best way of providing certainty, given that you are involved in long-term investment?

Mr Torkington—I think the issue is that, when people look at climate change policy, there is a lot of focus on how to reduce greenhouse gas emissions and the fundamental question is not how to reduce emissions but how to reduce emissions at lowest cost to the economy. The problem with the current climate change policy framework is that it does not deliver the low-cost abatement opportunities. There are a whole lot of reasons why, but it is generally acknowledged that the real benefit of schemes like emissions trading is that they can potentially deliver the lowest cost abatement to the economy, and that has to be the policy incentive. That is behind our support for the emissions-trading scheme as the preferred policy response.

Senator BUSHBY—So, given that there is a need, or certainly a perceived need, for a policy response of some sort, you are backing ETS because it delivers the lowest cost abatement?

Mr Torkington—Because, provided it is well designed and well structured and that the existing policy framework that we are currently working under is significantly rationalised, it should then deliver the lowest cost abatement across the economy.

CHAIR—And the devil is in the detail.

Mr Torkington—That is right. It always is, yes.

Senator BUSHBY—Coming to that detail, obviously we have heard this morning that there are a number of aspects of the current proposal that you do not think are necessarily ideal. What feedback have you received from the government on the arguments that you have put about LNG being something that should be backed in terms of achieving the overall policy outcomes? Have you received any feedback that suggests that they are listening?

Mr Eggleston—We have had some very constructive engagement with the government around the green paper and leading up into the white paper. We are continuing to have that engagement going forward, and obviously we have had some very positive discussions around the role that LNG can play and about the design of the CPRS, but clearly not all of the arguments that we have put forward have yet been taken on board.

Senator BUSHBY—But you are confident that they have been well put and they are understood by the government?

Mr Eggleston—That process is ongoing, and clearly there is some water to flow under this bridge yet, but we certainly have had a very constructive engagement.

Senator BUSHBY—What exactly is it that you need? You talk about backing the LNG industry, but are there specific changes that you are looking for?

Mr Eggleston—Ultimately, we are looking to provide a regime that does not impose additional costs on our projects ahead of our international competitors taking on comparable costs, and creating a policy framework that encourages and supports investment in LNG.

Mr Torkington—And recognising that you can have an emissions trading scheme that provides the economic incentive to reduce greenhouse gas emissions without the additional cost burden; whilst it might seem counterintuitive, those two issues are independent. We are very comfortable with the emissions-trading scheme and being exposed to the full marketing incentive to reduce our emissions, but we feel you can do that without having to impose this cost of requiring us to purchase permits in the marketplace.

CHAIR—In your opening remarks, one of the things you talked about was that there was a need, in your view, for the rationalisation of the plethora of policy initiatives regulating greenhouse gas emissions. I suspect that one of the policy initiatives in that plethora is the mandatory renewable energy target.

Mr Torkington—Yes.

CHAIR—Can you give us a bit of an assessment, from your point of view, of how the mandatory renewable energy target interacts with the Carbon Pollution Reduction Scheme.

Mr Torkington—Chevron has not got directly engaged in the renewable energy target policy. It does not directly impact on our operations, because we are not a major purchaser of electricity in Australia so it is not an area that we have focused on. In terms of the principles, mandatory renewable targets are going to mandate primarily wind powered generation in this country. What that will potentially do is displace other lower cost forms of abatement. You could use an example that one of the lowest cost ways we can reduce our emissions is to increase the proportion of gas-fired power generation in the country compared to coal-fired generation. There has been quite a lot of modelling done, which has been provided to government, that indicates you could deliver emissions abatement at probably half the cost through promoting gas-fired power generation rather than by promoting wind turbine generation in the marketplace.

Effectively, what renewable energy targets do is that they result in higher electricity prices than would otherwise have been the case if lower cost abatement had been taken up through a market based mechanism. I think the modelling shows that, for particularly a renewable energy target, if we just had emissions trading by itself we would see a lot more gas coming into the power generation sector and displacing coal. Having a renewable energy target means that all the new power generation capacity will be taken up by wind power, which will displace that gas coming into the marketplace. They are the sorts of, I guess, market distortions that these sorts of policies can have.

CHAIR—When you talk about a plethora, I suspect that there is more than just the CPRS and the renewable energy target.

Mr Torkington—Yes.

CHAIR—What are some of the other policy issues that you think should be reviewed?

Mr Torkington—The COAG process is getting all the states to look at their climate change policy framework with a view to reporting back on what they are going to do about it, I think in the middle of this year. My understanding, talking to people in the Western Australian department of environment, is that they have identified 210 climate change policies, legislation, regulations, guidance notes, that impact upon greenhouse gas emissions in Western Australia. That is an awful lot.

CHAIR—A lot of green tape.

Mr Torkington—Exactly. One of the issues for our industry is: we are developing major projects and we believe that we are at the forefront of applying what we term commercially applied best practice technology to reduce emissions, and yet we are finding environmental agencies through environmental approvals processes tend to prescribe to you what you should be doing to manage your emissions. They tend to be prescribing abatement actions that are higher cost than what they might ordinarily need to be.

There is a lot of talk around greenhouse gas storage and what governments should do to make sure that greenhouse gas storage is taken up, but there is a real risk that if government prescribes that all new coal-fired power stations must use greenhouse gas storage, that will mean that lower cost emissions abatement in the economy might be overlooked and we end up with emissions abatement at much higher costs than what would otherwise be the case. We would argue that we want to get away from a framework where governments are prescribing what people should be doing and relying more—

CHAIR—So prescribe outcomes rather than processes.

Mr Torkington—Exactly right.

CHAIR—And then leave it to the ingenuity of—

Mr Torkington—Leave it for the market to determine what is the lowest cost way to reduce emissions, yes.

CHAIR—Very good. Thank you very much for your contribution to the committee this morning. It is much appreciated.

Mr Torkington—Thank you.

Mr Eggleston—Thank you very much for giving us the time.

[11.43 am]

KINT, Mr Thyl, Chief Executive Officer, Spitfire Oil Pty Ltd

WHITE, Ms Gail, Public Relations Consultant, Spitfire Oil Pty Ltd

CHAIR—I welcome Mr Kint and Ms White from Spitfire Oil. I invite you to make a brief opening statement and then the committee will ask some questions.

Mr Kint—First of all, we wish to thank the committee for giving us an opportunity to make a presentation, and without further ado I will give you a summary. We are a very small company based here in Western Australia, and we own or control a large lignite/brown coal deposit in the south of the state close to Esperance. We are working on technology to produce oil, coal to liquids, from this lignite deposit. However, whereas the technology for producing coal to liquids is a proven one in the form of the Sasol and earlier German technologies, there is an issue with these, shall we say, conventional coal-to-liquids technologies in terms of the very large greenhouse gas emissions that accompany them. The reason we are working on another technology is essentially because the greenhouse gas emissions and the environmental footprint and the energy intensity and, for that matter, also the costs are much lower.

In a few words, the technology that we are using is actually an old technology. It is the same technology that is being used to make coke or charcoal: basically, you take the coal, you heat it up without air, hydrocarbon gases come off and, when you condense them, you get a type of oil. That oil needs refining or upgrading to be useful, but the whole footprint of the process, as I say, in terms of emissions and energy is a lot lower. Curtin university is currently working on that technology. Even though there have been prior pilots, the reason there have not been any large-scale applications is that the commercial threshold or the break-even price is around \$40 a barrel and, until a few years ago, there had never been sustained periods with oil over \$40 a barrel. The last period of activity in this technology dates back to the seventies and nineties, and every time it stopped because the oil price was not high enough.

Anyway, we are working on this and, as far as the committee is concerned, there are a number of issues that we want to bring forward with regard to the ETS and with regard to availability of support from federal and state governments in terms of the activities that we do. I have provided some background information in the handout. I will go through this, but if you gentlemen would look on the last two pages, which are issue pages—

Senator FARRELL—Which document is that? The first one or the second one?

Mr Kint—It is the one I provided today. You have an earlier version of it.

Senator BUSHBY—We have a confidential one.

CHAIR—Before you get to the last two pages in the issues, can you talk us through the CO₂ emissions comparison. You have made quite a few statements about lower CO₂ footprint et cetera. Can you talk us through that a bit more before you get into the issues.

Mr Kint—Very good. Yes, no problems. First of all, explaining what it is: we have a much lower footprint when compared to the alternative coal-to-liquids technology, and our footprint is in the same order of magnitude of the greenhouse gas emissions which go together with conventional oil. The comparisons that we have there are the greenhouse gas emissions in kilograms per gigajoule which accompany a gigajoule of energy coming from fossil petroleum or from a process similar to ours, which we call pyrolysis oil, or a fuel that comes from gasification and Fischer-Tropsch.

The greenhouse gas emissions are shown there. They include the greenhouse gas emissions which accompany the combustion of the actual barrel of fuel and the emissions of the extraction, conversion, preparation and transport of that fuel. We have also listed under the current ETS scheme, assuming a cost of \$25 per tonne, what the cost per barrel would be. In essence, on average, oil fossil petroleum, if everything was produced and refined here in Australia, would have to pay about \$2, \$2.50 per barrel, and we would have to pay about \$4 a barrel. But if you produced heavy crude, heavy oil, it would probably pay ETS costs similar to what it would cost us. On the other hand, if you use the proven technology, the Fischer-Tropsch gasification, the cost would be in the order of \$16 or \$17 a barrel. The main reason for that, as I said, is the amount of energy that is associated with the process. Obviously, the extraction has often minimal but sometimes more energy, depending on the type of oil, the type of reservoir and the type of refining.

In our case there is also a bit of a range, depending on the coal, but the amount of energy is much less because all we are doing is moderately heating our coal. We are not fundamentally breaking down the molecular structure of the coal, which is what the gasification does, and then completely rebuilding hydrocarbon molecules, which is what the Fischer-Tropsch process does. That is basically the background.

CHAIR—Before you move on, how does your process compare? Can you explain through the graph how your process compares to other traditional processes in terms of the carbon footprint? I am trying to follow you there.

Mr Kint—Our process will emit, compared to the conventional, about a quarter of the greenhouses gases associated with preparation of the fuel. Once you get a barrel of fuel, theirs or ours, those emissions are the same. But in terms of the preparation, the emissions that go with it are about a quarter, which is why we would pay \$4 a barrel and they would pay \$16 a barrel.

The first issue we want to raise is that what we are doing is odd, it is different, and we fall outside all the categories. We are not really a refiner; we are not in the fertiliser industry. We are nowhere in the established categories of the current legislation, which poses a bit of an issue for us in terms of figuring out exactly how we will be treated, since it is fairly specific for the categories of industries. The second issue is that, although we are glad to be here, it makes it very difficult for us to be heard because we have very few other parties to team up with. People say, 'Team up with the fertiliser industry or oil or gas,' but their issues are different from ours. We do not have standard coal-burning issues, so we do not know who to team up with in order to be heard.

The next point follows on from a question which Senator Cormann asked previously, but it is very tangible to us. There is an issue, of course, with fairness of imported products which emit overseas as opposed to products which we will generate here in Australia. Say somebody produces crude oil in the Middle East, sends it to the Reliance refinery in India, and then shifts it here: until it comes over here, they have no emissions to pay for, whilst we do. It is not necessarily that our \$4 a barrel may not be affordable: why do we have to pay it when others don't? This again goes back to us being small. We see large, very profitable organisations with a very heavy weight on the economy being provided with favourable treatment in terms of the ETS system, and it is natural for us as a small player to say, 'Well, why them? Why not us?'

Finally, we believe that this novel technology is valuable to the country, but the most important or difficult part is its, shall I say, infantile stage or its nascent stage, and \$4 a barrel may not be too much money but it may still make all the difference as to whether we can break through or not, and maybe there should be considerations in the legislation for novel industries or technologies which are desirable. Those are the main issues with the ETS that we see we will face, as far as Spitfire Oil is concerned and what we do, and I am sure they are issues that some of the other companies that are in the same line of business as us will face.

CHAIR—Before I asked you some questions, you went straight into the ETS issues, and I tried to get you to focus on some of the benefits. Can you explain to us why it is important, from a policy point of view, to consider the issues that you are faced with. For the public record, what are the benefits to Australia, in a tangible fashion, to consider what you are pursuing?

Mr Kint—Even though Australia has oil and especially gas production, Australia is still a hydrocarbon importer, especially for liquid fuels in the future as its own production declines. The import of liquid hydrocarbons will have a major impact on its balance of trade. Australia holds very large lignite deposits both in Victoria and here in Western Australia—

Senator FARRELL—And in South Australia.

Mr Kint—That is correct, yes. There are other projects which are trying to do similar things to us in all these states. If this technology takes off, it will have a major impact on the balance of trade, and we have some of our competitors—they are not even really competitors; they are other companies doing similar things to us. It is not because we succeed and they do not, but they are working with conventional technologies, and almost all of them have no choice but to also work with carbon capture and storage. However, there are parts of the country where there is just no geological capture, nor storage locations, and the area where we are, in the south of Western Australia and the south-east, is one of them. Most of the areas are underlaid by a granite basement and there is just no geology to store any captured carbon. There is no practical carbon storage solution.

If we get this technology to work, it will enable a country like Australia to generate very large amounts of hydrocarbon. To give you an example, just our small deposit, which is but a fraction of the amount of lignite that is available, would contain the equivalent of over 200 million barrels. The current reserves in Western

Australia are one billion barrels; just our one small lignite deposit will increase the hydrocarbon reserves of this state by 20 per cent. If you were to aggregate this and use these technologies in Victoria and South Australia, the amount of available liquid hydrocarbon would be huge, but you have to learn the technology, and then the emissions that go with it become a problem, and that is where we think our technology should be of great importance.

CHAIR—If I can try and sum up—and correct me if I am wrong—what you are saying is that you are working to develop or finetune a technology which is existing technology but which will essentially enable you to beneficially utilise brown coal, to get an energy producing benefit out of it that is more environmentally friendly, to the tune of like a quarter.

Mr Kint—To the existing technology.

CHAIR—Compared to the existing technology. So it is significantly more environmentally friendly, but the Carbon Pollution Reduction Scheme as it is currently designed, and which we are told is there to encourage technological improvement like the one that you describe, does not cater for it and does not assist you in any way to bring that to fruition.

Mr Kint—Compared to the conventional technology, obviously it would help—that is, they would have to pay \$16 a barrel compared to us. But the reality is that we are really not competing against a conventional technology for alternative fuel; we are competing against imported fuels, fossil fuels. That is where we come to some of the issues. Whatever greenhouse gas footprint they would have, if they are imported they will not have to pay anything.

CHAIR—This is, I guess, another perverse effect of the scheme. When you have a scheme that focuses on reducing emissions domestically, in the absence of what happens globally, you are essentially faced with costs that your competitors overseas are not. If your competitors from overseas import their products into Australia, whatever their carbon footprint, to get it to that point of import to Australia is not accounted against them as such.

Mr Kint—That is how we understand the legislation would work at this stage. There are many other parties, much bigger than us, who have mentioned these effects. Yes, it will affect us too, and I do not want to talk on their behalf, but I am quite sure that the other refineries in the country would face the same problem.

CHAIR—But I am just looking at it from a policy principle point of view. If relevant industries in Australia are faced with costs that will inhibit technological innovation because they are facing competition from overseas that does not face the same cost pressures, then surely that is counterproductive in terms of the overall objective pursued by the emissions-trading scheme.

Mr Kint—Yes. Probably it is an unwanted side effect.

CHAIR—Yes.

Mr Kint—As we probably all know, we do not want to contemplate globally on emissions trading, but the reality is that there is this issue of some parties doing it and some parties not doing it. The American's big opposition to the whole scheme for many years was entirely due to the fact that they would be liable to it and other nations not. We are a very small company to be commenting on these international relationships but we are all very well aware of them. Here in our small case it becomes very tangible: we would have to pay \$4 a barrel and imported fuels would not.

CHAIR—Have you given any thought to how, from a policy point of view, the federal government could address that challenge?

Mr Kint—A proper long-term solution, no. In the short term, of course, we can always ask for waivers, but we do realise that in the long term it still does not solve anything.

CHAIR—But, while you are facing competition from more environmentally polluting equivalent products, that potentially would be a sensible transitional arrangement.

Mr Kint—Yes. There are many other activities inside the nation which are less subject to import substitution than what we do, like fuels, especially when the nation would want to generate, for its balance of trade large amounts of fuel inside it. There is an incentive there that would have to be temporarily reversed until the playing field is level, essentially.

CHAIR—Import substitution, as you describe it, is another aspect of carbon leakage that we might have to reflect on as a committee.

Senator FIFIELD—You refer on the final page of your submission to the Commercial Ready grant, which you lost at the time of the May 2008 budget. What stage was the approval for that grant at?

Ms White—I was involved with it at the time. We had submitted this application to the Perth office of Austrade and they had done their due diligence on the project and had it ready to send over for consideration by one of the committees in Canberra, and it was just about ready to go on the day that the May budget was brought down when the program was axed. That is how close it was.

Senator FIFIELD—So you are not aware whether the recommendation was to get the tick or not?

Ms White—No.

Senator FIFIELD—Let me assume that you would have been successful.

Mr Kint—We have no formal evidence, but informally we were very much made aware that it was positive. An independent engineering party had reviewed our application and their recommendation was fairly positive. So, on a rational basis, we would have assumed we had a very high chance of getting this grant.

Senator FIFIELD—It was looking good.

Mr Kint—Yes.

Senator FIFIELD—What difference would that \$4½ million have made to you? Where would you be today, compared to where you are, had that money been forthcoming?

Mr Kint—The current stage where we are at is that we have had to drastically reduce the pace of our expenditures, which means the pace at which we can develop; and, in the uncertainty that currently prevails in the markets in terms of raising funding, we could have gone quite a bit further in our research. We had spent about \$1 million in our first year and we were going to spend all of \$3 million in research and development this year. That money has now been slashed back to less than \$1 million because at this stage we have to use the few funds we have very carefully. Therefore, we have significantly reduced the pace at which we are proceeding in all areas of our commercial project, which in the long term is going to delay us.

If you compare our announcements in terms of schedules at the time when we floated the company, or even a year ago, to what our forecasting schedule is now, they have already stretched and, if our access to funds continues to be unrealised, our project will probably be delayed. We do not, of course, expect all our funding to come from government authorities. It needs to be justified and such. But, especially in this environment, some support from government for this kind of undertaking would also facilitate additional contribution of private funds.

Senator FIFIELD—So you have really had three setbacks: the axing of the Commercial Ready grant; the general economic uncertainty, which makes it harder to raise funds; and the fact that you, as you say, fall out of all defined categories in terms of the ETS.

Mr Kint—Yes. There are a lot of parties, both in the state and in Canberra, that are enthusiastic about what we are doing and seem intent on supporting us, but—if you gentlemen will forgive me—the wheels of government move slowly. One of the reasons we are here is to explain that we fall outside the categories because we are odd. We understand. There probably is a fault that as a company we did not start advertising what we were doing early enough. It is a positive thing: if you gentlemen can help us so that we are understood, and that on a forward basis people try to fill the cracks, then that would be very helpful.

Ms White—You were talking about ‘under ETS’. It is not just under ETS that we fall through the cracks. The funding programs that generally replaced the Commercial Ready grant are the clean coal programs and we fall through the cracks with all of those. Clean coal funding tends to focus on carbon capture and storage.

CHAIR—Which is much less ready technology, for want of a better word, is it not? It is much more long term?

Ms White—That is not really the issue. The issue is that, when they were setting up that funding, they did not conceive of a case where you might be working with coal and processing coal in such a way that you are not releasing greenhouse gas emissions in the first place. Their assumption was that coal is going to be processed, coal is going to produce all these greenhouse gas emissions, and therefore we need carbon capture and storage. We have come along and said, ‘What about if we do it this way?’ and there is not funding for that. Most of it is for the carbon capture and storage. Under climate change, the funding is for much more direct climate change programs. There does not seem to be, that we have been able to find, funding for processes that are going to be producing petroleum based products.

Senator FIFIELD—Mr Kint, you mentioned there seems to be plenty of enthusiasm in Canberra. I guess enthusiasm is a pretty cheap commodity if it does not lead anywhere. Let's assume that we are not government and opposition senators sitting here, that we are actually Treasury officials: what would you say to us if you had your wish and there was something that you could change about the ETS design, the compensation? To assist you, what would that be?

Mr Kint—We would highlight a number of things, the first of which would be the commercial benefit and the consequences of that, for the state, of generating not only additional commercial activity but especially substituting imports, and the impact that that will have on state revenue, government revenue, and balance of trade. That would be a motivation.

The second thing we would highlight is that governments and states have intended policies. Both sides of the aisles consider energy independence important, and if there is an alternative technology to do this, we would think it would be worthwhile subsidising or supporting that to some extent. The final thing we would say is that, in terms of the benefits of an investment, we are more than willing to consider the state as an investor if that is how it wants to see itself, so that this is not just a one-way handout.

CHAIR—The environmental benefit?

Mr Kint—No, I am talking commercial benefits.

CHAIR—Sorry. In your list of points making your case, you did not mention the environmental benefit of it.

Mr Kint—Yes. The environmental benefit is an obvious one again. The state has a number of goals, some commercial and some environmental, and it demonstrates its intent on delivering those goals by investing in them. Investing in us would deliver several of those goals, we believe. The additional point I am willing to make is that we are willing to consider the state not just as donating funds to us on the altar of policy, but if the state wants to consider itself as an investor, whatever form that would take, we would be willing to consider that.

Ms White—As far as the ETS goes, one option to consider might be that, 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.

Senator FIFIELD—Mr Kint, you talk about partnering with government. Have you had any discussions with the Victorian government in relation to the technology? They no doubt have an interest in the long-term use of the coalfields in Victoria.

Mr Kint—Yes, we have been in touch. We have been in touch Peter Redlich. He is in charge of Victoria's technology development in terms of coal and energy. We were in contact with him last week. We were discussing whether we would go to visit him there or whether he would come and visit us here. He is planning some visits over here and we are planning, in the next two weeks, to talk to him about the potential to work together and collaborate and see if there is synergy between states in this area.

Senator FIFIELD—Hopefully it is an indication of a degree of enthusiasm that he is going to come over here. Good luck with that. I hope that talking to some of the state governments will be a fruitful avenue as well, because they should have a keen interest in this sort of technology.

Senator BUSHBY—It is an exciting sounding proposition that you have here and I am looking forward to it being developed further. I presume it is not a unique idea and there are other companies around the world that are trying to develop a similar process.

Mr Kint—Very few. To give it some historical context, the last major application or attempt at developing this technology was in the US where 50 per cent funding from the Department of Energy funded a pilot plant that created 1,000 tonnes of coal a day for five years, but the pilot was terminated in late 1997 or early 1998 when the oil price sagged to the low teens. Commercially, we know of only one other company which is an operator. There is another company in the US that is trying to sell just technology, but there is a company called Ambre Energy that holds coal deposits in Queensland. They have more projects than us, but one of the projects they are pursuing is also a pyrolysis based project. I am aware of them and we are in contact with them occasionally.

Senator BUSHBY—But in terms of what you are doing and how you are approaching this you have intellectual property that is different and unique.

Mr Kint—Yes. It is our intent to develop IP that is different. As I said, the fundamental know-how of this has been known for a long time. People often put everything in the category of IP as being a brand-new invention. The problem with that is that know-how in a generic sense is much more important than IP. What do I mean? Say, for example, it is 1904 and we know in terms of IP how a combustion engine works, but there is nowhere you can turn to to buy a carburettor and a gearbox. You have to make these things work.

To give you an example, we were in touch with a German company called Lurgi, which is a large company that does coal and coal processing. There are books on coal to liquids and they say, 'Lurgi used to have commercial plants doing pyrolysis in the sixties.' You call that company and ask them and they laconically tell you: 'All that know-how has retired. We now have a new pyrolysis R&D program.' We can find the patents that were filed in the fifties, sixties and seventies; we just cannot find anyone that still knows how to build it.

Senator BUSHBY—I saw a movie recently that helps me understand that. It was called *Flash of Genius* and was about some bloke defending his patent. He used the opening line from Charles Dickens, 'It was the best of times, it was the worst of times.' Each of those are common words that are available to anybody, but it was the way Dickens put the words together that was important. The know-how is out there but it is how you use that know-how to put your process in place that is important.

Mr Kint—We think we will be able to build a commercial plant from bits and pieces, shall we say, that are available commercially today.

CHAIR—But you are standing here on this nice photo, next to a pyrolysis machine.

Senator BUSHBY—Like a proud father.

CHAIR—That is it! So talk us through what you are currently doing to get on top of the issues that Senator Bushby raised.

Mr Kint—I rushed through all this background very quickly because my opening statement was supposed to last five minutes. We have a first reactor that is currently operating at Curtin and it has a rotary kiln. It looks fairly simple in the picture, but you have a hopper on one side in which you put the coal and it gradually feeds the coal into a horizontal cylinder which is heated and turns. The hydrocarbon gases come off a horizontal cylinder and go through vertical cylinders where they are cooled off, and you get oil in a bottle. We have been generating quantities of this oil in the last few months, and we are now working on analysing this oil and seeing how we can upgrade it.

The performance of this pyrolysis is very dependent on how quickly the material moves and how agitated it is. We are on the verge of starting a second reactor, which is called a fluidised bed reactor, which is a different process. Even though the literature gives us guidance from previous projects on how this generally should work, what we do know from the professor that works with us is that the actual chemistry of the coal can vary, and we have to do a number of tests to find out what the best circumstances are to direct us towards which technology we have to buy. You can buy those reactors. The reactor in the material I have provided the committee was built in Bunbury, in the south of WA, by a company that makes reactors like this that are used for different purposes but do the same thing. They take product and heat it up and tumble it around for a while and spit it out at the other end.

CHAIR—So you are working now on the IP to make this happen in a productive sort of sense?

Mr Kint—Yes, and eventually the IP will be more method IP than—

Senator BUSHBY—Yes. Putting together the pieces that other people know. Putting it together in the right way.

Mr Kint—That is right.

Senator BUSHBY—You say that what you are looking for under your 'Funding issues' heading is funding for proof of concept. Is that to say that your concept is not yet proved? Are you 100 per cent confident that, if you had the funding, you would be able to deliver?

Mr Kint—The physics of this is proven. There is no doubt that oil is going to come off it. The proof of concept is: can you make this method work smoothly and economically? We are very much convinced that we can, but we are in no condition to convince much more sceptical investors.

Senator BUSHBY—So you have got the investors. You have also got the potential impost of a cost from the ETS, which the competitors as to your end product do not necessarily have. On that, is there any risk, with an ETS coming in that does not take into account your particular circumstances, that as you develop your

concept further and start proving it you may find the only economical option you have is to go offshore to further develop and refine coal before you send it off to its relevant markets?

Mr Kint—Married as we are to a particular lignite deposit, we can hardly take it with us. Abstractly, you could imagine a scenario where this technology could be taken elsewhere. We have been contacted by parties from eastern Europe that have heard about us and have funding accessible from the European Bank for Reconstruction and Development. We were recently contacted about whether they would fund a pilot plant for us but then, of course, own the IP. This has not gone anywhere yet. But, yes, there are scenarios possible where, if we cannot raise the funds here, we have other foreign parties that—

Senator BUSHBY—There is certainly a history of Australian inventiveness that ends up being developed offshore, largely because of the government approach to the opportunities at the time. That would be a shame. I am not suggesting you do that.

Mr Kint—No. We are not trying to.

Senator BUSHBY—I am just trying to work out whether the obstacles that are in your path are large enough to create that risk.

Mr Kint—For us as a company, as this is our entire reason for being, we are very motivated to do whatever is necessary to make this work.

Senator BUSHBY—There are obviously comparative advantages as to Australia because we do have such large lignite deposits.

Mr Kint—Yes.

CHAIR—Can we sum up Senator Bushby's point. Essentially, those inadvertent negative consequences for the viability of your project could mean that (1) we would lose the benefit of an environmentally more friendly way of dealing with coal and (2) we would lose the opportunity to develop that technology in Australia. We could lose that overseas.

Mr Kint—We could, yes.

CHAIR—If we wanted to pursue a scheme that was beneficial in terms of reducing global emissions, that was economically responsible, that helped with our energy security and that would try and generate technological development and innovation, then we ought to look at whatever design changes are necessary to help make that happen. You would agree with that statement?

Mr Kint—Yes, we would agree with that statement.

Senator BUSHBY—The by-product, the char that is left, is interesting.

Mr Kint—Yes. There is one thing I want to make you gentlemen aware of. You are aware that recently statements were made on biochar and the process in generating that. The process to generate biochar is identical to this. The two professors that work with us have been active in the bio-oil and biochar areas. They just take trees that were cut last month and we take trees that fell over seven million years ago.

Senator BUSHBY—Is the char product at the end from the biochar project and the char from coal similar?

Mr Kint—Not identical, but similar, yes.

Senator BUSHBY—They can be used for the same purposes?

Mr Kint—Yes, and we were talking about using them for fertiliser. It is just about the quantities. The quantities with the biochar project tend to be moderate and the quantities we are talking about, the ones at the commercial scale, become very large.

Senator BUSHBY—The char is primarily composed of carbon.

Mr Kint—Yes, which you could return.

Senator BUSHBY—If you took brown coal and burnt it, presumably the carbon that we are talking about here being left as char, which you could put into the soil, would actually be released into the atmosphere?

Mr Kint—That depends. For the char that is left, various options are possible. You can decide not to use it. But commercially it is very much like coke—coke for metallurgical purposes.

Senator BUSHBY—If you did take it and put it into the soil because you chose that as the carbon storage—

Mr Kint—Then you would return it back to the ground.

Senator BUSHBY—Then the amount of carbon coming out per tonne of coal that you process in your way, compared with that from coal that might be used to generate power directly, would be a lot less because you would be actually taking a whole heap of it out and storing it.

Mr Kint—Yes. It is very hard to compare what we do to, say, burning a tonne of coal, because you have to compare on an energy basis. We have tried, but it is apples and pears and we cannot make a very rational comparison. We can say ‘kilograms of CO₂ per tonne of coal’, but it means nothing until you compare. But, yes, it is true that, depending on what you do with the remainder of the carbon product, if you return it to the ground then that is carbon that will not go into the atmosphere.

Our technology does have a renewable dimension which we hope to exploit, in the sense that we could add biomass to the coal and process it in exactly the same way, and we are talking to groups at Curtin about doing that. One of the big thresholds of renewable energy projects of that kind is that it is very hard, with biomass, to reach a commercial threshold. We are talking eventually, in our case, of doing 1,800 tonnes per hour. A biomass project that did 200 tonnes per day would be huge, but if they did 200 tonnes per day and had to sustain the technology we talk about they could not reach a commercial threshold. If we take that 200 tonnes a day and blend it with our coal, we enable that biomass project. This is still something we are working on, but this technology has additional potential.

It is never going to be 100 per cent renewable, but if the government has a stated intent of achieving 10 to 20 per cent renewables, it is possible to envisage that in the long term this technology could have the 20 per cent renewable component in its process without changing it fundamentally.

CHAIR—On that point, in your statement you say your char and biochar is fundamentally the same, except that one is from today’s or yesterday’s trees and the other is from trees a couple of thousand years old. When a biochar type strategy was proposed as a complementary strategy to reduce emissions, the response from the government was, ‘Well, it’s not recognised as part of the Kyoto protocol accounting,’ which is possibly the reason why you fall between all of the cracks. Have you had a look at how the Kyoto protocol accounting impacts on a project like yours? You might want to take this on notice. The point I am getting to is: there might well be a case for Australia seeking internationally a change in the way some of these newer technologies are recognised internationally in the pursuit of our common objective of reducing emissions. I am just wondering whether you have ever looked at where you fit under Kyoto.

Mr Kint—I will be honest: no, we have not. We have used extensive data for calculating our greenhouse gas emissions from the international protocol on climate change. They have formulas and methods and so we have used their methods. Beyond that, no, we have not gone into the details. We have looked at more domestic issues like the ETS.

CHAIR—But sometimes you have to try and put your finger on what is causing you to fall between the cracks and you have to sometimes work all the way back.

Mr Kint—We have read in the newspapers that that was the government’s response, so we understand—

CHAIR—Yes. You have mentioned that you are a relatively small company, and I understand, but if it is not too hard could you reflect on and have a look at where biochar technology and your char technology fit within the Kyoto parameters. Sometimes bureaucratic models, including at an international level—and sometimes, perhaps, particularly at an international level—can become quite exclusive. We also have to remind ourselves of the overarching objective. If the overarching objective is reducing global emissions, then we have to look at everything, including what you do, and, I would argue, including a range of other things like nuclear energy. But let us leave that aside. I would be interested in your feedback after your having given that a bit of consideration.

Mr Kint—We can give it some consideration.

CHAIR—Thank you very much, and thank you so much for your contribution to the committee.

Proceedings suspended from 12.30 pm to 1.19 pm

BRADLEY, Mr Leon, Chairman, Western Graingrowers Committee, and Climate Change Spokesman, Pastoralists and Graziers Association of Western Australia (Inc.)

MUMBY, Mr Sheldon, Policy Director, Pastoralists and Graziers Association of Western Australia (Inc.)

CHAIR—Welcome. I invite you to make a brief opening statement and then the committee will ask some questions.

Mr Bradley—Thanks very much, Mr Chairman. I have had brief summaries of some of the other depositions that farmer groups have made. We are not here to ask for permits or carbon credits and that sort of thing because we believe that this emissions trading scheme or Carbon Pollution Reduction Scheme is so flawed that to gradually wind down on the production and use of energy related activities would only be buying time. We prefer to look at it in a more general way in an attempt to alert the parliament that there could be a far more wrenching ‘transformation’ involved in this energy reduction scheme than has been fully comprehended.

In fact, on a broad level, we believe this energy reduction scheme is actually a food reduction scheme, because food production around the world is now directly integrated into the industrial process. You may not be aware, but the achievements of agriculture around the world in the last 50 years have been absolutely phenomenal, from 1960 or so where the population went from approximately from three or four billion people to 6½ billion people. Even with this level of increase of population, agriculture now produces 26 per cent more food per capita than it did in 1960. This remarkable achievement has been enabled to happen through the integration of agriculture around the world with industrial processes and, of course, better seeds and so on, and the advance of science.

It is easy to take for granted these achievements but, if we go back to the sixties, we can remember where famine was a reality in India. In fact, some of the gloomier environmentalists said there was no alternative but to let hundreds of millions of Indians die. They also forecast famine in America. None of these things have eventuated because we have been able to greatly expand the production of food even more quickly than the population has grown.

For the purpose of this exercise and to keep it simple, I have stuck to one particular issue, and that is mineral fertilisers. Currently, the world produces 80 million tonnes of nitrogenous fertilisers. The world population is expected to increase by another three billion by 2040, which would imply that the production of nitrogenous fertilisers needs to greatly expand. Norman Borlaug, who is the person credited with this revolution in food production, believes that 80 million tonnes of nitrogenous fertiliser, which is applied to cereal crops around the world, produces enough food to feed two billion people.

One of the questions that the committee might need to confront is: with the expanded food population and a ratcheting down of energy supplies, where is the mineral fertiliser going to come from to feed the expanded population? That is the nub of our submission today. Because the consequences are so great, we call upon the committee to conduct an independent investigation into the state of the science behind this thrust to restrict the use of energy, particularly from coal-fired power stations.

You would have heard plenty of evidence from farming groups already that, even though we are not part of the initial phase of the proposed Carbon Pollution Reduction Scheme, as it is now called, it is the input costs that will cripple us anyway. Farming is a game of very fine margins. In grain farming, which is my specialty, if you wanted a rule of thumb, half the grain farming businesses in Australia at any one time will not be making a business profit. If you start increasing the costs of those half that are sometimes in the money and sometimes not, you will turn a lot of them to never being in the money and increase the number of people who are vulnerable to losing money on a year in, year out basis. The implications for agriculture, I believe, are quite dire in this initiative.

The plan is that Australia sets the example, as I understand it, and then the rest of the world follows. For the very reasons that I have outlined, countries like India and China and Russia, and other countries, all know in living memory what famine means. I do not believe that they will involve themselves in the emissions-trading scheme at any level, other than lip service to it while they reap what advantages they can get from it, because they know what it means for their expanding populations. But I am just stressing the logical conclusions if you pursue this policy to the final end. It is a bit of a rush, but that is our argument in a nutshell.

CHAIR—Any additional comments from Mr Mumby?

Mr Mumby—Yes, basically to reiterate what Mr Bradley has stated. The issue facing agriculture with the implementation of such a scheme is imposing extremely high input costs on farming operations. That comes in the form of fuel for tractors and for trucks, an increase in fertiliser costs and the increased cost of chemicals—even right down to the cost of seed—because a lot of these things have to be imported. So we are going to see an increase, obviously, with fuel costs and all this. That is going to happen. So that remains a major concern to us as a farming group.

We also have a concern over the fact that there are proposed offset credits that may come into play in 2012 which agriculture is excluded from, but other entities which are involved in agricultural operations seem to be allowed to obtain the benefits of such credits if the scheme comes in. In particular, we have noticed an issue with pastoral properties that are owned by Indigenous land corporations. Under a proposed tax offset credit scheme, they will be covered for the same activities that a non-Indigenous group conducting the exact same operation are not covered for. There seems to be an inconsistency there and, to us, those inconsistencies are prevalent throughout the entire scheme.

CHAIR—Thank you very much for those opening remarks. You talk about the increase in input costs. Mr Bradley, you focused on fertilisers, and Mr Mumby, you mentioned a number of other input costs. Have you as the PGA ever quantified what that would mean to individual farmers? If you have not, are you aware of studies that have quantified the impact?

Mr Bradley—We have not attempted to quantify what the increase would be, because I do not believe it is possible. You are looking into the future. You are making assumptions which might be wrong by a long way. You plug them all into a model that is supposed to simulate the economy and—presto!—you have got a result, but I would say the result is meaningless. All we can say is that if you increase the costs you are going to undermine the profitability of farming.

CHAIR—I understand that principle. Any modelling has got a certain element of uncertainty about it, but it helps you to draw a line in the sand and you can then assess after the event whether you were right, why you were right, why you were wrong, and try to continually refine your underlying assumptions. Agriculture is not included in the CPRS until 2015. There is a school of thought that says, ‘Agriculture is fine because it is not included.’ You are putting a different view. I am trying to tease that out a little bit, as to why that it is. I understand the arguments of input costs. A general statement of, ‘There will be additional costs,’ is probably not going to be compelling enough for us to successfully make a case. So I am trying to find out whether there is anything more tangible that you might be able to provide us with, (1) in terms of specifics, but (2) to explain why agriculture is still impacted even though it is not included until 2015.

Mr Bradley—With respect, Mr Chairman—and I appreciate the opportunity—it is not rocket science. Farming is a game of fine margins and any increase of costs is going to disadvantage farming and agriculture. If you want to develop scenarios about certain levels of cost increases and the impact it will have, that is fine, but I do not think it proves anything.

CHAIR—I am trying to tease out the argument.

Mr Bradley—We would just like you to be aware that that is our argument. You could spend a lot of money developing this sort of modelling. I know they have done it in New Zealand and I think, broadly speaking, across their livestock enterprises it was equivalent to reducing their revenues by up to 30 per cent of their gross. That is what you would expect here. I would not be game to put a figure on it, and I do not think you legitimately can.

CHAIR—You have mentioned a series of input costs like fuel, fertiliser, energy. Can you perhaps put it into perspective for us as to how important those input costs are in assessing farm profitability.

Mr Bradley—In grain farming, fertiliser is easily your biggest expense. Your next biggest expense is chemicals, and that might be more than 60 to 70 per cent of your cost, depending on the farm. Then there comes fuel, equipment, financing. All of these are products that involve energy related activity that must necessarily result in an increase in costs or a reduction in the supply of those inputs.

Senator FIFIELD—Through you, Chair: what might be useful for the committee are some indicative types of operations with rough percentages as to the inputs.

Mr Bradley—So you would like a breakdown?

Senator FIFIELD—Yes.

Mr Bradley—That is easily done.

Senator FIFIELD—Something like that would be helpful in our report to give a guide, give more of a sense of how finely balanced changes in those input costs are in terms of profitability.

Mr Bradley—We can do that very easily. In WA we have groups of farmers, and banks service farmers, and they survey their customers' budgets. All those types of budgeting items are broken down so that we can draw comparisons for performance and benchmarking.

CHAIR—When you say 'finely balanced', 'fine margins' and 'small margins', what sorts of margins are we talking about? I know that you have good years, bad years, but on average, when you talk about small margins, what do you mean?

Mr Bradley—It depends on the period of time you look at. But, say, in the farm advisory group that I belong to—which is a couple of combined surveys; you do five-year rolling averages—through the 2000s until a couple of years ago, from memory, something like \$50 a hectare was the operating surplus.

CHAIR—What does that mean in percentages, in terms of return on asset?

Mr Bradley—At those levels—because they were very tight years—the return on assets were minimal, unless you were able to rise above the average level of performance and be in the top band, in which case your operating surplus might be in the vicinity of \$150. But the fertiliser prices last year doubled, for example, and they might have gone from \$100 to \$200 a hectare. But, fortunately, grain prices also went up.

CHAIR—Can you describe for us the impact on the farming sector of the global economic downturn.

Mr Bradley—As yet, in grain farming, we have been a bit fortunate to dodge a bullet, because the parliament saw fit to change the wheat marketing arrangements.

CHAIR—That was a good decision.

Mr Bradley—It certainly was. If you look at the AWB share price today, you can imagine the trouble the wheat industry might be in. The biggest influence on profitability at the moment has been currency. The dollar has declined from over 90c to 65c or something today. That has had a big influence on cattle production and the profitability of cattle operations. As far as I know, there has not been as yet any severe restriction of credit arrangements for farming, but we are only at the start of the review season in WA. So I do not know whether banks are reconsidering their exposure to farming, but I doubt that. We have been a bit fortunate at the moment to dodge the immediate impacts of the financial crisis.

CHAIR—In the worst-case scenario, from your point of view, listening to your evidence, if the Carbon Pollution Reduction Scheme, as it is proposed by the government, goes ahead, what sorts of mitigation strategies would farmers be able to deploy to offset some of those increased input costs? Do you have any mitigation strategies that you would be able to deploy?

Mr Bradley—The whole problem with this reduction scheme is the measurement. How do you measure something as ephemeral as an invisible gas that exists in trace quantities and separate that from the background levels of carbon dioxide? But as far as carbon capture in the soil, we have been soil testing in Western Australia for years and it takes a long time to improve the level of carbon retained in the soil, even tiny amounts.

To increase that level, which could be done, would require a very high level of fertiliser inputs. I do have some information with me. I think for every extra tonne of carbon you wish to be converted into the humus in the soil and locked up it will cost about \$200 a hectare. You would need a very high price for carbon to justify it. I think farmers advocating that course are chasing rainbows, which is why we do not think it is worth pursuing.

CHAIR—The only possible mitigation strategy that is out there is chasing rainbows, essentially? There is nothing else available to farmers?

Mr Bradley—I am sure you can devise schemes that make it look like things are happening, but facts and reality say it is not going to happen.

CHAIR—I know how much you like modelling, but in the Treasury modelling, *Australia's low pollution future*, there is a scenario that sees around 40 million hectares of new forestry plantations established over the next few decades. It does not tell us how that would be divided across Australia, but if a significant amount of farmland moves to trees, what would that mean from an overall public policy point of view?

Mr Bradley—Obviously it goes to my first point: it reduces the supply of food. It is going to produce wood for some purpose or other that would not be there otherwise and, if you accept the market signals we are

getting at the moment, it is not what the consumers want, and all to allegedly tie up what is called ‘pollution’ in trees. The trees die or they burn and it goes right back to where it came from. As a practical person, it just does not make any sense to me. Taking valuable agricultural land out of production for a worthless cause is just bizarre.

Mr Mumby—To expand on that, if we take a look at what has happened in the southern regions in the state of Western Australia, we have seen productive farms being converted into blue gums, and the plantations there have had an adverse effect on the water supply. It has caused areas that were great pasture lands or cropping lands to be used for a purpose that is putting increased pressure on current available land, so you are seeing valuable farmland being taken away. We have seen evidence of this with the blue gum plantations, and that all had to do with the tax minimisation scheme. What we are looking at here is the creation of carbon sinks through an aspect of non-agrarian uses on very valuable farmland.

CHAIR—How important is WA in terms of—dare I say it—feeding the world? What sort of contribution do we make at present? Are we a net exporter?

Mr Bradley—Grain is my specialty, but of course we are big exporters of livestock—stock in the live form—particularly from the Kimberley and pastoral regions. More than 90 per cent of our grain—barley, lupins, wheat and canola—is exported. Total wheat production, for example, has been about 600 million tonnes a year, but last year it went up to 650 million or 670 million tonnes. Western Australia is producing about seven million tonnes of wheat on average but we have the capacity to produce a lot more.

CHAIR—And, of course, that is in the context of growing world demand, with the growing population et cetera, so we would be able to play an important part in meeting that.

Mr Bradley—Yes, absolutely indispensable. Look at what happened in the United States last year when they took 25 million tonnes of corn off the food market and put it through ethanol plants. A little hiccup in the season, in the fields in various countries, resulted in the price of grain doubling. It absolutely exploded. But fortunately we produced a bumper wheat crop to make up for the corn being consumed in ethanol plants.

CHAIR—We have talked about farming land going to forest. What is your view on biofuels and substituting land that is being used for food production to biofuels?

Mr Bradley—We have got nothing against biofuels per se but we do not think it is a wise policy to mandate or substitute biofuels. The obvious consequence is that it takes land out of production for food and, in the case of ethanol, converts it into a fuel where there might be marginally less energy used in its production than it releases, but there is a big question mark over that, and turns it into a fuel that spends all its life trying to attract water so it can ruin your engine. It just seems insane.

CHAIR—How does the Carbon Pollution Reduction Scheme influence the dynamic between food production—farm activity—and biofuel production?

Mr Bradley—If I understood your question correctly: using biofuels to reduce the amount of carbon used in fuel production is a sum that Cornell University have done a very extensive study on, and it is a net losing proposition, so it does not ameliorate the desire to reduce the output of, particularly, coal-fired power stations. In fact, I think you will find that every state in America that has a large biofuel industry has had to increase its number of coal-driven plants to drive the ethanol plants.

CHAIR—I would like to rephrase my question. Do you think the CPRS, as one of its consequences, would see a dash for biofuels instead of replacing food production?

Mr Bradley—I suppose it would, yes.

CHAIR—To put the context of that question, we have had previous evidence saying that the CPRS can, certainly in Western Australia, impact our energy security moving forward. I am trying to understand. What I hear you say is that the CPRS could actually impact our food security moving forward, not just in Western Australia but on a global basis. Is that your argument?

Mr Bradley—My argument is that the idea of all these cap and trade schemes is to destroy perfectly profitable ways of producing cheap, abundant fuel. These alternatives look more profitable than they really are. If you want to, you can chop your furniture up and burn it in the stove, but you have not got a miraculous new source of heat, and that is what all of these alternative fuels are—an illusion. Biofuels fit into the same category, to the extent that they are subsidised or mandated. It is just a diversion of resources, which are always limited, away from producing, in this case, food that was desired by the market. Currently, without subsidies, people would rather grow food than biofuels; but, with the subsidies, in America they grow biofuel.

I do not think Australia should adopt those policies because they would drive up food prices in Australia, even if we did that without any complementary action overseas.

Mr Mumby—One of the concerns with the introduction of any scheme like this, where you are excluding a segment of society that is actually producing something—and what we are talking about here is agriculture and then specifically food production—when you are offering incentives for other operations to occur on that same land through giving offset credits or carbon credits or whatever it is for planting crops for biofuels, planting trees, planting oil mallees, which have taken away that primary use of that land, which is food production, is that there are going to be some farmers who are going to take a look at that and go, ‘Listen, my margins are extremely tight. I’ve got very high input costs here. I’m running a business. It is more profitable for me to grow biofuels, to do a plantation or plant oil mallees.’ By doing that, that land will be taken out of food production. That is the overall problem with these types of schemes. You are basically offering a subsidy to farmers to not grow food. In the current economic conditions, people will take a look at that and go, ‘Jeez! Maybe it’s not worth while for me to grow wheat this year or to raise sheep or cattle or anything like that. I can get more money out of the land by planting some trees.’

Senator BUSHBY—Presumably if enough farmers do that then, as you said, Mr Bradley, the price of food in Australia will go up in those circumstances, which would then justify those farmers spending more on agricultural machinery and carbon based fertilisers to improve their productive capacity, because they get a better return because the price has gone up, which then counteracts the overall aim of the scheme, which is to actually lower the use of carbon based products.

Mr Bradley—That is correct.

Senator BUSHBY—So it could be self-defeating. Is that reasonable?

Mr Mumby—More than reasonable.

Mr Bradley—If I might add something to Senator Bushby’s comment: we do have a carbon based fertiliser for plants. It is called CO₂.

Senator BUSHBY—Yes.

CHAIR—That is right. Mr Mumby, you mentioned Indigenous landowners versus non-Indigenous landowners and how they are treated under the proposed scheme. Can you expand on that. Has this been finalised as far as the government is concerned, as far as you are aware, or is this something that is still unclear?

Mr Mumby—This is something that seems to be unclear from both the government side and from our side. The issue that we are talking about is policy position 6.28, which considers the scope for domestic offsets. Stated in here is:

The Scheme will not include domestic offsets from agriculture emissions in the period prior to coverage of these emissions.

However, the government will facilitate the participation of Indigenous land managers in carbon markets and will further investigate the potential for offsets from reductions in emissions from savanna burning and will consult with Indigenous Australians on forestry opportunities under the scheme. The government is saying that they are willing to consult with the Indigenous groups on this, but they are not going to consult with the non-Indigenous groups.

CHAIR—Essentially, by the government singling out Indigenous groups, you feel that all non-Indigenous stakeholders are excluded?

Mr Mumby—Very much so. Our issue is that it does not matter whether a farmer or a pastoralist is Indigenous or not. The issue is that they are running an operation. So why do we have this distinction? We are also a little concerned over the fact of savanna burning, which seems to be permitted. If the government is going to look at facilitating that with Indigenous land groups, that raises a big question as well over the validity of talking about savanna burning, which is the subject that, under the Kyoto protocol, no-one could come to agreement on.

CHAIR—In your opening remarks you called on the committee to pursue an independent scientific analysis of the question of global warming. Do you think that the IPCC process is flawed? If so, why do you think it is?

Mr Bradley—It is known that the IPCC's process is flawed. The best example is the Mann, Bradley and Hughes hockey stick, which most of IPCC's assertions are based on. It is said to be the most discredited scientific document in history. Are you aware of the background of the hockey stick?

CHAIR—No. Share it with us.

Mr Bradley—You will find in the 2004 summary for policymakers—or 2002—the IPCC made a lot of this work by Professor Michael Mann, which essentially was a graph that eliminated the medieval warm period. It was called the hockey stick because it ran along in a straight line and then kicked up at the end, conveniently in the 2000s. A chap called McKittrick, who is also a professor of statistics and geology and a few other things, had done a lot of work on fraudulent analysis presented by mining companies. He had a look at it and it rang a few bells for him, so he asked for the authors of the report to forward him the data upon which they based their claims about the hockey stick, which they refused to do. So he reverse engineered it, worked it out for himself, plugged random numbers into it to see what sort of a chart it would produce, and it produced a hockey stick. You can follow all this in the proceedings of the American parliament, because they had an investigation into it, and one of the US's leading statistics people condemned it as being hopelessly flawed, if not fraudulent.

CHAIR—Are you suggesting that the scientific evidence has been criticised or distorted for political purposes?

Mr Bradley—I am. Broadly, there is no empirical evidence for global warming. It is all based on the product of global climate models. In fact, for the last 10 years, contrary to all predictions by the IPCC—and I do have the charts here. Have you seen any of those? Are you aware of them?

CHAIR—Can you table them for us?

Mr Bradley—Yes, I can. That is the temperature chart for the last 10 years. There is no global warming. There is no crisis. It has actually dropped significantly. Reading from it here, the IPCC predicted a warming of about 3.9 degrees, from 2.4 to 5.3 degrees per century.

In the last 10 years, it is equivalent to a six per cent decline per century—not that anyone is saying that that trend will remain. It is also interesting that at the same time—this chart shows the green line there which is carbon dioxide—as the temperature falls, carbon dioxide continues to rise. Any layman should be able to see that causation and correlation are not strong. Surely that should prompt people who are genuinely interested in the subject to ask, 'Why?' We are only laymen but it raises our interest.

Another projection by the IPCC which is completely wrong is their band for the growth in carbon dioxide in the atmosphere. It is much less than they forecast, and yet we are all supposed to change the way we live on the basis of these forecasts. That is why I believe the science should be challenged. There are mountains of evidence out there that anyone can see. I can see it. I am only a layman, a humble dirt scratcher, but I do know that when the rooster crows in the morning, the sun comes up, but he does not make it come up, even though it happens every morning. There is more credibility for the theory that the rooster makes the sun come up than there is for global warming, because there is not even a correlation.

Senator BUSHBY—It is an interesting analogy. You had the graph there showing the carbon dioxide levels going up and the temperature coming down.

Mr Bradley—Yes.

Senator BUSHBY—I have seen graphs that the Australian Antarctic Division has done over many thousands of years, using ice-core samples, which is a very accurate way of comparing temperatures, and they show that there is a very strong correlation between carbon dioxide levels and temperature. The question is—

Mr Bradley—When?

Senator BUSHBY—which is first? Is it the carbon dioxide leading the temperature or the temperature leading the carbon dioxide? They cannot answer that question. All they can say is, 'On the basis of the ice-core samples, over millennia, there is a relationship,' but what it is and whether it is the rooster causing the sun to come up or the sun coming up causing the rooster to crow is the question, and they cannot answer that.

Mr Bradley—Dr Martin Herzog—his paper is deep in that file there—goes back to the Depression when industrial power production in the US dropped by a half and yet carbon dioxide continued to rise at the same rate as it always had. Once again, we have a failed correlation.

CHAIR—Thank you, Mr Bradley. Is there anything that the committee has not asked you about that you would like to share with us? Is there anything that you feel strongly about that we have not touched on?

Mr Bradley—I do feel very strongly about carbon being called a pollutant. It is just offensive. Every breath we take, we breathe out carbon dioxide; plants breathe it in. There would be no plant life without it. When you say that carbon dioxide is a pollutant, what you are really saying is that every human life is a liability, a liability to the environment, and where is that going to lead us? That is a moral type of tone, but it is a natural implication, isn't it? In fact, some environmentalists do say that we cannot solve this problem without severely reducing the human population. That, I think, is a cause for worry.

Senator BUSHBY—Earlier on we were talking about the cost impact of the indirect costs from an ETS on farming operations. I think that the government's argument generally is, 'Yes, we'll impose a carbon price on those businesses that are emitting carbon pollution,' as it is referred to, 'but then that will be passed on through the chain of the business, through to the end consumer who will pay for it, and those who cannot afford it we will compensate.' So you have a nice round circle and everybody is happy and overall we reduce carbon. But the flaw in that—and I think it probably applies to farmers, but I am interested in your view—is the ability of people in the rural sector to pass on the additional costs from carbon to their consumers. Would you like to comment on your ability to pass it on to your customers?

Mr Bradley—I do not think there is any question that if you impose this scheme you will lower living standards for every Australian, so where will the income come from to pay the higher prices? If that is the government's thinking, it is just completely irrational.

Senator BUSHBY—The argument is that they will raise quite a few billion dollars out of the actual ETS itself which, if the carbon price is maintained at a sufficiently high level, will cover their planned compensation for people with a lower income—I think of about \$55,000 and under. Those above that theoretically can afford to pay the increased price. But what I am interested in more specifically is the ability of people in the rural sector to pass on the higher indirect costs as a result of the production. Are you able to pass on costs? Are you a price taker? Can you make the price?

Mr Bradley—Obviously, we are price takers, but I think most producers are price takers.

Senator BUSHBY—Most rural producers.

Mr Bradley—Yes. Most producers of everything are price takers at the end of the day, because consumption is voluntary. People have always got the option of not buying something.

Mr Mumby—If I may interject, if you were to take the example of meat—going from the animal in the paddock to the price of the T-bone steak at Coles—the farmer in the paddock is only a small operator in that. He is supplying an animal. He has got his transport costs to get it to the saleyard; he is dependent on what the saleyard price is going to be for it. That is going to come down to the number of animals available and the demand on the other end.

Senator BUSHBY—It varies from day to day.

Mr Mumby—It varies from day to day. And it is going to come from what the abattoir is going to pay for it. The abattoir is going to have a huge cost, so it will be trying to offset its costs, and that is going to result in an increase down the line, to the clerk at Coles who is stacking it to put it on the shelf. But the farmer is not going to see that increase in price. His price is dictated by the wholesale price at that particular time that the buyer is going to pay for it. If you take a look at grain, you are dependent on what the grain traders are going to pay for it, what the buyers are going to pay for it. You are not able to pass on your cost to the buyer and say, 'Listen, I've improved 17.5 per cent in my input costs over the past year, so I'm going to raise my price by 17.6 per cent to cover it.' You cannot do that in farming.

Mr Bradley—As far as farming goes, I have got a quote in here from the USDA from work they did for the EPA to bring agriculture into their carbon pollution scheme. They say:

For instance, technology does not currently exist to prevent the methane produced by enteric fermentation associated with the digestive processes in cows and the cultivation of rice crops; the nitrous oxide produced from the tillage of soils used to grow crops; and the carbon dioxide produced by soil and animal agricultural respiratory processes. The only means of controlling such emissions would be through limiting production, which would result in decreased food supply and radical changes in human diets.

I think Professor Garnaut told you what we will be eating. We will probably be hunting it with spears as well, if they get their way.

Senator BUSHBY—Peter has a view as well, I think.

CHAIR—Thank you very much for your contribution to the committee today. Thank you to everybody who has contributed to the committee today.

Mr Bradley—Thank you for your interest.

CHAIR—The committee stands adjourned. We will reconvene in Sydney tomorrow morning.

Committee adjourned at 2.09 pm