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SELECT COMMITTEE ON CLIMATE POLICY

Reference: Emissions trading and reducing carbon pollution

TUESDAY, 21 APRIL 2009

SYDNEY

BY AUTHORITY OF THE SENATE

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SENATE SELECT COMMITTEE ON CLIMATE POLICY

Members: Senator Colbeck (*Chair*), Senator Milne (*Deputy Chair*), Senators Boswell, Cameron, Cash, Feeney, Furner, Ian Macdonald, Pratt and Xenophon

Senators in attendance: Senators Abetz, Boswell, Cameron, Cash, Colbeck, Feeney, Furner, Ian Macdonald, Milne, Pratt and Xenophon

Participating members: Senators Abetz, Adams, Back, Barnett, Bernardi, Birmingham, Bishop, Boyce, Brandis, Bob Brown, Carol Brown, Bushby, Jacinta Collins, Coonan, Cormann, Crossin, Eggleston, Farrell, Ferguson, Fielding, Fierravanti-Wells, Fifield, Fisher, Forshaw, Hanson-Young, Heffernan, Humphries, Hurley, Hutchins, Johnston, Joyce, Kroger, Ludlam, Lundy, McEwen, McGauran, Marshall, Mason, Minchin, Moore, Nash, O'Brien, Parry, Payne, Polley, Ronaldson, Ryan, Scullion, Siewert, Sterle, Troeth, Trood, Williams and Wortley

Terms of reference for the inquiry:

To inquire into and report on:

- (a) the choice of emissions trading as the central policy to reduce Australia's carbon pollution, taking into account the need to:
 - (i) reduce carbon pollution at the lowest economic cost,
 - (ii) put in place long-term incentives for investment in clean energy and low-emission technology, and
 - (iii) contribute to a global solution to climate change;
- (b) the relative contributions to overall emission reduction targets from complementary measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils;
- (c) whether the Government's Carbon Pollution Reduction Scheme is environmentally effective, in particular with regard to the adequacy or otherwise of the Government's 2020 and 2050 greenhouse gas emission reduction targets in avoiding dangerous climate change;
- (d) an appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be;
- (e) whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues; and
- (f) any related matter.

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Committee met at 8.33 am

CHAIR (Senator Colbeck)—I declare open this fourth hearing of the Senate Select Committee on Climate Policy. On 11 March 2009 the Senate established this committee to inquire into policies relating to climate change. The terms of reference for this committee direct the committee to examine:

(a) the choice of emissions trading as the central policy to reduce Australia 's carbon pollution, taking into account the need to:

(i) reduce carbon pollution at the lowest economic cost,

(ii) put in place long-term incentives for investment in clean energy and low-emission technology, and

(iii) contribute to a global solution to climate change;

(b) the relative contributions to overall emission reduction targets from complementary measures such as renewable energy feed-in laws, energy efficiency and the protection or development of terrestrial carbon stores such as native forests and soils;

(c) whether the Government's Carbon Pollution Reduction Scheme is environmentally effective, in particular with regard to the adequacy or otherwise of the Government's 2020 and 2050 greenhouse gas emission reduction targets in avoiding dangerous climate change;

(d) an appropriate mechanism for determining what a fair and equitable contribution to the global emission reduction effort would be;

(e) whether the design of the proposed scheme will send appropriate investment signals for green collar jobs, research and development, and the manufacturing and service industries, taking into account permit allocation, leakage, compensation mechanisms and additionality issues ...

These are public proceedings, although the committee may agree to a request to have evidence heard in camera or may determine that certain evidence should be heard in camera. 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. If a witness subjects 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, of course, may also be made at any other time.

[8.35 am]

NELSON, Mr Tim, Head, Carbon Origination and Government Affairs, AGL

SIMSHAUSER, Dr Paul, Chief Economist and Group Head, Corporate Affairs, AGL

CHAIR—Welcome. I invite you to make a short opening statement.

Dr Simshauser—Thank you. Tim will make a short opening statement.

Mr Nelson—Thank you. AGL is a strong supporter of the Carbon Pollution Reduction Scheme and renewable energy target legislation. We believe that it is critical that the scheme be implemented on time to provide investment certainty. Without this certainty there will be delays in investment and security of supply could be compromised in the medium term. AGL is Australia's leading integrated renewable energy company, with 3.2 million customer accounts. We have a diverse power generation portfolio, including base, peaking and intermediate generation plants spread across traditional thermal generation as well as renewable sources, including hydro, wind, landfill gas and biomass.

AGL has already commenced putting in place systems and processes for managing the risks and opportunities associated with climate policy. This is largely because emissions trading and a clean or renewable energy target were election commitments of both major parties in the lead-up to the 2007 Commonwealth collection. AGL believes it would create significant regulatory uncertainty and sovereign risk if the proposed CPRS and expanded renewable energy target were not implemented on 1 July 2010 and 1 January 2010, respectively. It is critical that these policies be implemented as quickly as possible.

There are already significant costs being imposed upon the community as a result of the uncertainty being created by the ongoing discussion about the CPRS and its potential start date. Investors will not be able to proceed with new intermediate and baseload power station projects until the details of the schemes are finalised. As these projects have significant development time frames—often several years from concept to operation—it is critical that the schemes be finalised to allow companies like AGL to work towards providing a secure and stable energy supply for our customers.

Senator BOSWELL—I would like to ask you a couple of questions on the 20 per cent renewable energy target. We have already heard evidence regarding the ETS, and we listened to that comprehensively over the last week or so. Can you tell me what the impact of a 20 per cent renewable energy target would be on business and households?

Mr Nelson—Broadly speaking, if you are to look at what RET prices will do and then translate through to household energy prices, a typical household will be paying something in the order of, depending upon what jurisdiction you are in, \$100 to \$150 a megawatt hour—something along those lines. You are looking at an impact over the life of the scheme of something like \$5 to \$10 a megawatt hour. Relatively speaking, the impact of RET on energy prices is lower than that of CPRS.

Senator BOSWELL—The Treasury's own modelling has shown emissions reductions made under the renewable energy target will cost Australia's economy around three times more than the reductions made under emissions trading. You do not agree with that?

Mr Nelson—It is a resource cost versus a price issue. Because emissions trading results in all wholesale energy prices increasing to reflect the cost of an emissions permit, you will see wholesale prices, at a carbon price of \$20, increasing by \$20. Because renewable energy is essentially a retailer compliance obligation, the price feeds its way through AGL and other retailers buying renewable energy certificates, and that feeds its way through into retail prices, and it does not have a direct impact on the wholesale market. In the wholesale market, if anything, you see some depressing impact because of the very low short-run marginal cost of wind.

Dr Simshauser—Just to explain that, Senator—

Senator BOSWELL—Yes, I was going to ask if you could explain that.

Dr Simshauser—The Treasury are basically saying that the unit cost of renewable power is proportionately more than a CO2 permit price. But effectively, in the way that the scheme has been designed both in its previous life as the two per cent renewable target and as an expanded target, you have a small amount of energy that is being smeared across the entire base, so you have 20 per cent of power that is proportionately more expensive but it is being smeared across 100 per cent of energy, so the actual impact is markedly lower, if that makes sense.

Senator BOSWELL—Yes, it does. I understand what you are saying. By how much will the ETS put the cost of power up, and how much will the cost of the ETS plus RET put the cost of power up, commercially and household wise? Can I have two figures?

Dr Simshauser—Sure. Just using a couple of rules of thumb, if you look at the national grid, it has a greenhouse intensity of about one tonne to the megawatt hour, so, if we assumed that emissions were trading at \$20 or \$25 a tonne, you would add about \$20 to \$25 a tonne on to the clearing price. As Tim just mentioned, the price that consumers pay is about \$150 a megawatt hour, so you will add \$20 on for that. A RET price is currently trading around \$40 a tonne. Of course, that only applies to one-fifth of the power system by the time you get out to 2020, so you take one-fifth of \$40, about \$8 a megawatt hour, and smear that across the whole base. So it is \$20 to \$25 for CPRS and \$8 for renewables, using those benchmarks.

Senator BOSWELL—So that is a combined total of \$33; is that right?

Dr Simshauser—It is of that order; that is correct.

Senator BOSWELL—And that is a megawatt hour?

Dr Simshauser—Correct. And you are working off a base of around 150.

Senator FEENEY—Between 28 and 33.

Senator BOSWELL—No, it is 25—

Dr Simshauser—It is \$20 to \$25 for the carbon, plus \$8 for the renewables.

Senator BOSWELL—All right, so that is a megawatt hour. What would an average house use?

Mr Nelson—About seven megawatt hours.

Senator BOSWELL—Per year?

Mr Nelson—Yes, sorry.

Dr Simshauser—Seven megawatt hours per year.

Mr Nelson—That varies from state to state, but the national average is about seven.

Dr Simshauser—In fact, it was 6.99 megawatt hours last year.

Senator BOSWELL—So the average cost of household power would go up 230 bucks per year. At the moment, is there some sort of a brake on household power? In other words, is there a cross-subsidy coming back from the manufacturing sector, other than retail prices? Can you explain that to me?

Dr Simshauser—Historically, there were a series of cross-subsidies both within customer classes and across customer classes depending on where you were. So, for example, for a household in Cairns, if you looked at the cost of supply to that region it was probably in the order of \$2,000 per annum. Consumers in Brisbane were paying \$850, and there was a cross-subsidy flowing from those up to—

Senator BOSWELL—So that is a cross-subsidy from retail to retail?

Dr Simshauser—Retail to retail. On the industrial loads and manufacturing loads: since the advent of the national electricity market back in 1998, the cross-subsidies from one sector to another have been slowly diminished over time, to the point where they are for the most part cost reflective.

Senator BOSWELL—So you are saying that the cost to the industrial user is similar—they are paying the same industrially and domestically?

Dr Simshauser—For an industrial load, just to give you an example of a big, energy-guzzling metals manufacturer, they would pay a baseload power price, so at the wholesale level that would be in the order of \$40 to \$45 for the generation, then you would add on to that the transmission charges and whatever network charges they incurred, and that would be proportionately a lower result that might be in the order of somewhere between \$80 and \$130, depending on—

Senator BOSWELL—You have lost me because you have said an industrial user would pay \$40—

Dr Simshauser—So you have got—

Senator BOSWELL—And how much would the RET be on that?

Mr Nelson—It would be a similar magnitude, around the \$5 to \$10. I think probably the easiest way to explain how a retailer approaches contracting different customer types is that it has to do with how they use their energy. If they use their energy fairly consistently across the day then it is much easier for AGL to contract in the wholesale market because it is a fairly flat load. When they contract with variations in that load, so we have to go in and buy peaking contracts or cap contracts to reflect the fact that they consume electricity at peak times, that becomes more risky and therefore the price will go up to reflect that. It also depends upon where they connect. If they connect straight into a high-voltage transmission system then they will to some extent avoid some of the downstream distribution charges. So it really depends upon where they are in the system and how peaky or non-peaky their contract load is.

Senator BOSWELL—But there is definitely a difference between \$33 and \$50.

Mr Nelson—The big industrial and commercial users pay a lower amount in dollars per megawatt hour depending upon how big they are.

Dr Simshauser—That is right.

Mr Nelson—And, yes, it is a higher proportionate amount; that is true.

Senator BOSWELL—I do not understand. I understood you to say that the industrial use and domestic use would be the same. I understand that industrial users will use more power, but then you tell me that a household pays \$25 a megawatt hour plus \$8 for a RET, which gives you up to \$33 at the top end. Then you have told me that the industrial users pay \$40 per megawatt hour and \$10, which gets you up to \$50.

Dr Simshauser—No, for a large industrial user, if you think about the value chain of power delivery, you have the power generation component—the power station itself—so its cost is around \$40 to \$45 per megawatt hour. The next step is the transmission system, which will be in the order of \$15 or so per megawatt hour, and then there will be distribution charges, which can be up to \$45 per megawatt hour.

Senator BOSWELL—So these are all cumulative?

Dr Simshauser—Correct. It is just the various steps in the production and the transportation chain.

Senator BOSWELL—Then you add the RET onto that?

Dr Simshauser—That is correct.

Senator BOSWELL—So what is it altogether?

Dr Simshauser—If we take a firm that is in the distribution network then it is effectively going to be paying something in the order of \$90 to \$100 per megawatt hour, and then you add on the \$28 to \$33 in carbon and renewable energy charges.

Senator BOSWELL—I see. So it is an increase of \$33—

Dr Simshauser—Correct.

Senator BOSWELL—if you put the carbon—

Dr Simshauser—That is right. It is the same increase on a unit cost basis; that is correct.

Senator BOSWELL—So those prices you gave me are increased costs?

Dr Simshauser—That is correct.

Senator BOSWELL—Okay, I understand that.

Senator IAN MACDONALD—Just before you go on—if I may, Mr Chairman and Senator Boswell—you mentioned before that Cairns was \$2,000 and Brisbane \$850, and you said that was when they were equalised and now they have gone back to almost the actual cost?

Dr Simshauser—It is probably a bad example. In the state of Queensland they have retained a uniform tariff regime, so there are still cross-subsidies within the domestic household base. There used to also be cross-subsidies coming from other customer bases such as the small-business users into that residential base. It is those subsidies from one customer class to another that are slowing down.

Senator IAN MACDONALD—But that is unique to Queensland. You are saying that for the rest of Australia it is more or less ‘pay what it costs’—

Dr Simshauser—More or less.

Senator IAN MACDONALD—Which would have an impact, generally, on the regional parts of Australia.

Dr Simshauser—There is a differential between regions; that is correct. And it reflects of course the—

Senator IAN MACDONALD—Cost.

Dr Simshauser—The cost of supply—exactly.

Senator IAN MACDONALD—Not the cost of living in the country. Sorry, Senator Boswell; I interrupted.

Senator BOSWELL—I was just wondering whether you believed—obviously you will, because you produce that sort of power—what we have heard from some witnesses, which is that, if the ETS was designed properly, a RET would not be necessary.

Dr Simshauser—I understand the argument, and, I think, for those who are looking for low-hanging fruit and cannot look beyond next year, that is quite right. But, if you look at every government around the world trying to tackle carbon pollution, you will see they do not just pull out the one stick and throw it in the fire; there is a three-pronged approach that all governments are looking to take to try to crack this nut. Usually, the centrepiece will be some form of emissions trading as a sort of a broader industry approach to dealing with emissions. The second stream is usually a renewables target of some description, and it usually has a much longer time frame—its objectives are usually longer term. The issue there is that, if all you do is an emissions trading scheme, industry will continue to pick off the low-hanging fruit and will not look over at the next technology horizon. The third leg of it will usually be an energy efficiency scheme. So it is really important that we actually continue to push all three policy approaches, to make sure we have got a balanced approach to dealing with this issue.

Senator BOSWELL—Have you read the *Australian* today?

Dr Simshauser—Sorry, Senator, I have not.

Senator BOSWELL—It has got here that BlueScope, OneSteel, Rio Tinto, Chevron, Woodside, Visy, Ford and a number of others are disagreeing with you and saying that the CPRS will impact very heavily on them. I presume you supply some of these people?

Mr Nelson—We certainly do. That is why we have supported the emissions-intensive trade-exposed assistance that is proposed with the CPRS. At the end of the day, though, our primary objective in supporting this policy is to get some investment certainty. At the moment, our primary concern is that if this policy is not implemented then that does not solve any of the problems we currently face, because we will still be in a situation where climate policy is still, I guess, hanging around, and we will not be able to put forward a solid business case that incorporates a cost on carbon—because everybody in the business community anticipates its coming.

Senator BOSWELL—Yes. Well, Ford say that it is going to have an impact.

Senator CAMERON—Is that the *Australian* you are reading, is it?

Senator BOSWELL—Yes.

Senator CAMERON—Oh, no.

Senator BOSWELL—That is the paper that actually got you elected, so I would not complain too much!

Senator IAN MACDONALD—Good call, Bozzie!

Senator MILNE—I note that in your submission you say you support compensation to households for increased costs associated with the introduction of a carbon price. You say that you think that should be delivered through energy efficiency—maybe a national strategy on energy efficiency. I wondered if you would comment more broadly on what you think the inadequacies are at the moment of the few energy-efficiency measures we have.

Secondly, you did not say anywhere in your submission anything about who should pay for, or whether we need, an upgrading in the national electricity grid in order to maximise the bringing-on of renewables and also to maximise the energy efficiency opportunities. So could you comment on what a difference it would make, or what you think the needs are, in terms of upgrading the grid and maybe turning it into an intelligent grid, and whether you have given any thought to what difference that would make, who should pay for it, or anything like that.

Dr Simshauser—Maybe I will just deal with the energy efficiency scheme and the adequacy or lack thereof of that. One of the things that are characteristic of households is that, in general, their consumption has tended to increase over time. Our appliances are far more efficient now than they have been historically; the problem is that they tend to be a lot bigger. I am just thinking of my own household. Back when I was a student, I had a rickety old 1950s refrigerator. I now have a five-star fridge but, quite honestly, I could fit most of my family in there. That five-star fridge is obviously consuming a lot more power than that old 1950s fridge. That is fairly symptomatic of society more generally. The floor spaces of our households have jumped from about 135 square metres 20 years ago to, probably, close to 200 square metres, so we have a lot more space heating and space cooling. We obviously have a proliferation of electronic gadgets: hairdryers that look like hand cannons and vacuum cleaners that could just about take the carpet off the ground. So you understand the issue there.

Senator MILNE—Yes.

Dr Simshauser—The appliances and the consumption levels are much higher than they have ever been. The reality is that power is a very cheap commodity in our society. It is typically the second most boring item on the household budget, and trying to get people interested in conserving power is just not an easy thing to do when it is that far down the list of expenditure items. Correcting that from an environmental perspective will take a regulatory intervention, so to speak; otherwise the market will fail to capitalise on that externality. Pricing alone, I believe, will not necessarily get us there.

So I think that a more coordinated approach to energy efficiency at the federal level would be a much-welcomed development for industry and from an environmental perspective. There are schemes that are now in place in Victoria and South Australia. Perhaps something equivalent but at a national level would be a far more useful approach. When you get a national scheme, you obviously remove a lot of transaction costs and are able to synchronise the rules of engagement, which makes it easier for everyone to live with.

On the transmission system, it is true that the transmission grid itself, although we call it a national grid, is a bunch of state grids that have been loosely interconnected. It has been geared around where fuel resources were historically developed. There is no doubt that, from an environment perspective, strengthening that grid going forward for the purposes of renewable energy would be greatly beneficial. There are clear areas where there are fabulous renewable

resources. Unfortunately, that seems not to be where transmission grids are particularly strong. The issue is trying to get a balance between who pays for it and sizing. Also, there are various competing technology sources. You obviously have the geothermals, which are quite distant; you have wind, which is close. There is a trade-off there as to which one you pick to back.

Mr Nelson—The other thing to note about transmission is that companies like AGL are trying to think a little bit innovatively about how we approach renewables and transmission. When the original MRET policy was put forward, there were a lot of really good wind resources but they were a long way from the transmission grid. Companies like AGL tried to optimise the location to minimise the connection costs whilst maximising the wind speed. For technologies like geothermal, we are starting to do that again. We have taken a small investment in a company called Torrens Energy, which has exploration leases quite close to the existing transmission grid. So I think it is something that we have to think through, but we are already starting to see some innovation in that space which will no doubt deliver benefits into the future.

Senator MILNE—I will just follow up on that. One of the issues is that there is a big opportunity for rural Australia to give farmers an additional source of income from renewable energy, particularly those large properties heading out towards the semi-arid zone where it is just not going to be feasible for them to make a profit on what they have previously done. In order to bolster rural communities, if they could diversify into renewables then that would help. The problem there is that, whilst there would be energy companies willing to go into joint ventures with farmers or lease parts of properties for a renewable sector, that is not going to happen unless the grid gets out there to them. So this is not only about energy in terms of environment and so on but also about adaptation for rural Australia in terms of that. That is why I am asking the question of who should pay and where we should get the money. Would you support some of the auction permit money going into a government investment in extending the grid strategically in those kinds of ways?

Mr Nelson—I think we would have to seriously consider how it would be delivered and what the precedent it would set might mean. The existing transmission rules for connection essentially mean that, if you are connecting to the grid an asset which requires a transmission augmentation, the developer pays for that connection. That means you have an incentive to find sites which are as close as possible to the existing grid, or as close as possible to where the energy is consumed, for efficiency reasons. It is not something AGL would rule out entirely, but we would have to work quite closely with whomever was putting it forward to make sure that it did not set a precedent whereby technologies further down the line start doing the same thing and you end up seeing a lot of transmission infrastructure being built which is not used efficiently.

Dr Simshauser—I guess the issue is that investments made in good faith can find themselves being squeezed by subsidised investments if it is not handled in the correct manner.

Senator FURNER—You mentioned in your introduction that you have already put in place contingent arrangements for the introduction of the CPRS. When did you decide on the necessity to make those moves?

Mr Nelson—It is not just AGL. The entire forward electricity market started to trade carbon inclusive and exclusive contracts after the federal election. With every announcement that has been made by anybody in the public policy sphere over the past 12 months, those markets have

traded quite extensively on that information. We are now at a point where there is significant uncertainty around the start date of the scheme. There is no liquidity at all in forward contract years, which makes it almost impossible for a company like AGL to contract with large energy users. Because we cannot mitigate our risk exposure upstream, we cannot contract with large generation companies.

Senator FURNER—I take it that the uncertainty naturally produces concerns about energy supply and security.

Mr Nelson—That is true, It is not just a physical issue—and that is very important. Companies like AGL cannot make investment decisions today in the absence of that certainty. But even the operation of the forward electricity market is being significantly impacted on by the lack of certainty in this space. That uncertainty, without a doubt, finds its way through to risk premiums, and risk premiums result in higher prices. From our perspective, the sooner we get absolute legislative certainty, the sooner we can adequately contract upstream and mitigate that risk.

Dr Simshauser—If you trace the historical trade in electricity futures, you can see a strengthening in the calibration of prices after the green paper was released, and that was strengthened again when the white paper was released. When the Prime Minister slipped up one afternoon and said it would be by the end of 2010, the market traded right down, until it was corrected later in the afternoon and bounced right back up. Every time something comes out which is in conflict with what came out of the white paper, we are seeing a lot of volatility around forward prices.

Senator CAMERON—But the argument has been put to this committee that business always has to deal with uncertainty. Uncertainty is part of the business cycle, so you can deal with it. So the argument that you need some certainty in terms of climate change is a nonsense. That is what has been put to us.

Dr Simshauser—Industry can deal with the uncertainty of the carbon price. They can deal with the relative uncertainty of the carbon volume, provided that the bands are set. What business cannot deal with is uncertainty over the rules of the game, and right now that is where we are at. We have uncertainty over the rules of the game—and the markets are starting to reflect that.

Mr Nelson—Just to add to that, we are talking about a particular policy that, at \$20 a ton, has a significant impact on how an energy company would go about making an investment decision. It means that you would invest in a different type of asset to the type you would invest in if there were no carbon price at all. So without that certainty you cannot make an investment in either of the technologies that are before you. Given the time frames between concept to actually delivery and operation on the ground, we are literally getting to the point where a decision needs to be made at some point in the next few months or we will see situations where costs will be much higher on energy users than they would necessarily have been, because you would be operating existing plants like peaking generation much harder than you would have had to for longer periods if you had the ability to invest in intermediate plant today.

Senator XENOPHON—Could I ask a supplementary question. You have said that it is important that there is no uncertainty in relation to the rules of the game. Some would argue that, with the European trading mechanisms, there are certain rules there but the price has collapsed or it has fluctuated, giving the wrong signals in terms of green industries, green technologies. Is that not a concern? Also, I think Senator Macdonald made a point that the regulations have not yet been set. We do not know what the regulations to this legislation will be. Do you not need to see those regulations or, at least, a very clear outline of them before you can pass judgment on the CPRS as to the impact it will have on your industry?

Dr Simshauser—First of all, I will talk to the European Union and their levels of uncertainty. They do not have uncertainty over the rules of the game. They are dealing with a different sort of uncertainty. We would love to remove that level of uncertainty but that is the environment we are in. We are in business and we have to deal with that.

Senator XENOPHON—It is not effective, though. When the carbon prices collapses, as they did recently in Europe, there is no incentive to invest in green technology, is there?

Mr Nelson—In making an investment, though, you cannot just look at the spot price of emission permits. You have to look at your expected price over the entire life of the asset that you are constructing. There has been a lot of discussion around what the spot price is in Europe. If you look at what forward prices are doing, you will see they reflect the expectation that economic conditions will improve and therefore the price will recover. A company like AGL would never make an investment decision on the basis of a spot price. We would look at what we would expect the price to be over the period in which the investment is being made.

Dr Simshauser—You are right: a spot price where it is right now, that will put off investment, but that is the climate that we are in. It is basically saying: there is no necessity right now, hold off your investment for a year or two or three and then get around to doing it. So it really is a transient issue. Quite honestly, given where capital markets are right now, even if it were a robust price, they would probably find themselves in more strife—

Senator XENOPHON—Would you feel more comfortable seeing the regulations, because we have not seen the regulations to this legislation?

Mr Nelson—Without a doubt, the sooner we see the regulations the better, but, for a company like AGL, the principal decision points for a company investing in energy infrastructure are really what the targets will be. We know what is proposed in the legislation for the first three years and the gateway for 2020. From our perspective, when you think about modelling the carbon price and incorporating that into a business decision, having the certainty around what those targets are is the most critical thing, from our perspective.

Senator FEENEY—If I could just jump in on this point about the EU; to what extent would you say the price in the EU was driven by a lack of transparency in the allocation of permits by member states and by an overallocation of permits in the scheme as a whole? To what extent do you think those factors may be present in the CPRS?

Mr Nelson—With regard to phase 1, which was the trial phase in the EU, there was an overallocation of permits in all member states, except the UK. Once the transparency occurred

and once the EU made that data available you saw the fairly large price drop back in, I think, 2006 or 2007. With phase 2 and then the expectation for phase 3, many of those issues are no longer relevant. In fact, for phase 3, I think that the EU has determined that there will no longer be member state allocation and that it will be done in one allocation. We do not see any of the problems that occurred in the EU occurring under the CPRS as proposed to date. We think the lessons that have been learnt from that have been incorporated into the draft legislation, so we do not see those problems occurring domestically here in Australia.

Dr Simshauser—I think one of the other things worth pointing out is that, in terms of unit price volatility of carbon, we do not expect to see the same level of volatility in our market through the nature of the design that has been proposed. Having unlimited certified emission reduction units available should theoretically add a degree of stability to the market price in Australia.

Senator PRATT—AGL has positioned itself quite early compared to some other energy providers. What I want to ask is how you have viewed historically the looming carbon liability, because other companies have claimed before this committee that that carbon liability was an unknown. Clearly we have been debating that unknown and can recognise that it is something of an unknown. Others are using it as an excuse to say that they need more subsidy, whereas you have clearly positioned yourselves quite differently. How is it that this committee should view those issues, do you think?

Dr Simshauser—It is a tricky question. I think it is fair to say that from AGL's perspective we have some assets on our books that had we formed a view where carbon might go we might not have made those investments. I think we find ourselves with part of our book pretty much in the same space as everyone else, although perhaps indirectly through indirect investments. We have obviously tried very hard to read the tea leaves for where we see the policy environment going and acting on those convictions in terms of the renewable capacity that we have put in place and we are continuing to invest in renewable capacity. We have a hydro under construction in Victoria and a number of wind farms, as I am sure you are aware.

From an energy efficiency perspective, once again we are doing our utmost to make sure that we are active participants in that market. In terms of those companies that have found themselves with potentially large looming liabilities, we do support the assistance that has been proposed for the trade exposed industries and we think that is right. We think that it is important. We think that the compensation for coal-fired generators is very important. Apparently what is proposed is circa \$3.9 billion over five years. Our sense is that that probably needs to be a higher number but paid over a longer time frame. Rather than five years perhaps it should be extended to a 10-year scheme. All of the data is already sitting there. The government has done all the work, so just take the same formula and extend it a bit further. That will pick up whatever residual exposures may exist with the brown coal generators and of course black coal generators. The reality is that the debt markets and the equity capital markets are pricing in some form of emissions. They are starting to do that now and, as each refinancing comes up and as each debt equity capital raise comes up, you can be certain that analysts are going to price in this risk one way or the other. Preferably they will do it under the guidance of the legislation and regulations rather than trying to second-guess what may or may not happen. Our great fear is that, if we do not hit this 1 July date and get the legislation up, that is exactly what is going to happen. Equity and debt capital markets have no illusions. If this falls off a cliff right now, they are not going to

assume that is gone. They are going to start to try and second-guess what government is going to do. That is dangerous. That is really dangerous for our country.

I can tell you right now that there were 20-odd banks that used to play in the utilities space. The utilities industry is the third-largest borrower of debt in the world behind governments and behind the banks themselves. Our utilities industry, as you would all be aware, has \$100 billion worth of debt and capital works to do over the next five to 10 years. The ESAA put that out in the marketplace last week. I have seen the numbers that back all that up. There were 25 banks are used to play in this space, and there is now probably fewer than 15. So it is getting harder and harder for our industry to actually raise the capital that is required to deliver the infrastructure to keep the lights on, to keep gas burners cooking and so on. One of the really clear messages I hope that we can give to you today is that uncertainty on this is only going to mean that debt and equity capital markets are going to try and second-guess what you are going to do next time around and that it is very dangerous for our industry and for the country.

Senator IAN MACDONALD—Mr Simshauser, are you suggesting that parliament should just pass this to give industry certainty? My feeling is that this is not going to be passed by 1 July. That is just my feeling; others might have different views.

Senator FURNER—I thought you looked after industry.

Senator IAN MACDONALD—I am wondering if industry are saying to us, ‘Forget about what parliament thinks; we want you to be certain, so therefore be certain.’ You are not saying that. I am perhaps putting a stronger spin on it than you are. But the point is—

Dr Simshauser—I am not saying for a second that you should just pass it willy-nilly. What I am saying is that you need to find the solution, because the certainty is important.

Senator IAN MACDONALD—Before I was distracted by that thought, I was going to follow on from what Senator Xenophon said. I repeat, I cannot speak for the committee or the parliament but my feeling is that this is going to have a rocky road by 1 July, so business had perhaps better factor in that it is not going to be certain.

With uncertainty about Copenhagen—and perhaps business has a better insight into this than we do—it seems to be that there is not going to be any firm resolution. Would business be better served by holding the whole thing off until we find out what is happening in Copenhagen, until we find out what the rest of the world is doing, and therefore can adjust Australia’s position to ensure that we are not disadvantaged against the rest of the world whilst doing our bit for reduction in greenhouse gas emissions?

Mr Nelson—I will answer that question in two parts. Firstly, the architecture of the scheme can be done now, in our view. The number of inquiries there have been into emissions trading in the last 10 years could fill a filing cabinet, and the issues that are common in terms of support far outweigh the issues of difference. In our view, the architecture is the part of the scheme that we think parliament could settle on now on the basis of how many common recommendations there are. When it comes to the targets, our view is that, in the short term, the targets the government has put forward appear not to have caused too much angst among commentators, other industry members or members of the public.

Senator BOSWELL—I think that statement could be challenged. You have a whole front page of people here who are complaining about it, at the top end of the market—

Mr Nelson—I think most—

Senator BOSWELL—and they are your customers.

Mr Nelson—Most of the discussion, we think, is about the long-term target—that is, the five per cent to 15 per cent range that has been put forward. From AGL's perspective, there is nothing stopping anybody putting forward a broader range to reflect the outcomes or the potential outcomes of international agreements. To add to Dr Simshauser's earlier point, that is the type of certainty which business can live with, where the architecture of a policy is put forward but the uncertainties are factored in. If that range were broader than five per cent to 15 per cent, we could still deal with that in the same way that we deal with exchange rate risk or any other type of commodity price risk.

Senator IAN MACDONALD—But don't you assess a feeling that now this is getting closer and the mums and dads—for example, the ratepayers in Mackay—are starting to realise, 'This is not just a warm feeling; this is actually going to cost us money,' you might find that there will be different approaches to the greenhouse gas issue, which may not necessarily involve a tax on carbon. There may be other incentives. I am not suggesting what they might be; I am just saying you are not picking up the assessment that the feelgood, warm-inner-glow feeling for last 10 years, when it was a theoretical, is starting to dissipate as people start to lose their jobs and pay more for their electricity.

Mr Nelson—Without a doubt there will be costs associated with the implementation of any type of climate change policy. That said, the sleeping giant is energy efficiency. All commentators talk about energy efficiency playing a major role. AGL has maintained a large energy services business for our commercial and industrial customers. Depending upon which commentator you use, you could say that there is 100 million tonnes of negative cost abatement. That is certainly what McKinsey has put forward. So we do not see that the scheme is all risk. We see that there are opportunities for business in this, as well, to improve the efficiency of their operations and improve their competitiveness on the world stage.

Senator CAMERON—Including jobs?

Mr Nelson—Without a doubt.

CHAIR—What about the evidence we heard last week—

Senator Ian Macdonald interjecting—

CHAIR—which was quite considerable, that there are issues with the architecture of the scheme—

Senator Cameron interjecting—

CHAIR—including—Senators, if we can have some order, please—the fact that it does not take into account things like energy efficiency and it does not reward voluntary action—does not include voluntary action—and that it locks in inflexibility for too long a period and does not allow for what might happen at relatively near events? There is considerable evidence, which we have heard already, that there are significant problems with the architecture of this.

Dr Simshauser—I think in terms of—

CHAIR—So you are just saying, ‘Pass it without fixing the architecture’?

Dr Simshauser—The view of our organisation is that emissions trading is part of the solution. I made the point at the outset that there is usually a three-pronged approach required, and most governments have gone down that path or view that they will go down that path: emissions trading, renewable energy and energy efficiency. It is very hard to get one scheme to do all things for all people. Emissions trading basically deals with the here and now, and, in particular, from a power industry perspective—which is emitting the better part of 200 million tonnes of our carbon stock each year—emissions trading will start to modify the way in which real-time plant dispatch occurs. The renewable energy target will start to reshape the way we invest in future plants. And the energy efficiency scheme will start to deal with the demand side. So, provided you have got a framework, as is being proposed at the moment, we do think that is the right infrastructure and the right approach to deal with this issue.

CHAIR—So, even if the most efficient way for Australia to go is not about selling more expensive energy—it might be about sequestering carbon in the soil, which is not catered for as part of the processes and the rules that the CPRS legislates for—you still say, ‘Go down the CPRS track in its current form’?

Mr Nelson—We do not rule out complementary policies. With agriculture in particular, we think complementary policies should be pursued. The difficulty, though, that we have with your saying that we are going to hold up the entire emissions trading debate for every subtle nuance in the design of the scheme, is that our view is that, on the balance of what has been put forward, the scheme provides the certainty that we as an industry need—and it is not just the energy industry. We have significant commercial and industrial users who have got abatement opportunities ready to go today—the business cases have been done; they are revenue accretive from day one—but they cannot make those investments because there is no cost on carbon.

CHAIR—So, effectively, even though soil sequestration may be one of the greatest opportunities for Australia, which may have the greatest advantage internationally on that, you say we should go ahead regardless of the fact that the CPRS and the rules it is designed on actually lock that out?

Mr Nelson—We do not see that they lock that out.

CHAIR—Well, they do.

Mr Nelson—We do not see that there is anything in the CPRS legislation which would prevent a complementary policy around soil sequestration.

CHAIR—Senator Cameron.

Senator CAMERON—Mr Simshauser or Mr Nelson, you have been tracking climate policy for at least a decade. What do you see as the consequences of not having the legislative framework in place for the energy markets and for supply?

Mr Nelson—The consequences in the short term are that you will see underinvestment in intermediate and baseload capacity, and what that essentially means is that to meet intermediate and baseload demand you will increasingly rely upon higher cost generation that is already in the market—so, things like peaking power stations will run at higher capacity factors, which from a resource cost perspective means that the costs incurred by the economy are higher. So, without a doubt, from a reliability of supply perspective, the lack of certainty over the long term provides risks to security of supply.

Senator CAMERON—You have been operating under the New South Wales Greenhouse Gas Reduction Scheme for some time. Are you aware of any company that has had to leave New South Wales or close down because of operations under that scheme?

Dr Simshauser—No.

Senator CAMERON—Do you suspect that there would be many companies that would have to leave Australia or close down because of the CPRS?

Mr Nelson—Not given the current provisions for trade-exposed energy-intensive industry, but those provisions are very important for ensuring that that does not occur.

CHAIR—Senator Abetz?

Senator CAMERON—I have two questions. Let me just finish this.

CHAIR—Sure.

Senator CAMERON—You can take these on notice if Senator Abetz wants to come in. What parts of your generation portfolio will do well out of a carbon price, and do you have plans to expand them? I am happy to get that on notice. You stated in evidence that there would undoubtedly be jobs created. Could you give us some idea of what types of jobs you see being created as a result of a CPRS and addressing climate change and of what skills are required for those jobs?

Dr Simshauser—I will take those on notice.

Senator XENOPHON—I have a supplementary question to put on notice. Isn't the GGAS scheme fundamentally different? It is based on a credit scheme—it is all carrots and no sticks, really—so there is a fundamental difference between the GGAS scheme and what is being proposed here. Perhaps you could put that on notice in relation to the scheme design and architecture. I am not suggesting that we go down the path of baseline and credit, but that is a very different scheme in its design, isn't it?

Dr Simshauser—Yes.

Senator ABETZ—What, in your mind, is the purpose of a CPRS?

Mr Nelson—I think the objects clause talks about that, probably in better language than Paul or I could cover it in, but essentially it is to reduce greenhouse gas emissions.

Senator ABETZ—So, if we could reduce greenhouse gases through a methodology other than this scheme and achieve the same outcome, would you be satisfied with that?

Mr Nelson—If there is a measure out there which can deliver the emission reductions at lower cost than AGL would be supportive, but in our view we have not seen it.

Senator ABETZ—You indicated that there were three issues; I think you said that in order they were the ETS, renewable energy targets and energy efficiency. Why wouldn't you be starting with energy efficiency first? Wouldn't that be the easiest place to start to try to drive that?

Mr Nelson—There are already energy efficiency measures in place at the state level. The other thing to remember with a Carbon Pollution Reduction Scheme—

Senator ABETZ—Yes, but we can go a lot further. Surely you would agree on that.

Mr Nelson—Yes, without a doubt. A national energy efficiency scheme is something that we think is very important.

Dr Simshauser—I guess this is the difference between the demand side and the supply side. If I can use the electricity industry as an example, there are almost eight million households in the national grid and about 120 generating sites. The 120 generating sites are all very large scale. You will make some big gains at relatively low transaction costs on the supply side. Tackling the demand side is going to take some chipping away, just based on the number and size of the players.

Senator ABETZ—Unfortunately, this has happened—in my mind, and I would be interested in your view. It seems nearly as though we are having three separate discussions in Australia at the moment: one on an emissions trading scheme, one on renewable energy and one on energy efficiency. If you are in business of any sort and are an energy consumer, all three are, in fact, inextricably interwoven, and you cannot really talk about one without the others. Wouldn't you agree that you have to look at the totality of those three areas?

Dr Simshauser—For a household, we would hope that they would not have to worry about it—that they would just get their electricity bill and leave energy companies to do what they can to soften the blow. We have pretty good—

Senator ABETZ—So you represent households?

Dr Simshauser—As our customer base. We have a set of strategies for our customers, such as the energy efficiency drives. There are certain things that a household can do that can offset the

cost of this going forward. It is in our interest to do so. We need to make sure that, as our customers, they pay their bills, so we have quite an incentive to make sure that energy efficiency and all the things that we can do soften the blow of any price rises. That is right.

Senator ABETZ—I thought my question was: do you agree that we are having a stovepipe discussion in Australia about three separate areas but they are, in fact, inextricably interwoven, and if you want to have a genuine discussion about reducing our carbon footprint you have to be talking about all three because they are interrelated and they interact with each other in ways that need to be taken into account? I would have thought that would be the case.

Dr Simshauser—At a policy level, that is correct.

Senator ABETZ—Are you saying that business would prefer the certainty of a flawed scheme or potential uncertainty, for an extra 12 or 24 months, in getting a more robust scheme?

Dr Simshauser—I cannot speak on behalf of all industries but I can speak on behalf of AGL. In our opinion, given where the electricity industry is at the moment in terms of what is required for future investment, the current framework is sufficiently robust to proceed.

Senator FEENEY—Can I ask you why you prefer the CPRS framework to, for instance, a carbon tax framework?

Dr Simshauser—We see a trading scheme as allowing the market to find the price, as opposed to a tax, where you effectively have a regulatory authority or some arm of government trying to second guess what the right carbon price is. We have seen in our industry, when we try to second guess what the price should be, that there is a high risk of getting that wrong. As we have deregulated the market and allowed the market to find a price, there have been vast gains in efficiency from determining the right sizing and timing of investments and so on. And the gains to our country from the national energy reform have been staggering, quite honestly. There are some very large numbers. In Queensland alone, between 1998 and 2005 the gains were in the order of \$2.2 billion in benefits to consumers. For that reason, we feel that allowing a market to find the price, under a carbon pollution reduction scheme, is a better strategy than just setting a tax, where we are trying to second guess and where there is a risk that you will get it too high or too low.

CHAIR—We will have to wind things up now because the next witness is here. Senators may put some questions on notice if they would like to. Dr Simshauser and Mr Nelson, thank you for your evidence this morning. It has been valuable.

[9.33 am]

DeGARIS, Mrs Ros, Chief Executive Officer, National Lime Association of Australia

CHAIR—Welcome, Mrs DeGaris. I invite you to make a short opening statement.

Mrs DeGaris—I am hopeful that you are familiar with the lime industry and its role in the CPRS and particularly recognise that it is recognised as an emissions-intensive trade-exposed product at this stage of the process.

The lime industry has been actively involved in the preparation of the CPRS for some years and we have been very keen to be represented here today. The international treatment of lime is very much one that has focused on energy, and it is important to realise that 60 per cent of lime's emissions are in fact through the use of the raw material limestone and do not come from an energy basis. This scheme will be the first scheme to actually include process emissions and, as such, there is no real opportunity for the lime industry to address that 60 per cent emissions base. What that means in real terms is that a five per cent reduction in greenhouse on a bag of lime will be a 12½ per cent reduction in energy.

Senator ABETZ—I do not know about other members but I am not quite following you. I ask if you would spend a bit more time in explaining.

Mrs DeGaris—Lime is an industrial chemical. It is used widely in the community for things like water treatment and the manufacture of aluminium, steel, paper and soda ash—a wide range of things. It is used in construction products, but it can be allied with cement in that it has a similar raw material base and a similar process. It is basically made up by taking limestone which is very specifically sourced, putting it through a kiln which is fired by fossil fuels, and then it is ready as quicklime for use after that. It gets raised to temperatures of about 900 to 1,000 degrees, and that is when the calcination processor occurs, where the limestone converts from calcium carbonate into calcium oxide. That is where 60 per cent of the emissions in a bag of lime come from. The other 40-odd per cent come through power use and through the firing of fossil fuels. So it is energy intensive and it is emissions intensive.

CHAIR—So it is the chemical process in the conversion from one form to another.

Mrs DeGaris—That is right.

Senator ABETZ—Just for the record, limestone makes Tasmanian apples red, which is very important for the South-East Asian market. I just thought I would put that in the *Hansard*.

Mrs DeGaris—Of course, Senator, very good. It does have a wide variety of uses. In our mining and resource industries here, lime plays a major role in a lot of that manufacturing base.

The lime industry is concerned about the emissions trading scheme in that the scheme will cover those process emissions, which is not the experience that we have had in places like the EU and Canada. In Canada they have exempted process emissions. In the EU the scheme has

focused on energy efficiency, so that has been quite an important step. We are also concerned about the loss of assistance to emissions intensive and trade-exposed products over the span of the first 10 years of the program's life in anticipation that the rest of the world will come on board with emissions trading. The EU has said it will support emissions intensive or trade-exposed industries until such time as the exposure is no longer a problem. But in Australia this scheme tends to phase out the emissions intensive, trade-exposed program. It is reducing it from day one over a potential 10-year lifespan through the carbon productivity contribution, and we are automatically starting below the eight ball at 90 per cent. Given that we have a process emissions issue and that we are trade exposed and emissions-intensive, these are really important points to our industry's survival, where Australia is a good producer of these particular materials. We have the expertise that is world class, we have the resources and we have the energy. There are about 20 lime manufacturing sites around Australia. They tend to be regionally based. It is an important industry to regional Australia, and it is one that we do very well.

Senator ABETZ—Just so that I have this clear, you are saying that 60 per cent is in the process of converting the limestone to a useable product.

Mrs DeGaris—That is right. You might be familiar with cement. Cement is about making a new rock. Lime is about taking the nature of the limestone and turning it mineralogically into something a little bit different.

Senator ABETZ—Are there any known technological advances whereby those emissions can be reduced in that conversion process—and would that be an appropriate term to use?

Mrs DeGaris—That is a good term. It is a chemical conversion. Currently there is nothing. For 2,000 years lime has been made out of limestone. The technologies have moved on, but the actual raw material is still the same.

Senator ABETZ—Without sidetracking you or myself, I think that is one of the issues that the steel industry faces, as well, with the coke that they throw in to make steel. That is where they get the majority of their emissions from and there is no other technology known to man at this stage. When we step down or decay the 90 per cent, it just makes life exceedingly difficult.

Mrs DeGaris—If anything, the process emissions continue to become a higher percentage. Even if we gain in energy efficiency, the energy efficiency component might reduce, which only makes the percentage of what we are paying in terms of process emissions increase.

Senator ABETZ—So if all your energy input was renewable you would still have these emissions from the conversion factor—

Mrs DeGaris—Absolutely.

Senator ABETZ—and that is the same with the steel industry. I think it is only about 20 per cent that is energy input. They would then still have this 80 per cent from the chemical reaction with the coke.

Mrs DeGaris—That is right. It is the chemical process which is important.

Senator CASH—How many employees does the lime industry employ across Australia, bearing in mind you have said you have 20 lime manufacturers?

Mrs DeGaris—Right, we do. A number of those lime factories make a couple of things. Off the top of my head, we must be near a thousand employees.

Senator CASH—Around Australia?

Mrs DeGaris—Around Australia. But that is a bit of a guess, I am afraid.

CHAIR—Are all manufacturers in the association?

Mrs DeGaris—It is an interesting association. The association has two types of manufacturer. We have people from the steel industry with the tied production and people from the commercially made limestone, which is Adelaide Brighton, Boral, Cement Australia and Unimin. In actual fact, we end up with an interesting situation in a scheme like this because, if lime is covered through the whole of the steel manufacturing process but not covered in the commercial, we run the risk of this program driving a market wedge and forcing production onto tied production—if you follow my drift.

Senator BOSWELL—You are part of the EITE?

Mrs DeGaris—We are recognised in the formal stage of the process, yes.

Senator BOSWELL—What certificates do you have? Sixty? Ninety?

Mrs DeGaris—Ninety per cent. We are more intensive than cement.

Senator BOSWELL—Does that 90 per cent cover all manufacturing or just cooking the limestone?

Mrs DeGaris—At this stage it covers only what occurs on the manufacturing site. It does not include the quarrying site of the limestone production, and we have asked for coverage for the physical preparation of the stone as well.

Senator BOSWELL—What does that work out to? What is the total?

Mrs DeGaris—Out of 90 per cent? We have not received our definition yet, so we hope to get all of our coverage, from quarrying right through. Limestone quarries are dedicated to the process. Ninety-five per cent of lime made in Australia is made from limestone that is owned and run through the lime industry, and the technology that we choose to put in for lime kilns is based on the stone that we get supplied with. They are very tied processes. It is not even so much about the three per cent or whatever is in the quarrying operations; it is about the fact that many of our lime sites are quite small and in order to get the assurance process through for the EITE many of the sites have the production sitting right on top of their lime kilns. There is no distinction in the power that comes on site or the diesel fuel that is used in a front-end loader, whether they are at the quarry phase one minute or loading something into a kiln process the

next. It is most inconvenient and very artificial to set boundaries that are not across the appropriate supply chain.

Senator BOSWELL—Have you worked out your increase in cost from emissions trading?

Mrs DeGaris—Yes. We have done a study. We based it on \$35 a tonne. \$35 a tonne would give us another \$42 a tonne on an average price of \$140. It is a significant increase.

Senator CASH—Will that cost jobs?

Mrs DeGaris—You would import it. That happens in Australia—not to a large extent, because we have been able to very efficiently make it for our own needs.

Senator CASH—Does bringing it in have carbon leakage issues?

Mrs DeGaris—Yes, definitely.

Senator CASH—How significant?

Mrs DeGaris—The carbon leakage would automatically go into the Asia-Pacific area.

Senator IAN MACDONALD—Where are your competitors sourcing from?

Mrs DeGaris—I do not know where they are sourcing from, but we are very clear that New Zealand, for example, exports. China also moves lime around. In India and in places around the Asia-Pacific region, there is a reasonable quantity of lime being moved.

Senator ABETZ—Indonesia and Vietnam as well—or not? I thought they were in the market as well.

Mrs DeGaris—They are all very capable of producing, but we have managed to survive very strongly in Australia because we are able to produce regionally and supply the market.

Senator CASH—To follow up on a question I asked, it has been put to us that carbon leakage is not the issue that industry claims it actually is. How real is the issue of carbon leakage to your particular industry in the event that the legislation goes through in its current form, and what facts do you have to support that it is an issue?

Mrs DeGaris—We have done a study on what our investment prospects look like, and that is contained in an independent report that we have sent to DCC. Ultimately, at a carbon price of \$35 a tonne, that becomes a very significant issue. At \$20 a tonne, we think it is going to be difficult to continue to meet the needs of the current market for lime—and we see that market as growing, as the mining industry and steel are strong industries in Australia. We see our markets as increasing at better than the normal rate.

CHAIR—Is that report available to the committee?

Mrs DeGaris—Sure. Would you like us to forward that to you?

CHAIR—We would appreciate that.

Senator MILNE—I am interested in your comments about the conversion from calcium carbonate to quicklime. You are saying that 60 per cent of the emissions come from that process. What efforts have you made to capture your flue gas? What are your emissions and what have you done to capture them?

Mrs DeGaris—Emissions from a tonne of lime are about 1.18 tonnes of CO₂ or greenhouse emissions. What have we done? We were waiting on commercially viable carbon capture and storage. That would certainly make an impact on our emissions.

Senator MILNE—So basically you are waiting on the coal industry to get carbon capture and storage; the lime industry has not done any work on that for itself.

Mrs DeGaris—We are not nearly the size of the coal industry—

Senator MILNE—I understand that; I am just asking the question.

Mrs DeGaris—We are smaller. Let me demonstrate some of the other things we have done. We are not an industry that is standing around, waiting for things to happen. For example, there is a lime plant in Queensland that takes macadamia nut shells as a fuel. That is a biomass. It does not take coal. As a consequence, it has reduced its emissions that way.

Senator MILNE—So you can reduce. But that is the point that Senator Abetz was making: even if you had a 40 per cent reduction with renewables, you still have 60 per cent of your emissions from your chemical process, which will rely on carbon capture and storage.

Mrs DeGaris—That is right.

Senator MILNE—My second question is related to the coverage issue. I took from what you said the point that if you have to you will separate out your source and supply to the particular industry sectors. What does that mean for agriculture?

Mrs DeGaris—I do not quite follow the question.

Senator MILNE—You were talking about what the CPRS captures and what you would be forced to do in the event, because some of your market will not necessarily be captured. Explain to me the point you were making when you said that you would be forced to differentiate how you were going to produce and for whom or tie your production to certain—

Mrs DeGaris—I understand what you mean—tied production. The steel industry, for example, takes both lime it makes itself and lime from commercial lime production. If the steel industry is covered—if the whole of that process is covered—by ‘emissions-intensive trade exposed’ but commercial lime does not get covered then if you were a steel manufacturer you could save yourself quite a few dollars per tonne by increasing your capacity to make lime on your site. Hence, instead of the shift which we have seen with the market moving into

commercial production of lime to supply those industries, we would see those sorts of opportunities spring up on the sites.

Senator MILNE—So how does that relate to the leakage issue?

Mrs DeGaris—That is the wedge within the Australian scheme. The leakage issue could well follow from that. A aluminium producer at Gove brings lime in when they need extra or their particular lime kiln is off so—

Senator MILNE—What percentage of production is commercial as opposed to in-house?

Mrs DeGaris—About 75 per cent is commercial.

Senator MILNE—So you are saying that there is likely to be an internal shift from commercial across to industry specific internal production, which would be subsidised by free permits.

Mrs DeGaris—That is true.

Senator MILNE—So the free permits actually subsidise the steelmakers and put people in the commercial lime sector out of business.

Mrs DeGaris—That is right. That is the problem that we have.

Senator CAMERON—Are you purely a domestic industry in Australia?

Mrs DeGaris—Yes, absolutely.

Senator CAMERON—In terms of your overseas competitors, what is the current international supply capacity, given that you have had this huge boom in steel overseas for some time? Is there spare capacity?

Mrs DeGaris—In Europe the industry is suffering, particularly energy prices and so on—that capacity if they have to find somewhere to go. Basically, it is the opportunity to increase capacity in places like Asia and China and along that particular seaboard that will give export opportunities into our country. Our experience with imports into this country is very small, but our strength is in the way we are able to manage and have managed our own markets. Certainly there has been a lot more movement of lime into the US and around that area. We have seen it in India. The EU is also experiencing movements of lime off the north coast of Africa and from China.

Senator CAMERON—What is the closest significant overseas lime manufacturer who could import?

Mrs DeGaris—I suggest it would come out of China quite readily.

Senator CAMERON—What would be the freight costs per tonne to bring lime to Australia?

Mrs DeGaris—I do not know that. That is covered in our report, but I cannot give you a number off the top of my head.

Senator CAMERON—You could take that on notice.

Mrs DeGaris—Yes, we could take that on notice.

Senator CAMERON—Given the weight and bulk of lime it would not be a cheap operation to import, would it?

Mrs DeGaris—You could import particularly through bulk bag distribution into a handymax ship. You could bring it in, debug it quite easily into a silo and distribute it from there. That is not an uncommon way of doing things.

Senator CAMERON—But your competitive advantage is that you are here in the market close to the consumer.

Mrs DeGaris—We are, but bear in mind that our biggest lime production is also on transport routes. Take for example the use of lime in Western Australia. We rail from the coast. It would not be any more difficult to bring it into the coastal regions and put it on exactly the same trains and send it to Kalgoorlie for the mining industry or into aluminium smelters, which take a lot of lime and are also located on the coast. Gove, a lot of aluminium manufacturing in WA, steel manufacturing in New South Wales and even steel manufacturing in Whyalla are all sitting on the coast.

Senator IAN MACDONALD—And Gladstone.

Mrs DeGaris—Yes.

Senator CAMERON—Does your organisation accept that we have to take steps to introduce a scheme in terms of the CO₂ emissions both in Australia and globally?

Mrs DeGaris—Yes, and that is why we have participated in the process, including the NETTs process, the Prime Minister's task group and now the CPRS.

Senator CAMERON—So you have been consulted and part of the process?

Mrs DeGaris—Yes, I would say that the DCC have done a good job of bringing us into the discussions. We certainly made several submissions as well.

Senator CAMERON—So overall do you think the scheme is a reasonable balance given the arguments that we have got from groups that have said that you have to actually increase the target and you have to stop giving support to industry? That is one argument we get very strongly. The other argument we get is from industry like you, who say, 'This is really going to affect us.' Given that we have to act on this, do you not think we have tried to achieve a reasonable balance?

Mrs DeGaris—I think that that is true, Australia has got a role here, but I think we have to be awfully cautious that we do not dash out and try to carve places where people have not found places yet. It is very true that there are schemes that are operating in other places, but they are not operating the way that this one is proposed. Auctioning in Europe is only about two per cent of the permits; we are not talking about 75 per cent.

Senator MILNE—They are moving to 100 per cent.

Mrs DeGaris—Yes, but not until 2020. We are talking about 2010, and that is a bit frightening, quite frankly. One and a half per cent of emissions is Australia's contribution to the world. We are a young industrial country and we have got a lot of modern processes.

Senator ABETZ—On that point: is it not also one of your concerns that it would be a perverse environmental outcome—pushing aside whatever financial and commercial interests the National Lime Association might have—if you were to go bust and we then had to import the lime into Australia? It would be a worse environmental outcome for the world and, as a result, the scheme that is being proposed is going to deliver a triple whammy: cost jobs, cost wealth and have a worse environmental outcome.

Mrs DeGaris—Yes. We have checked on China's emissions: where we are sitting at 1.2, they are at more like 1.6.

Senator ABETZ—Yes, plus the carbon miles of bringing it here.

Mrs DeGaris—And the carbon to send the energy into China.

Senator BOSWELL—You modelled the cost on an ETS, but have you modelled the cost on the RET, the renewable energy target?

Mrs DeGaris—We have looked at that within the company I work for, and the RET is quite an awesome cost.

Senator BOSWELL—How much is your cost going up by in an ETS?

Mrs DeGaris—About \$40-odd in about \$140 a tonne is typical.

Senator BOSWELL—So it is 30 per cent, roughly. What will be the combined cost of an ETS and an RET?

Mrs DeGaris—By 2020 the RET could cost half as much as our ETS, even as emissions-intensive trade exposed, because the RET goes up incrementally across the years so it is a moving feast.

Senator ABETZ—I want to ask you a question that I asked AGL. My concern is that we are having a stovepipe discussion in Australia—one on the ETS, one on renewable energy, one on energy efficiency—but we should in fact be having a holistic discussion about all three at the one time to see how they interact. People say, 'The CPRS will only have this impact, which is

negligible.’ They then talk about the renewable energy target that is only a small impact. But when you combine the two it becomes a more substantial impact.

Mrs DeGaris—Yes, particularly as one goes up and the other support goes down. That is very true.

Senator ABETZ—Yes, RET goes up and the decaying of the permits goes down.

Senator MILNE—But renewables could reduce your output by 40 per cent.

Mrs DeGaris—Not necessarily; it is not the types of renewables that we are talking about, in terms of wind power and power going into electricity. About 33 per cent of our emissions come from the fuel combustion for the kiln—in other words, we need fossil fuels or something equivalent to burn in the kiln to get the temperature up. You will not do that by putting in electricity.

Senator CAMERON—You are not arguing that the lime industry should be completely excluded from playing a part in reducing carbon emissions, are you?

Mrs DeGaris—No. We understand it is a transitional thing, and that is important. But we do think that we deserve 100 per cent compensation and we need that to last—

Senator CAMERON—Nobody has got 100 per cent.

Mrs DeGaris—Yes—

Senator CAMERON—What would the cost be to provide you with 100 per cent compensation?

Mrs DeGaris—For our industry, just off the top of my head—

Senator CAMERON—Would you like to take that on notice?

Mrs DeGaris—Yes, I will have to take it on notice.

Senator CAMERON—I am interested in the cost. Also, given the scheme that we are proposing, where would the money come from? Would we take that from support for low-income households and give it to the lime industry?

Mrs DeGaris—I think you also have to realise that if permits are given to the lime industry or if we had to buy permits, we would still not pass those costs on to our customers. They would not pay because we could not do that and still remain competitive. We would have to absorb the cost in the industry. Whether the permits are given to the industry or paid for by the industry, the cost to the consumer is not an issue.

Senator IAN MACDONALD—That would make you less competitive internationally.

Mrs DeGaris—Yes.

Senator IAN MACDONALD—How many people are employed directly and indirectly by the lime industry in Australia? Do you have that figure?

Mrs DeGaris—I am thinking it is about 800, but I would have to check that. I know we have about 300 in Western Australia.

Senator IAN MACDONALD—Perhaps on notice, could you give us a state by state or region by region breakdown?

Mrs DeGaris—Yes.

Senator CASH—Some concern has been expressed about the lack of detail in the legislation in relation to the support for emissions-intensive trade-exposed industries and that the Senate is just being asked to take the government on its word that it will actually regulate this space. Do you have any concerns about the lack of detail and what further detail would you like to have seen prior to this legislation going forward?

Mrs DeGaris—Thanks, Senator Cash, that really is an important point for us. We are being asked to audit our emissions and our revenue going back 4½ years and that is not a cheap exercise, particularly if you are a regionally based and small-plant operation. If the boundaries over which that data has to be collected are not regular management data then the auditors are actually keen to go to each site and see how that has panned out. We do not think that we have been enough assurances about the regulations. I think there are six pages in the current legislation that relate to the EITE—that seems a small number. We have not seen the draft EITE regs yet. We do not expect them to be actually in place until early next year. Whatever might be shifted will certainly affect our coverage. We are still waiting on a definition. I realise that the DCC are also under an awful lot of strain on this, as is the industry, but it does not give us a lot of confidence to spend the assurance money in the hope that perhaps all of this is going to turn out exactly as we expect it to.

Senator CASH—Do you think there will be any impact on jobs within your industry if the legislation goes through in its current form?

Mrs DeGaris—Yes, we would certainly be on the decay side of things. It will have a big impact on our investments.

Senator CASH—And potentially that means a loss of jobs; employees will be sacked.

Mrs DeGaris—Yes, that is right, and there will be a flow-on into the community. Our industry brings in high technology. Our workforce go through extensive training to be able to run the processes that make lime and we employ professional and, obviously, local people. The flow-on will be costly.

Senator PRATT—Clearly, it is an energy-intensive industry and therefore its carbon footprint is environmentally damaging to the globe, albeit a small part of the accumulation of things that we all do as a global society. How much communication is there within the industry across the

globe to enable the industry to participate in levelling the playing field and to do that cooperatively, as opposed to just seeking to compete with each other and undermine this quest to have us all acquit our carbon liability responsibly.

Mrs DeGaris—Firstly, we are not here to undermine; we are here to make a constructive policy. We want good policy on this issue. As you say, internationally we see things going ahead and we monitor those things quite closely. What we have done in Australia has been holistically received by the US just recently. The National Lime Association in the US has been in touch with me only this week to talk about how that process is working. We also spend quite a bit of effort maintaining our relationships with Europe. Last year I was at a conference in Europe with the whole industry across the world, and we made representations as Australia about our CPRS and about how that was progressing, and there was great interest from Europe, Canada, the US and Japan.

Senator PRATT—Do you think the industry will be supportive of a level playing field internationally rather than seek to gain a competitive advantage from not having a carbon liability in one country where you do in another?

Mrs DeGaris—Yes. Currently, the international scene for lime is to get together in October to start to progress particularly some of these issues around how we do carbon accounting and how we see our technologies going forward. The lime industry in Australia has done that background work and is doing that background work now in order to be able to represent our position. So we are positive.

Senator PRATT—That is terrific. Thank you.

CHAIR—If there are no further questions, thank you, Mrs DeGaris, for your evidence. It has been very helpful.

Proceedings suspended from 10.06 am to 10.24 am

de FEGELY, Mr Andrew Robert (Rob), Private capacity

CHAIR—I welcome Mr Rob de Fegely. I invite you to make a short opening statement.

Mr de Fegely—I will give some background for the committee. I grew up on a family farm in Victoria. I have a very strong family background and history in farming; however, I trained as a forester at the Australian National University and have spent about 28 years in the forest industry. I have been in plantation development and consulting for the last 16 years, prior to retiring in 2006 to set up my own business in consulting, working principally in the area of environmental credits and land use management but also crossing back into forestry from time to time.

I apologise. I was invited to attend only a very short time ago, so I have not actually written a submission for you. I would like to, with your indulgence, give an overview of some things I have been working on to illustrate how I think an emissions trading scheme can help solve some of the problems in rural Australia.

I suppose for about 30 years I have been looking at the Australian landscape wondering how we solve some of the land-use problems that have occurred since European development and settlement in Australia over the last 200-odd years. In solving that, how do we also feed the world at the same time? The massive agricultural industry is a very important industry and, of course, feeding the people of the world as the population grows is going to be an important challenge. Over those years my family heritage in farming and understanding of forestry and what has happened in the Australian landscape have been things that have continued to question my own consciousness as to how we ultimately achieve some kind of balance.

I first came across carbon credits here in New South Wales in 1997 while working on some trades between the New South Wales government and various power authorities. At that stage it really became apparent that environmental credits had an enormously valuable and potentially very powerful role to play in addressing these problems that we have in Australia. I will give you a quick overview of the problems. Many of you will be well aware of them. I would also like to illustrate a couple of projects I have been working on over the last two years to illustrate how we might be able to address these problems and what we have learnt from that by doing.

The problems are all pretty apparent. Those of you who were in Canberra last week would have seen the dust storm that came across. About 4.8 billion tonnes of dirt move across the Australian continent every year through sheet and rill erosion. Salinity is the creeping cancer of rural Australia. The last audit I read said that about 5.7 million hectares of land have been affected by salt. If we do not do something about that then by 2050 that could be 17 million hectares. On a very basic valuation of about \$1,000 a hectare—that is only \$400 an acre, which is very cheap land—that is \$5 billion to \$17 billion worth of land going out of production. That is a huge cost to pay.

The third problem, which is a bit harder to see but nonetheless important, is the loss of biodiversity. Our areas of remnant and rural woodlands are the areas most under threat, particularly in the developed agricultural areas of Western Australia, South Australia, New South Wales and Queensland. If you add on top of that the increasing age of farmers, vulnerability to drought and climate change, the management of and increase in pest plants and animals, you end

up with problems in relation to social structures and species loss. There are a lot of problems that need to be addressed in rural and regional Australia. I am sure that all of you through the work you do in various states are well aware of many of these things, so how can an ETS help?

By putting a price on the environment—and carbon is the most obvious one, but there are other values out there that you can potentially value—you can provide income to repair these problems. It was government policy, in many cases, for landowners to clear land when we were developing the agricultural industry. We need a government policy to assist in that repair process. We can concentrate production on the most productive land. We do get a chance to look at land-use planning. We can reward good management and sound stewardship both pre and post 1990. That is important because, in my view, people who did some pretty good things back in the 1950s and 1960s should not be disadvantaged by the introduction of an emissions trading scheme. You can create the incentive for people who own land throughout regional Australia to develop and improve sustainable land management.

I would like to talk about two projects that I have been working on over the last two years. I must admit that they were funded by a company called Sustainable Forestry Management Australia. Unfortunately, that company is in voluntary administration, so obviously there are some things I cannot talk about. It is quite a sensitive period for that company. They are going through a restructuring, refinancing or asset sale process. So there are some things I cannot talk about today, but I can give you the principles of what they were doing. There are two projects I would like to talk about. One was a drylands project that had invested in over 16,000 hectares of agricultural land in Western Australia and South Australia where the main income was based around normal agricultural cereal production—canola, wheat and barley—with secondary income from carbon credits. We were also looking for other outcomes: control of salinity, mitigation of erosion and improved biodiversity.

The second project is in Northern Australia called the savanna fire management program. The major income from that particular project relates to carbon credits. The secondary income is potentially from biodiversity credits. The externalities, if you like, the other benefits of that project are employment and cultural and social benefits for Indigenous and traditional owners. It is quite a different environmental project compared to our drylands project.

I would like to direct the committee to some maps which I have produced for you. I have only produced five of these, so you will have to share with your neighbours. I want to talk about a property in southern Western Australia in the southern wheat belt. A couple of the senators from Western Australia will definitely know this part of the world, in particular a property known as Strahans on the Boxwood Hill Road, near Ongerup. It is a typical, former wheat-cropping farm in Western Australia. This farm is about 1,300 hectares. It has had an interesting mixture. It has been cropped over the last four or five years. The company purchased this property in September last year for \$2½ million. We set up a process to redevelop it. I will explain a number of the issues.

You can see here the yellow country, which is the area that was under active agricultural management. There was one small block at the top here, about 300 hectares of remnant mallee woodland, which was never cleared. That is part of it. It was essentially being fenced off and became part of the property in total. A series of watercourses ran through this particular property which have salinity problems associated with them. Salt scalds are beginning to show

through. It was quite a productive property in the past, but salt was beginning to appear. There were classic signs of the older yate dying, which is the native species in that particular area. The centre of the stream was becoming quite white and there was scalding. You could see outbursts of salt scalds further up in the catchment, out into the paddocks. That will create problems and increase over time. The Western Australian department of agriculture suggested that the watertable in this part of Western Australia is rising at about 0.2 of a metre a year, which is fairly fast. Hence, because the native vegetation has been removed, the watertable is coming up and salt is coming out through the soil profile. So we are ending up with a potential problem.

The approach that SFMA took was to map out areas, change the way in which the property would be managed and to plant trees and native vegetation around these areas of salt scalds. In percentage terms, around 18 to 20 per cent of the land was going to go under trees and other vegetation to do a number of things. It would control the rise of the watertable. We talked this through with the hydrologist from the Western Australian department of agriculture, who has been working in that region for about 15 or 20 years. He said that, in his view, in that part of the catchment it would be possible because it was high enough to hold the rise of the watertable. There would be a significant amount of added protection. This area of Western Australia gets quite a bit of wind erosion and, because it is sand over clay, it can be quite an abrasive wind which does impact on crop production. Of course, you also get the added biodiversity benefits of, again, linking these areas of native vegetation.

The important point and the interesting thing in testing this model is that, essentially, we have about 1,700 hectares of croppable land here under the original farm. Under this proposal, the land comes back to about 1,400 hectares, so we have taken about 18 per cent out to do this planting. We tested the model by going back to the market earlier this year and putting it back into the market for sale. In February we had an offer of \$2.5 million, which was the same price it was purchased for. You can read that in a number of ways. You can read it on the basis that the market, in recognising that the land was being repaired, was not giving a great value to it. It allowed them to concentrate their farming on the good land, which was what they really wanted to do and that the threat of salt and other factors had been taken away because of the plantings that had been undertaken. Essentially, that farm had been repaired and renovated. So all the farmer coming in had to do was concentrate on the farming and production, rather than thinking about some of the other environmental problems. It was a very interesting process. That is just one example.

Beside that map there are some other blue areas which are the other properties SFMA owns in the Jerramungup region of the south-western wheat belt of Western Australia. Just below that region—I will come back to this a little later—is one of Australia's major ongoing ecological restoration programs called Gondwana Link, which some people would be well aware of. It is a major program to link the biodiversity corridors between the Stirling ranges National Park and the Fitzgerald National Park. It is a very ambitious program but one that has certainly worked quite well.

The second project I would like to talk about is the savanna project, and it relates to this particular map. This map shows the fire intensity in Australia between 1997 and 2005. It shows how big a problem it is in the northern parts of Australia. Whilst a lot of us are focusing on what has happened in Victoria and certainly around Sydney in the past, Northern Australia gets absolutely hammered by uncontrolled wildfire. I am sure that the Western Australian and

Queensland senators will know a lot about this particular problem. Parts of the Kimberley burn almost every year and it is having a massive impact on the biodiversity of that particular region. You just cannot have fire of that intensity without losing things in the environment.

We developed this project, again, by using environmental credits. These uncontrolled wildfires in Northern Australia represent about three per cent of Australia's greenhouse gas emissions. By early season controlled burning and management on this land we can reduce that figure quite substantially. The project is designed to employ, through the income derived from carbon credits, the traditional landowners to manage that fire regime in this part of Australia, which is what they did for 40,000 years before European development. They actually know and understand it and they want to do it. The company has a memorandum of understanding with the Northern Land Council and, prior to its current predicament, had agreements—or very close to—with three other land councils to do exactly the same thing.

So the benefit of the carbon credit and the income from environmental credits is that we get people back out into this country who want to be there and who want to manage it in the traditional way and we have a massive reduction in greenhouse gas. Also, you will get other spin-offs as well, such as control of pest plants and animals, surveillance in these remote regions of Australia and, obviously, improved social outcomes for the people who wish to live there, developing their own viable form of income, which is very important.

I would like to finish my opening remarks with a quote from Keith Bradby, who is the general manager of Gondwana Link. He put some comments together on what SFMA had actually achieved in Jerramungup since it started in May 2007. If I may be indulged, I will read his quote:

SFMA's work on its Jerramungup properties ... is the only large scale, tangible demonstration of how rural Australia can maintain its agricultural production while also sequestering large amounts of carbon and protecting the environmental and cultural values on their properties. As an amazing added extra, those properties are positioned in the upper catchment of the only large scale ecological restoration program happening on the ground in Australia—Gondwana Link. It's a compelling story, even more so if you appreciate the extent to which we have been able to share skills, perspectives, Noongar engagement, environmental monitoring programs and more. As someone who has worked on the environmental side of land use for some decades, I remain incredibly impressed by the speed, efficiency and foresight SFMA have exhibited. **Australia needs much more of this.**

CHAIR—Can I just ask you how you would design the process to cater for the environmental or biodiversity credits that you are talking about? What modifications would we need?

Mr de Fegely—Within carbon credits, of course, Australia has done a huge amount of work on how you can monitor and measure carbon in trees. Essentially, the calculation of carbon in trees is a formula that is pretty well understood by the Department of Climate Change. The way we were assessing it was to follow their protocols. In measuring that, they have a computer based program called FullCAM, which stands for full carbon accounting model, and the SFMA work and the budgets they worked on used that system. A price of \$20 is enough to pay for the re-establishment of those areas.

The biodiversity was something that SFMA always wanted to do. It is not a market that exists at the moment, but we employed a botanist and ecologist to put baseline level surveys into the remnant vegetation on these properties. In the first tranche of properties they purchased, which

was around about 9,000 hectares, there was about 2½ thousand hectares of remnant vegetation. They planted about 1,100 hectares of plantations and the remaining area was reserved for agriculture. The remnant vegetation was assessed. It was in varying forms of condition. Areas that had been fenced and had livestock excluded generally had good structure and good ground covers on it, other areas where livestock had periodic access were not too bad and in areas where there had been permanent livestock of course the structure had been somewhat depleted. The ground covers and things tended to have left because of the impact of grazing.

CHAIR—So at this stage the biodiversity benefits are effectively a by-product.

Mr de Fegely—They were a by-product, yes.

Senator FEENEY—I am very interested in this case study and I congratulate you on your approach. I am interested in getting some more details, I suppose, and some particulars. Can you tell us how much was spent on the property, moving it from the condition you found it in to the condition that it was in at the time that the second offer was made? Can you tell us what the transformation of that property did to the yield, the agricultural output, and perhaps you could give us a little bit of insight into the property market that you bought it in and that you were made the offer in. Obviously, property markets are not entirely rational or scientific creatures. What was the nature of the market when you bought it and what was the nature of the market when you received that second offer?

Mr de Fegely—That is a good question; thank you very much. There are a couple of things. This particular project was in theory, because it was only purchased in September, so it had been due for planting this year. It was mapped and the offer was based on that map that you can see there, so the farmer knew what he would be getting and what he would not be. Prior to SFM having financial difficulties the program was generally based around a five-year model. They would buy and do the repair and renovation. In very simplistic terms it is like renovating a house but you are renovating a farming property. The establishment of trees, given the scale that we are working at, is not dissimilar to normal industrial plantation establishment. It is around \$1,100 to \$1,500 per hectare to get the trees in, depending what species but possibly up to \$2,500—

Senator FEENEY—So that would be roughly \$1,100 a hectare for the 18 per cent of the land.

Mr de Fegely—Yes, that is right. The agricultural work varied, depending on the nutrient status of the soil and what sort of condition the soil was in. We were doing soil monitoring. Unfortunately we only really started in May of 2007, so we have not had enough history. This year was to be the major measuring year to see how we were doing. All the operations on the farms are no-till, so they are minimum tillage meaning only one pass of machinery across the paddock to sow the crop. We use satellite geographic positioning systems on all the tractors to ensure you do not get any overlap, and that is 2.5 centimetres accurate. The seeder will come in and sow between the rows of the crop of last year. So the stubble rows sit there and the seeder just goes straight through down the row. It is quite amazing technology. You are getting precision applications of fertiliser. We were getting to the stage of developing how to apply fertiliser and chemicals so that it is applied only where it is actually needed rather than putting it out as a blanket application.

The majority of the farms were contiguous. This one at Strahans was actually out on its own, but we generally tried to buy clusters. Then you can redesign them a little bit. The way farms have evolved is not dissimilar to businesses. They need to be bigger so you can actually get different configurations which are more efficient by removing certain fences and working with the landscape.

We would expect to get at least a 20 per cent improvement, if not more, on agricultural production. At the moment, of course, I have to caveat that by saying that was not tested, because we have not done it, but certainly our agronomists and agricultural advisers believed that that was more than possible. So the overall production from those farms would actually be higher than what it was before we took over.

Senator ABETZ—But that is from your techniques being employed as opposed to the planting of trees that would be reducing salinity.

Mr de Fegely—Yes.

Senator FEENEY—What would have happened had you not engaged in the renovation of the land, in terms of agricultural production?

Mr de Fegely—The salt will increase over time, particularly on that property that I showed you, because the water table is coming up and you get these outbursts of salt just appearing, because it keeps rising. There is not the vegetation to hold it down. With the change from perennial pasture, which was predominant in this region with wool growing, to cropping, where you get to an annual crop, unfortunately the water table tends to rise slightly faster.

Senator FEENEY—Can you measure the decay of the agricultural production over time, until the point that you change the trajectory?

Mr de Fegely—You could, but the history on the farms, which we were very keen to understand, was not particularly well recorded. It is a function of where farming is, in many cases. This is a soldier settlement region. Jerramungup is a soldier settlement town. Generally speaking, it was a difficult area for people to do well on, because of the size of the farms, and it was a classic case of economy of scale. Redesigned and taken to a different scale, they will do very well. The rainfall is about 400 millimetres, so it is well outside the normal traditional forestry region, but the species that we were planting were adapting very well. We were using species not typical in the industrial area. We were planting two species. One was *Eucalyptus occidentalis*, which occurs naturally in that region, which is a yate, and the other one is *Eucalyptus cladocalyx*, which is a South Australian species. Both are durable hardwoods. So eventually, if there is an opportunity to do something, these are naturally durable timber species, although their immediate role is in holding the environment—the salinity, improving water, erosion, et cetera. But also, because of their high density, they are a more attractive species to grow carbon.

Senator ABETZ—Do they have a commercial value?

Mr de Fegely—I believe they will do. That was never part of the game.

Senator ABETZ—That was not? All right.

Mr de Fegely—The world is short of durable hardwood. So, if we do end up with significant areas of them then potentially in 50 years time—if we get on top of all of these problems—the opportunity to harvest these trees for outdoor use without the use of chemicals I believe will have some real value.

Senator XENOPHON—When you use no till or minimum tillage, can you explain whether there is an impact on emissions? What does it do?

Mr de Fegely—Essentially, this is the process. There is an overspray with a herbicide to kill the weeds and then a seeder, which is carrying the seed grain, is towed behind a tractor. That is the only time the soil is actually disturbed. The only other time you go over it is for herbicide or—

Senator XENOPHON—What is your understanding of any impact that may have on carbon being released?

Mr de Fegely—It has far less an impact than the traditional ploughing, scarifying, harrowing and seeding. That can mean three or four passes with some mechanical or cultivation equipment.

Senator XENOPHON—That makes a difference to emissions?

Mr de Fegely—Yes, it certainly does.

Senator ABETZ—What about the soil itself?

Mr de Fegely—The soil is actually improved dramatically because you are incorporating the organic matter and leaving it in the soil. If you keep turning it and cultivating it, you lose organic matter. Your nitrogen-fixing bacteria are actually working far better when they are not being turned over.

Senator XENOPHON—So there is a double-whammy effect in terms of carbon?

Mr de Fegely—Yes.

Senator XENOPHON—Okay. That is good.

Mr de Fegely—Your soils should hold water better, have better nutrient status and hold a better structure. Ultimately, of course, you have better carbon.

Senator XENOPHON—Thank you.

Senator IAN MACDONALD—Mr de Fegely, can I turn to the other issue which interests me greatly. Firstly, I would like a clarification. Most of that burning is deliberately started by Indigenous people?

Mr de Fegely—It is. Well, yes and/or yes—

Senator IAN MACDONALD—Yes, yes or yes! It is not a judgmental comment; it is a factual comment.

Mr de Fegely—People are lighting these fires deliberately, without any structure or approach. In working initially through NAILSMA and then through the land council, they want to move towards traditional burning practices, which were to patch-burn this part of Australia early in the dry season. By doing so, you prevent these big conflagrations late in the dry season.

Senator IAN MACDONALD—It is a great idea and a simple idea. I wish I had thought of it first. If it is not commercial-in-confidence, could you just run through how it becomes commercial? What would you expect for permits? What would you pay the Indigenous people? Is that going a bit too close?

Mr de Fegely—It is a little. At the moment this project sits outside the CPRS because it is not included. I would urge that it be considered.

Senator IAN MACDONALD—It is like a few other things, like the cessation of tree clearing.

Mr de Fegely—It has some very good social benefits. We also were funding a postgraduate student at the Charles Darwin University, who has been working on remote sensing and measurement. The Tropical Savannahs CRC has been looking at this for some time, and I am sure you are aware of that. On how you can actually measure the impact of early season versus late season burning, the Australian Greenhouse Office and the Department of Climate Change have also been looking at this very question. At the moment they are still looking at the calculation for how we get the gap and the difference. There is definitely a known difference. It is a massive part of Australia, of course, but we do actually have the technology to measure it now.

The process really is that the land councils would be engaged to manage the overall burning program so that the income would go to training the rangers. They would need equipment and training in fire management practice. The problem at the moment is that there are very few in the younger generations who know and understand it. The older generations do know and are keen to do that. They need to go back out onto their land to be taught exactly how to manage fire in this context. So there are costs associated with that. From calculations, the cost and the return will be somewhere around \$8 to \$10 per tonne of CO₂ equivalent to reduce carbon dioxide emissions—not dissimilar to other projects. I probably cannot say too much more than that at the moment.

Senator IAN MACDONALD—Anyhow, as a commercial proposition, it makes ends meet?

Mr de Fegely—Yes, it does.

Senator IAN MACDONALD—And it provides jobs?

Mr de Fegely—It provides jobs.

Senator IAN MACDONALD—It stops greenhouse gas emissions?

Mr de Fegely—Yes.

Senator IAN MACDONALD—Burning in a controlled way would make the land more productive not just for biodiversity but for grazing pursuits too?

Mr de Fegely—Yes.

Senator IAN MACDONALD—It has benefits when it comes to weeds and feral animals as well?

Mr de Fegely—You will have people out there who can control feral animals and noxious weeds and pests. At the moment, with the majority of people not necessarily living back on country, it is very hard to control those. There is a strong desire, certainly of the people we have been talking to, to actually live in these areas and regions and to undertake this work.

Senator IAN MACDONALD—Good. Thanks very much for that.

Senator MILNE—I am interested in both of these schemes but first of all in the bigger picture. We had a round table on the whole issue of biocarbon and the conclusion from the panellists was that it was not a particularly good idea to just include opt-in for plantations in the CPRS, that it would be better to take them out and to have a comprehensive, complementary measure which covered the whole land use sector. The idea was to incentivise the protection of native vegetation and forests first and then the rehabilitation and restoration of land et cetera. I am interested in your view about what a comprehensive scheme that actually looked at biodiversity conservation and restoration and maintenance of carbon stores would look like. Have you given any thought to how you might incentivise those kinds of outcomes? The second thing is that I am interested in the extent to which government policy actually undermines good outcomes. I understand land clearance is still permitted in several states of Australia and that native forest logging is still encouraged in several states of Australia. In the Northern Territory people are encouraged to plant buffel grass, which increases the temperature intensity of the fires and wipes out a lot of biodiversity. Do you have any views about the regulatory component of stopping ongoing degradation whilst we get onto repair?

Mr de Fegely—I do. Obviously in rural Australia there are a number of challenges in relation to greenhouse gas emissions, particularly livestock. I think you have to take this in various steps. The important first step that we recognised was thinking carefully about land management and about the best land use for that particular piece of land. There is a block on our Western Australian areas that was cleared in the 1990s. It is interesting, because it actually should never have been cleared.

Senator MILNE—Exactly.

Mr de Fegely—Now it is not good agricultural land. It is cleared but there is no incentive to actually do anything with it because it does not comply as it is post 1990.

Senator MILNE—That is right.

Mr de Fegely—Similarly I think the incentive is really important, because the owner who graciously left the 300 hectares on that property at Strahans at Ongerup can get no benefit from making that decision as well, yet those are very important. That part of Western Australia, as the West Australian senators will know, is one of Conservation International's 34 biodiversity hotspots. There is an amazing array of species there. So these small pockets and islands are really important. But as a landowner I think there is an approach to having a comprehensive assessment of how you can incentivise landowners to look after these areas, whether they are pre 1990 or post 1990.

When I took on this project two years ago, I said I would need at least three years to work out all the problems, and I am one year short. It is mainly because we wanted to be able to measure what we are actually doing, and that is the big frustration at the moment, that we have not got all the answers that my science training would ask me to be able to get answers to. But the indications are certainly from a community point of view, from an agricultural production point of view, that what we were doing was receiving an awful lot of interest. The Noongah community, which is the local Indigenous community in southern Western Australia, were also extremely supportive because they found some interesting aspects of cultural significance in the remnant vegetation and it is the first time that they had actually been through a couple of those properties, though they were aware that there were opportunities to look at. So from a company perspective that was an important factor as well for them. It does not represent any income but it represented an important connection with the land. Bringing that all-inclusive and comprehensive approach I think is really important. The issue will come back when you talk about cattle and what we do about emissions from cattle. That is significant, but we still have to try and feed the world, and we have to take steps at a time.

Senator MILNE—I understand that, but I specifically asked about the land-use issues and the regulatory frameworks that contradict them.

Mr de Fegely—I am a great believer in having incentives rather than regulations to get the outcomes. What was achieved in southern Western Australia in putting 1,100 trees in the ground was a lot faster than any regulatory system I know would ever be able to achieve in the same timeframe, and the amount of science and work that went into getting it done was, I believe, an extremely efficient way of addressing these problems. The officer from the Western Australian Department of agriculture I will not name, but he said, 'This is the first time for a long time I have actually been able to see development which I have really wanted to happen for a long, long time.' It is really an opportunity to have the cake and eat it too. It is keeping production but it is also addressing these other environmental problems which everyone has been aware of. A lot of farmers are aware of it themselves but they do not have the financial capacity to do anything, they do not have the skills to apply and their real interest is in farming. If you can work out a way in which you can fill that gap of finance and skill and they can concentrate on farming, you are starting to get a really good mix.

Some of the regulatory environments were concerning, particularly in relation to water management. There is a little bit of a blanket approach in relation to those things and planting of trees; there is a phobia about planting trees in certain areas because of previous practices, which is disappointing. We were working in areas where traditional forestry and plantations have not really operated in the past, so there was a concern from the local government area when we first started but that dissipated quite quickly when they saw what we were doing.

Senator PRATT—You would be very aware from your work that climate change is a big risk to biodiversity. As part of recognising that threat, expanding our environmental corridors is key so that we have got a bigger footprint from which our biodiversity can adapt and change as the climate changes. To what extent is that principle recognised and what can we do to advance that further? It is linked clearly to Senator Milne's question but I wanted to draw that link explicitly to the impact of climate change itself and our capacity to adapt.

Mr de Fegely—I think that comes back to how you look at biodiversity and the options for biodiversity credits. If the system at the moment is purely based around carbon then my incentive is to grow a tree that grows as quickly as possible and is as dense as possible, because that is going to sequester as much carbon as possible. But if you have a value that works on the value of your biodiversity and how you manage that, if you can improve that biodiversity over time, which is the goal we were looking for and hoping for in setting up the framework to keep monitoring that even though there was no market for it, then I think you really start to encourage people to do more with biodiversity. It comes back a little bit to the point you were making before about incentivising landowners to link up this.

Senator PRATT—How do you incentivise it? That is what we want to know.

Mr de Fegely—To give people the option to be able to ensure that they can get credits for existing vegetation. For instance, if you have got a standing red gum woodland or a standing yate woodland, depending on where you are, and you fence that off and part of the processes is that you can claim the credits for the existing trees which are already there, which gives you income to ensure that you can then create the additional biodiversity in that environment, then you are changing and improving the biodiversity in a particular region.

Senator PRATT—And how do we create more awareness of how constrained the environment currently is in terms of its capacity to adapt because of the impact of climate change?

Mr de Fegely—The awareness thing. The interesting thing we found is that once we started doing work in Western Australia a lot of other people became very interested. We also had a project in New Zealand which I have not talked about which is doing the same thing. People were very interested in a joint venture and with the Maori land group and they created a lot of interest in doing similar sorts of things of environmental planting. Once you start, there is a lot of curiosity of looking over the fence to see why are you doing this and what are you doing it for and what is actually happening. If there is a financial incentive to do it then people will pick it up relatively quickly. I believe that a lot of landowners in Australia are genuinely very keen to improve their environment. As I said, they do not have the finance and they do not have the skills particularly and there is just no incentive at the moment for them to do more than they are doing.

Senator PRATT—And surely an approach like that would also improve the tourism values and local amenity in these areas.

Mr de Fegely—Absolutely. There are good spin-offs.

Senator CAMERON—I am interested in the ongoing management of a farm such as this in the south-west of Western Australia. Are you aware of the projections by the Department of Climate Change for climate change in this area?

Mr de Fegely—Yes, to a degree, and we have modelled those with CSIRO on tree growth and the impact in that particular area. The variation as we understand it, the improvements of the work we are putting into agricultural production in theory should compensate for a slightly drier climate. If you are doing no till cropping management, you get better utilisation of moisture, so you can afford for your rainfall to drop by a percentage, not by a hundred per cent but by a percentage—

Senator CAMERON—But the projections are not for a slightly drier climate.

Mr de Fegely—The CSIRO modelling for the area that we were in was slightly drier, not for it to dry right out.

Senator CAMERON—I have just looked on the departmental website. They are saying warmer with more hot days and less cold nights, increased stress on water supplies, decline in annual rainfall, higher evaporation, 31 per cent decline in run-off, more frequent and severe droughts and increase in storm events. That is the department saying without CO2 mitigation that is what we are facing. Have you considered that?

Mr de Fegely—Yes, we do, as much as we can. I suppose our hope is that if enough people start doing what we do then that will be not as severe an impact as predicted.

Senator CAMERON—You are a scientist?

Mr de Fegely—I am a forester by trade.

Senator CAMERON—Do you accept the science on climate change?

Mr de Fegely—Some of it.

Senator CAMERON—What don't you accept?

Mr de Fegely—There are a number of different views on what is going to happen with the climate. I think there are less different views about what our problems are in rural Australia. Most people accept those, and what I believe is that we have some opportunities through utilisation of environmental credits to address those problems. If we do not address them then the problem is only going to get worse

Senator CAMERON—What problem—climate change?

Mr de Fegely—No, the erosion and the salinity problems in—

Senator CAMERON—I am talking about climate change. I want to concentrate on that. We have had a long debate about management and those issues and I just want to get your views on climate change. What parts of the science don't you accept?

Senator IAN MACDONALD—I am not quite sure that that is relevant.

Senator CAMERON—It is entirely relevant.

Senator IAN MACDONALD—No, it is not. The witness is here to talk about—

Senator ABETZ—This is a huge issue, climate change: whether it is the economics, it is the science, it is the—

Senator CAMERON—I think the witness is capable of handling this without your help.

Senator IAN MACDONALD—He is more than capable—

Senator CAMERON—That is good, so let us hear his answers.

Senator IAN MACDONALD—particularly of answering your questions, which most children could. It is just not germane to our inquiry with this particular witness.

Senator PRATT—It is at the heart of it.

CHAIR—Let us not have a conversation between senators.

Senator CAMERON—What is the ruling, Chair? Am I entitled to carry on asking the question?

CHAIR—You have asked a question. I am handing to Mr de Fegely to respond.

Mr de Fegely—In our view, the modelling that we did with CSIRO suggested that the changes in climate would be manageable with the—

Senator CAMERON—That is not what I have asked you. You said you did not accept parts of the science on climate change. I am interested to know what that is.

Mr de Fegely—I am sorry, I will correct myself. I said there are confusing elements in what views there are on climate change, whether it is going to happen or not and what the severity is. I want to be quite clear on this: I do not sit here trying to be an expert on climate change and I am not trying to be one. What I am looking at is: how do we resolve land use management problems in Australia? And the opportunity for an emissions trading scheme is one that can provide a solution to those problems.

Senator CAMERON—Do you accept the proposition that, even if there is a debate about the severity or the effect of climate change, the government has to take risk mitigation and cannot just sit back and do nothing?

Mr de Fegely—I am sure it does, yes.

Senator CAMERON—On that basis, a scheme to reduce CO2 in Australia and linking that to an international scheme is an appropriate way forward?

Mr de Fegely—I think so.

Senator CAMERON—Yes?

Mr de Fegely—Yes, we have to have a scheme .

Senator CAMERON—Do you agree with the proposition that early involvement in this area will bring benefits to agriculture; that we need to move quickly on it?

Mr de Fegely—Yes, we do.

Senator CAMERON—We hear a lot about the negative side of climate change on agriculture, but we have had some evidence that by putting a scheme in place we could actually develop so-called green jobs in agriculture. Have you thought about what we could do there?

Mr de Fegely—I do not think we are going to design the perfect scheme sitting behind a desk. We need to be out there trying different things to see what is going to work—and there will be failures. But if we do not start doing things then I believe the job is going to get harder and harder. I am looking at problems that have been around since I was at university. I think the silver lining that climate change has brought is an opportunity to solve a range of problems that we have already got in rural Australia.

Senator CAMERON—Thank you very much.

CHAIR—Thanks very much, Mr de Fegely. We appreciate your evidence, it adds something to our inquiry, so thank you for your time here today.

[11.15 am]

HAMILL, Dr David John, Chairman of the Board, Envirogen Pty Ltd

RICE, Mr Jeffrey William, Chief Executive Officer, Envirogen Pty Ltd

van ROOYEN, Mr Jonathan, Director, Envirogen Pty Ltd

CHAIR—Welcome, gentlemen. I invite you to make an opening statement.

Dr Hamill—I thought it was probably appropriate to tell you a little bit about Envirogen, the waste coal gas industry and the benefits that industry can bring to the Australian environment and the economy at the outset. One of the questions that we frequently get asked is whether Envirogen is another coal sector interest group. I can tell you that nothing could be further from the truth, and I will explain why. Envirogen is an environmentally-friendly power generation business. We generate power through providing significant emissions abatement. We use waste coalmine methane, which would otherwise be vented to the atmosphere or flared, to create electricity. We are not an adjunct to the coal industry, but we limit the fugitive methane emissions that arise from it.

These fugitive emissions are actually a waste product and, although it is methane, it is such a poor grade that it is not suitable for piping in the form of coal seam methane. It is truly a waste product and has no use other than power generation. Seventy per cent of Australia's fugitive emissions arise from mining coal. Importantly, these emissions continue to occur even after the mining activity has ceased. During active underground mining, methane needs to be removed on safety grounds, so you can see that Envirogen combines occupational health and safety solutions with significant fugitive emission gas abatement outcomes. Importantly, long after the mining process has finished we can continue to draw methane from decommissioned mines where that gas would otherwise vent to the atmosphere. In 2007-08 the Department of Climate Change, on behalf of the Australian government, reported the abatement of eight million tonnes of fugitive emissions. Our waste coal gas industry, which is two companies—Envirogen and Energy Developments Limited—together were responsible for 6½ million tonnes of abatement, which is over 80 per cent of the fugitive emission abatement in Australia. We submit to the committee the 2008-12 report of the Department of Climate Change, *Tracking to the Kyoto target: Australia's greenhouse emissions trends, 1990 to 2008-12 and 2020*, as evidence of that.

We have been abating fugitive emissions since 2000, and our industry has a total installed generating capacity of 215 megawatts. Practically, this means we provide sufficient power to electrify over 210,000 homes. That is equivalent to powering a city about 1½ times the size of Canberra. At the same time—and this is important—while providing that amount of power we are also removing the impact of emissions equivalent to 1½ million cars on our roads. Providing the waste coalmine gas industry has a regulatory environment which enshrines an ongoing investment incentive, our industry has the capacity to double its abatement contribution and assist Australia in outperforming its Kyoto targets. By including the contribution of waste coalmine gas within the proposed expanded renewable energy target, the industry has potential, with funding available, to increase its contribution to fugitive emission abatement from its

present level of about 6½ million tonnes of carbon equivalent per annum to over 12 million tonnes of carbon equivalent per annum. This would increase Australia's abatement of fugitive emissions from eight million tonnes of carbon equivalent per annum to 14 million tonnes of carbon equivalent per annum, which would be a 75 per cent increase during the Kyoto commitment period of 2008-12.

This degree of potentially increased abatement is unprecedented for any industry in Australia, an issue which the architects of the current CPRS or RET schemes have not accounted for. We are concerned that the contribution our industry makes to emission abatement is being overlooked. The green paper was released and there was no mention of our industry. Landfill gas was mentioned but waste coal gas was not. We made numerous representations to government and key advisers, including the Department of Climate Change; however, when the white paper was released there was still no mention of our industry other than to classify us as a transitional arrangement, which in effect means we may get some limited form of compensation when the state scheme expires. Unfortunately for the waste coalmine gas industry, the Department of Climate Change's proposed transition really means termination. Our concern is that, when state based arrangements to promote renewable energy are due to expire in 2012, with them goes any incentive for coalmines to do anything other than just burn their fugitive emissions. In other words, there is no incentive to use this waste product for a productive purpose. Mines will seek to abate by flaring gas, whereas we say there is a use that that gas can be put to, and that is in power generation.

There are both negative environmental and economic impacts from the omission of waste coal gas from the CPRS or, indeed, from the expanded renewable energy target. The result of that will be that our industry will have no future; however, we do submit that there is a solution. We would like to talk to you about that today. Power generation from waste coal gas ought to be included in the proposed expanded renewable energy target, and there are international precedents to support that view. As I said before, Envirogen has been abating fugitive waste coal gas since 2000. In that same year, Germany's Social Democrat-Green coalition passed its Erneuerbare Energien Gesetz, or its renewable energies law. That law in Germany enjoys bipartisan support. The legislation includes energy produced from waste coal gas as a renewable energy alongside energy from hydrodynamic power, wind energy, solar radiation energy, geothermal energy and gas from sedentary landfills, sewage treatment plants and biomass. In the words of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the rationale for including the use of waste coal gas for electricity generation was because:

The use of mine gas for electricity generation will improve the carbon dioxide and methane balance, relative to the release of these substances into the atmosphere without utilising them.

Other countries have taken a similar approach and we believe Australia should do likewise. Failure to do so will not only remove the significant advantages that we can deliver in terms of abatement and energy supply but also destroy investment and jobs in what is, in fact, a niche industry in this country. The abatement of waste coal gas for energy does produce carbon dioxide, but so does flaring, the alternative proposed by the Department of Climate Change. The big difference is that we actually generate power through the process. Furthermore, the alternative disposal of waste coalmine gas in power generation creates no additional greenhouse gas emissions. In that regard, waste coal gas generation could be classified as a zero-rated fuel

source from a greenhouse gas perspective. Therefore, this waste coal gas achieves the same benefits as those from renewable power stations.

What is at risk? Should the waste coal gas generation industry be lost because of the regulatory environment changing, there will first be a need to find another 200 megawatts of power from other sources. In the medium term, the likelihood is that that gap will be filled by other fossil fuel generated power, with all the associated negative environmental implications that that will bring. In addition, the waste coalmine gas industry has seen investment of \$455 million in 215 megawatts of installed generation capacity across nine locations in Queensland and New South Wales. The industry currently supports over 100 jobs in regional centres. These jobs are in jeopardy should there be no future for our industry. In the case of my company, we outsource our operation and maintenance requirements. Our supplier in this is Clarke Energy, which is based in Thebarton, South Australia. It is dependent on the waste coalmine gas industry to maintain a \$100 million annual contribution to the South Australian economy, including along with that 60 direct employees. In stark contrast, should the waste coalmine gas be included under an expanded renewable energy target, we would see not only additional emissions abatement but also an additional \$345 million invested in power generation capacity, which would support over 300 new jobs in construction.

In summary, as long as Australia has a coalmining industry but, importantly, even after that industry is gone, there will be a need for waste coal gas emissions abatement. We are an industry that has been making a major contribution to that abatement and we do not want to be transitioned into oblivion. We have an unparalleled record of actually contributing to Australia's achievement in emissions abatement to date, and with the right regulatory environment we could double that contribution. We believe that the CPRS and RET schemes as currently proposed are deficient because of the omission of recognition of waste coalmine gas generation. We believe Australia should adopt the international precedents and include the energy sourced from waste coalmine gas under an expanded RET. We would be very happy to respond to any questions that the committee may have.

Senator IAN MACDONALD—To help us understand this: once you use the waste gas, what happens to it then?

Dr Hamill—Through the energy generation process, we produce carbon dioxide. But, of course, if we were not doing that, the mines would be producing the same carbon dioxide but actually burning the gas into the atmosphere. The important difference here is that we are making use of what otherwise would be a waste product. There is no further detrimental environmental impact. Indeed, what we are doing is offsetting other power generation requirements with the use of perhaps other fossil fuels.

Senator IAN MACDONALD—Yes, it seems pretty simple, even to me. Did you receive some grants when you started?

Dr Hamill—That is right. In fact, my CEO has been with the company even longer than I have and he can give you a full account of all of that.

Mr Rice—Yes, Senator, you are correct. We did have Australian Greenhouse Office funding to assist it. That also recognised that we were going to get the state government instruments, or green instruments, as well as the AGO money to get the projects up and running.

Senator IAN MACDONALD—Are you making a profit now? I hope you are.

Dr Hamill—As chairman of the board, I hope I am for our shareholders.

Senator MILNE—Fifty per cent of your income comes from the New South Wales greenhouse scheme.

Mr Rice—Probably a little more; it is more like 60 per cent of our income comes from NGACs at the present time.

Senator IAN MACDONALD—Can you elaborate on that?

Mr Rice—To put it simply, of the revenue we get we need roughly two-thirds of that to be in some green instrument, whatever that is. The generation costs from a capital cost are quite expensive relative to other sources. The benefit comes to the environment. Methane is recognised by Australia and internationally as 21 times the multiplier of CO₂. Coming back to your initial point, although we are emitting carbon exactly the same as the flare stacks work, we are taking out that 20 times multiplier in the methane emissions.

Senator IAN MACDONALD—20 times worse than CO₂?

Mr Rice—21 times worse.

Senator IAN MACDONALD—Are you getting some sort of credit from the New South Wales government for doing this?

Mr Rice—Correct. Under GGAS in New South Wales, we get a New South Wales government abatement certificate. An NGAC is about \$12 a tonne. When you introduce all the losses in the system from generating power, about a four times multiplier creeps into that.

Senator IAN MACDONALD—Where is your plant?

Dr Hamill—We have four plants. We operate at Oaky Creek near Tieri in Queensland and we have three operations in New South Wales at Glennies Creek, Teralba and Tahmoor—the Hunter Valley and into the Illawarra.

Senator IAN MACDONALD—How does the CPRS not suit you? What would we have to do to the scheme to allow you to continue your business as usual?

Dr Hamill—To put it simply, the CPRS puts the onus on the polluter, if you like, to affect the abatement of their carbon output. What that will do in effect will force, in this case, those mines of which we have been speaking to take the least cost option, and that will be simply to burn the methane into the atmosphere. If that happens, there is no incentive at all for power generation to be achieved using what otherwise would be that waste product. So what we do here is to lose the

effects of abatement which the waste coal gas energy industry can provide and we effectively of course mean that there is going to be additional generating capacity sought to fill the gap that our industry would no longer be supplying to the energy grid.

Senator IAN MACDONALD—If you convince us of the strength of your argument and we are writing a recommendation to the government, what would it be?

Dr Hamill—The recommendation that I would certainly commend to senators is for Australia to tailor its Carbon Pollution Reduction Scheme to be in line with international precedent. That is why I highlighted the German experience. In Germany, the waste coal gas industry was recognised as making a positive contribution to abatement and it fitted within their renewable energy target. That 2000 legislation in Germany has been very successful in encouraging a whole range of alternative energy generation and a significant expansion of sustainable energy generation in Germany. For Australia's international credibility and also for the achievement of an international carbon reduction regime, I believe it is highly desirable that we come together and have a consistent approach internationally. As I said, we have a working precedent here which Australia could well emulate.

Senator MILNE—Just to clarify, you are saying that it makes no difference for the atmosphere whether the coalmine actually burns the waste coal gas or captures it and converts it, because the CO₂ going into atmosphere is the same? Your argument is that you displace 200 megawatts of potentially coal-fired power and, hence, that is where your abatement comes in. Is that what you are saying?

Dr Hamill—In terms of the displacement of other potential power, that is true. We are confident that, if the regulatory regime were suitable, that displacement would double and that we could double the amount of abatement of fugitive gas that we currently have.

Senator MILNE—I understand that. I just wanted to clarify that it makes no difference whether you convert it into power or flare it; you still have the same amount of CO₂ going to atmosphere. The next point is: you say that your business depends on two-thirds of the income coming from a green instrument. Why wouldn't the other renewables say: 'If the government gave us two-thirds of our income stream from a green instrument, we would be doing pretty well out of this, too. And we are in the long-term renewable and sustainable, whereas your industry depends on ongoing coalmining'?

Dr Hamill—It does not. The point I was making was that, in the situation of the mining industry, whilst any mining activity will result in future emissions that need to be abated, the issue of emissions continues after the mining has actually stopped. So we have a role in providing ongoing abatement, even after a mining industry has ceased.

Senator MILNE—Is it in perpetuity that these gasses escape from used coalmines and, therefore, yours is an industry award for legacy issues? My point is that I do not want to build a whole edifice which becomes the driver, as the woodchip industry became for forestry. You do not want to end up driving the coalmining industry on the basis of ancillary industries.

Dr Hamill—I will respond to a part of that, and I think my CEO wants to respond another part. The point that I would make is that we see the potential for the industry in Australia as

perhaps being twice the size that it is now—in other words, about 400 megawatts of power generation. Not every coalmine produces the gas that is suitable for, and is able to be extracted for, this purpose, but obviously a number of them are and there are others that can be tapped for that purpose. Even in terms of recognition under the renewable energy target and certainly under an expanded renewable energy target would, again, be a relatively small niche component of what would provide incentive for a range of other sustainable energy sources to develop. We do not purport to be a major player but we believe that we are an important niche player, and it would be a retrograde step to strangle the industry at this point.

Mr Rice—The only point that I would add to what David said—and also picking up your point, Senator—is that other generators, like Wakefield, are recognised where they pick up that specific green benefit. Where are we so different from a landfill? Only about 10 million years with it decaying and becoming coal. There is recognition for biomass, and we can go down a whole lengthy stream of things that are independently recognised for the benefit that they bring from an environmental perspective. One thing I would add to your thinking is that it is said that the generation mix into the future will give an uplift in the power price, but the problem is that it is only contemplating something like 15 per cent, and that will certainly not go anywhere near supporting our industry. We are only looking for the supports that are given to the likes of landfill. We are asking for no, and we believe that we are no different in real terms.

Senator MILNE—How many of your operations are at coalmines that are no longer operating?

Mr Rice—At the present time, we have a mine in the Hunter Valley that has now been closed for about four years. You are on a declining curve with coal as it degasses over the years. Those mines continue to degas for periods of 10- to 15-plus years. It depends on the mine itself; it depends on where you are on that point of the curve on the decline.

Senator MILNE—If you are restricted to getting benefits only from the mines that are closed, it would not be worth your investment because you are looking at a maximum of 10 to 15 years in each case.

Mr Rice—As I said, it varies from mine to mine; but, yes.

Senator MILNE—What happens at the mines that have been closed if you have only one facility on them? Does the coalmining industry flare it, or does it just go into atmosphere? What is happening?

Mr Rice—Up until now, a lot of them have just been venting that gas for safety issues. There is a safety issue with men being underground and flares, and coalmines do not like to flare gas unless they have a good reason to do it. With the introduction of the proposed scheme, there will be an economic incentive, if you like, to flare that gas as the alternative.

Senator CAMERON—I think I understand the dilemma that you are putting to us in terms of the investment that has been made and the future of your industry, but I have to say that I find it very difficult to equate it to a renewable in the context that you are putting it. That is an argument in terms of definition, I suppose. The issue for me is: is there another way to deal with the problem rather than as a definitional problem and trying to resolve it through that? What

about the transitional support that has been given? Are there any opportunities under the \$500 million transitional support for the industry that has been committed under the proposed legislation?

Dr Hamill—As I commented, ‘transitional’ for us means a transition to the end. It would not facilitate new investment. We are obviously sensitive to our shareholders. In fact, it is interesting that industry super funds are our shareholders here. They are looking for a return for the investment of their members. On outlook and the information that we have, as a board we would need to be looking overseas to be able to continue the sort of operation that we are currently providing in Australia. That is something that I do not say flippantly. I think it is a very great concern that that would be the case. But the transition arrangements are not about transition to providing sustainability for an industry; they are a transition to phase out, and those transitional arrangements would see our existing investments and employment jeopardised. There is no incentive there for further investment to be made in the waste coal gas industry in Australia.

Senator IAN MACDONALD—How does what senator Cameron is proposing compare with Germany?

Dr Hamill—Taking up Senator Cameron’s dilemma, a definitional issue, I am happy to table the German legislation, albeit it will be a translated version of the German legislation. It specifically recognises the contribution that waste coal gas can make—

Senator XENOPHON—I would like to see the original.

Dr Hamill—You want to see the original. We can get that too. In fact, I made a similar submission in front of one of your senator colleagues, Senator Cormann, who was very happy to receive the original German version.

Senator CAMERON—He speaks German all the time.

Senator ABETZ—I do not think you are the strong one to comment, Doug!

Dr Hamill—The point is that the German legislation does not purport to define waste coal gas as a renewable energy source. Alongside a range of renewable energy sources, recognition is also given to the contribution of the waste coal gas industry. You can play around with semantics, if you like. Some have suggested that maybe waste coal gas could be couched as ‘regenerative’ so as not to put it into the same boat as ‘renewable’. What I am saying is: do not get caught up in the definitional issues; look at the outcome of policy. If the outcome of policy is that you desire to have greater levels of fugitive emission abatement, do not throttle the waste coal gas industry. If your desire is to retain jobs and investment, do not throttle the waste coal gas industry. We are not actually looking for compensation; we are not seeking compensation. What we are seeking is a viable way forward for an existing significant abatement industry in Australia to continue into the future.

Senator IAN MACDONALD—Have you been given any comfort by Senator Wong or the department?

Dr Hamill—To date, no. We had been making submissions—we have been making submissions to other Senate committees and we have been making submissions to ministers—and we will continue to make submissions. We hope that our message is being heard. We believe we are not simply identifying the problem; we believe we are coming forward with a solution, and not a unique solution but one which is consistent with international practice.

Senator XENOPHON—Are you saying that methane from landfill is acknowledged in the CPRS and that you are not?

Mr Rice—Yes. The CPRS spends a fair bit of time talking about landfill as being a specific and special form of abatement and that basically would then be covered under an expanded RET scheme.

Senator XENOPHON—But that is only if it is at a certain level. I think it is if it is a small landfill—

Mr Rice—Yes, that is correct.

Senator XENOPHON—That is why I have had complaints from small landfill operators that miss out. Dr Hamill, can you elaborate on the impact in South Australia?

Dr Hamill—We have had the question asked of us in the past about what employment we have. EDL have a separate operation. They have more sites than us. Envirogen outsources its operations and maintenance functions. The company which provides that support to us is Clarke Energy. As I said in my opening remarks, Clarke Energy's operation relies heavily on waste coal gas.

Senator XENOPHON—Which plant in South Australia?

Dr Hamill—It is not a plant. They operate out of Thebarton. That is where they are headquartered. I have mentioned the investment being jeopardised, but the jobs are being jeopardised in terms of our outsourced suppliers. Our major outsourced supplier is, as I said, Clarke Energy.

Senator XENOPHON—I want to pick up on a point that Senator Milne was referring to. You exist by virtue of the certificates, the assistance you get under GGAS. Is that a significant amount of your income? In terms of bang for your environmental buck, have you done a cost-benefit analysis of what you do compared to other forms of renewables energy abatement?

Mr Rice—Yes, we do have a good feel for what those numbers are. In fact, going back to the original, we got Greenhouse Office funding on a competitive basis on a tendered arrangement. We are providing that carbon abatement on quite a cheap basis on direct comparisons. Putting that in perspective: in terms of dollars per tonne equivalent that we are currently getting on an average it is about A\$12, so it is not at the high end by any means. In fact, if we were offshore, we would be getting a lot more than that. In terms of megawatts, that translates to 60 per cent because of this 4.1 multiplier in converting tonnes back to megawatt hours generated—

Senator XENOPHON—On notice could you give some more figures to the committee on that. I would find that useful.

Mr Rice—Yes, we can. To give you a bit more background in a general sense, if we came under CER credits, these are European credits—because the Kyoto protocol does recognise waste coal mine gas projects; I am not sure that you are aware of that, but it does recognise them—under those instruments and that agreement—

Senator XENOPHON—Your submission says so, yes.

Mr Rice—we would be getting about \$70 for those instruments in equivalent Australian dollars today whereas we are not quite getting anything like that under our current power purchase arrangements for NGAC.

Senator XENOPHON—That cost-benefit analysis would be quite useful to the committee.

Dr Hamill—We will certainly provide those figures.

Senator PRATT—With respect to the New South Wales energy supply act, I note that the New South Wales GGA Scheme will be terminated when the national scheme begins. When bringing your current contracts into force, how did you assess when the new scheme would replace the old scheme?

Mr Rice—We saw 2012 as ongoing. In fact, when our first power station went into service at Tahmoor, there were no NGACs in existence. There was not even an obligation on the big retailers to supply energy, but they were trying then to provide green energy. So we have taken the long-haul view that green generation, for want of a better word, would be benefited as time went on. Now, we can commercially come to terms with what those dollars are. We say 2012, but the state government in New South Wales announced that scheme was extending to 2020, and we actually only reached financial closure on our final power station on that basis, after that announcement was made. So we saw that we would get that green benefit, whatever form it took, as time went on. The problem is, though, that we always thought there would be some type of benefit to the abater. You are now trying to introduce a scheme where you are taxing, to a degree, the emitter, and that is quite a polarised change to where we have come from and was not expected.

Senator PRATT—Is it perhaps that there is not enough of a price signal there to encourage the abatement—perhaps we are not taxing you enough? I have just playing devil's advocate.

Mr Rice—You might argue along those lines!

Senator PRATT—I understand you would like waste gas to be included in the renewable energy target. Can you explain to me what the traditional definition of 'renewable energy' is.

Dr Hamill—When you say 'traditional definition'—as I have been seeking to point out, different jurisdictions have defined renewables in different ways, but essentially the approach that has been taken in Australia has been looking at renewables such as wind, biomass and so on and so forth. As I said, the issue here is not so much about playing definitional games; it is about

looking at the policy outcome. Other jurisdictions have wrestled with exactly the same question and they have come up with policy outcomes which have recognised the environmental benefits through waste coal gas generation whilst at the same time promoting and assisting other forms of renewable energy.

Senator PRATT—Surely, though, that should not necessarily extend to changing the definition? Surely there should be an alternative or separate solution? The traditional definition is that renewable energy has a minimal carbon footprint because it is not sourced from fossil fuels. Surely that is the traditional definition of renewable energy?

Mr Rice—As you are probably aware, the definition is very specific on what is included under that scheme. In fact, it goes item by item down a long list—and it is in the legislation and the regulations, by the way. It specifically includes a lot of waste producers, including waste gas producers. That is fine. But where it hits us is that it also specifically excludes fossil-fuel waste producers; that is where we get caught.

Mr van Rooyen—Senator, we cannot forget that the alternative is a zero-rated fuel in terms of its carbon footprint. So, if we are not burning the gas for electricity generation, the alternative is exactly the same carbon footprint, in terms of a high-grade EPA approved flare to destroy that gas. But the big piece that we think we have a strong position on is that we displace 1.5 million tonnes of other fossil fuel—coal, specifically. In an example directly from the coal industry, we displace 1½ million tonnes per annum of coal-fired footprint by just being there. That is why we call ourselves zero rated. The alternative is the same footprint.

Senator MILNE—But any renewable that produced the 200 megawatts would be the same.

Mr van Rooyen—That is correct, but we are saying that we can only get to a maximum of 400 megawatts out of a 10,000-megawatt target—that is the size of our industry—which is fairly insignificant because half of that, 200 megawatts, is currently generating. It is installed and it is thundering away in regional areas, generating electricity. And we can double that.

Mr Hamill—That is a key point, I believe. In a lot of the discussion around the CPRS and so on, there is a lot of talk about what this industry might be able to do, what the future may hold, and so on. In our case we are actually doing it. We are not talking about the potentialities or hypotheticals. We can tell you now: our industry is producing 215 megawatts of power. We are abating 6½ million tonnes of fugitive emissions. That is data which is recognised in official government recording. We are not talking about hypotheticals; we are talking about reality.

Senator FEENEY—I have a couple of quick questions going to this question of the economics of your industry sector. Are you able to tell us how much money per megawatt hour it costs to produce your electricity? We have got those sorts of numbers from generators and other renewables. I am interested in what it might be with you.

Mr Rice—I think you have got the numbers, but we can provide all of those numbers again—

Senator FEENEY—Forgive me; I could not find it.

Mr Rice—Just to give you some ballpark numbers, I will not speak for the shareholders, but the returns are long-haul and fairly low in their margin. The capital cost of installed plant is running at about \$2 million per megawatt installed. That puts it towards the high end. The revenues we are talking about, as we said roughly two-thirds is in a green instrument and the one-third is at the black price on the pool. We are selling under long-haul contracts to the retailers. So to balance that whole equation out, when you look at the operate costs and pipeline costs and all the rest of it, you come out with a recipe of needing those sorts of numbers to get quite—

Senator FEENEY—Where does that leave you, roughly speaking, in terms of the cost of producing a megawatt hour of electricity? Is it \$40? \$100? \$200?

Mr Rice—No, it is not \$100. All up it would be approaching something in the order of \$70. But we have come at it from a different way, looking from an equity return and working back the other way.

Senator FEENEY—I appreciate your paradigm. I just wanted you to venture onto the paradigm offered to us by others. My final question: what incentive does the coalmine have to give you the waste methane? It makes no difference in terms of emissions—

Mr Hamill—Do you mean under the current regulatory environment or under the proposed future one?

Senator FEENEY—Under the current one.

Mr Rice—We pay them a nominal sum of money for the gas, but it is very much only covering their handling costs and all the necessities. Most of those are big coalminers, and they like to be good corporate and green citizens of the world. So they would certainly prefer to give the gas to us and see it used for generation than to see it burnt in the flare. It is about that simple. If they had to install the flare, it would be a twentieth of the cost of putting it into the generator. But putting it across that fence to us is, realistically, a thing that they are quite happy to have on their CV. If you open the coffee table book of one of the big coalmines, Xstrata, it has our plant sitting there in the middle of the open pages—and that is the way they want to represent.

Mr Hamill—A relevant point about that, of course, is that we have heard from some of the mines at times saying, ‘Maybe we should undertake the power generation. They look for much higher returns in terms of their investment than what could be obtained out of a power plant using the gas.

Senator FEENEY—In terms of your relationship with the coal companies, above and beyond the value you provide them, and they gain from the corporate citizenship of working with a company such as yours, what can you tell us about the fee structure that exists?

Mr Rice—That varies from mine to mine and, quite frankly, reflects some of their costs of assisting us, for example, in well-head connections, assaying and accessing site land. In every instance, it varies quite considerably. I can give it in dollars per gigajoule, but it ranges from around 40c to the better part of a couple of dollars to light a gigajoule of gas. That is low relative to high-quality methane on the market and really reflects the cost of them giving us that gas.

That is supplied to us under long-haul contracts with them. They have an obligation to make that gas available to us and our obligation to them is to maximise generation.

Senator FEENEY—How long would that contract be for?

Mr Rice—Again, they vary from mine to mine, but they are long haul, 15 to 20 year type contracts.

Senator BOSWELL—If wind power costs \$100 a gigawatt hour, are you saying yours costs \$70 a gigawatt hour?

Mr Rice—That is the order of magnitude, yes.

Senator BOSWELL—What subsidy are you getting in New South Wales?

Mr Rice—Under GGAS, we obtain New South Wales government abatement certificates, NGACs.

Senator BOSWELL—What is it per megawatt hour?

Mr Rice—An NGAC is nominally worth about \$12 under our contracts. The market value of them obviously, the spot price, has fallen through the floor at the moment, but that is the sort of number we are talking about.

Senator BOSWELL—You are getting a subsidy in the form of a certificate of about \$12 an hour?

Mr Rice—That is right. That is provided by the retailers through GGAS. We are selling on long-haul contract to the likes of Energy Australia and Country Energy.

Senator BOSWELL—Does waste coal methane gas provide an alternative baseload power source?

Mr Rice—Yes, and that is the big difference between us and wind. We run 24/7 with a capacity factor at around 90 per cent. The best of the wind farms will be operating around the high 30 per cent levels.

Mr van Rooyen—Just on that, if you had to replace our industry with wind, you would have to build a 550 megawatt wind farm to replace our 200 megawatts. You would need \$1½ billion of capital expenditure to build that wind farm. The fact is we are there and have invested and are generating now. To replace that, which is part of the RETs proposed, would require that investment to be found.

Senator BOSWELL—What about the transmission?

Mr Rice—We are selling to the big retailers under contract. The point of injection is generally at our power station front door, and there is a system there able to inject the power straight into

that system. There is also a benefit to be gained because you have embedded generation—in other words, you are taking away from the need for transmission from other sources of energy.

Senator BOSWELL—The advantage is that you are at the source of production rather than having a wind farm on the Bight or somewhere like that?

Mr Rice—Yes. The load the mines have on these bigger mines is far in excess of what we are injecting on a localised basis, and that is where the benefit comes from. I have to say this: we are arms-length in selling power to the big retailers; we are not selling directly to the mines.

Senator BOSWELL—Wind or your own way of sourcing power puts a cost on industry, a cost that may not have to be met overseas. That will make our down-line industry more expensive. Is there any way we can avoid this? Do you have any other suggestions for a renewable energy scheme?

Mr Rice—What we are suggesting makes us only comparable on a like for like basis with wind or biomass or anything else. I think the reality is that any one of these green generators requires some additional benefit to make them viable otherwise we will be back with the existing generation mix we have now.

Dr Hamill—It comes down to a public policy about the desirability of seeking a range of other energy sources and constructing a framework whereby that can be achieved, whether it be by specific incentives to ensure that a certain proportion of generating capacity must use renewables like coal gas, gas or whatever and creating the environment that encourages the investment in those alternative fuel sources.

CHAIR—Can you give us a sense of the multiplier—when you burn the methane, what is the reduction rate of outputs? You say in your submission you are abating 6.5 million tonnes of CO₂ equivalent.

Dr Hamill—The waste coal gas industry in Australia.

CHAIR—Yes. What is the conversion rate? Do you get a tonne of CO₂ for a tonne of methane burnt?

Mr Rice—On a 20-megawatt power station—this is just an example that we can give you the numbers for—that power station in one year would save 630,000-odd tonnes of CO₂ equivalent. That power station would also emit about 82,000 to 85,000 tonnes of carbon. That is the sort of multiplier you would get.

CHAIR—I think I can do a calculation based on that. Effectively, what you are saying to us is that if you were included in the renewable energy target or had capacity to access renewable energy credits, which are selling at 40-odd bucks each at the moment, that would satisfy your requirements to continue the operations that you are running now?

Mr Rice—That is correct.

CHAIR—So, effectively, what sort of carbon price would you require, with its resultant impact on energy prices, to survive?

Senator MILNE—In the absence of—

CHAIR—In the absence of a RET. Effectively, you need an energy cost at about \$70?

Mr Rice—Yes, that is the order of magnitude.

Senator CAMERON—From my involvement in the coal industry in the Hunter Valley, if I remember correctly there is a requirement on the coalmines not to just access the easily accessible coal; that if they go through on an open cut then they have to have a plan to access the less accessible coal seams and so they end up putting an underground mine in. That is to maximise the benefits of the exploited resource: they try to get everything. Wouldn't you be better looking at this industry as part of that maximising of the exploitation of the resource and making it mandatory for a mine to produce the power—whether they do it themselves or do it through your company—and then spread the cost of that across the whole life of the mine? Wouldn't that be another option?

Mr Rice—As we said earlier, we cannot do it on every mine. You have mentioned open-cut mines. We cannot harness the gas coming off the coal from an open-cut mine. The mines that we are working with—

Senator CAMERON—I was using that as an example of the good idea of having full exploitation. I am saying that if you have an underground mine, particularly a gaseous underground mine, then you can exploit that resource to produce energy. Why wouldn't you do that over the life of the mine and factor that into the life of the mine? Maybe that is something I have to ask the Coal Association when they come here, but isn't that another option in thinking about this whole process?

Mr Rice—To date we have been arms-length from the coal industry and we are promoting ourselves as being arms-length from it. If you start putting in instruments or whatever to force a coalmine to do something then maybe that is correct, too, but it is something we have not lived with and nor would we see us going into the future with, from where we sit in the whole equation.

Dr Hamill—The approach that you have outlined is an alternative approach that could be explored. The point that we have been making here, though, is that in the current shape and form of the CPRS, as proposed, there is no incentive for the mines to do anything other than simply flare—and that is the problem.

Senator MILNE—We understand that.

CHAIR—Thank you very much, gentlemen. We appreciate your evidence and your appearing here today.

[12.05 pm]

HARRUP, Ms Trish, Senior Climate Campaigner, Greenpeace Australia Pacific

HEPBURN, Mr John, Climate Change Campaign Coordinator, Greenpeace Australia Pacific

WINN, Mr Paul, Forest Climate Policy Expert, Greenpeace Australia Pacific

CHAIR—Welcome to the representatives from Greenpeace. Thank you for taking the time to appear before us today and thank you for your submissions, or is it emissions? But thank you for all that.

Mr Hepburn—Thank you for the opportunity to speak here today. I would like to pick up initially on something that Senator Feeney raised a little while ago talking about understanding different paradigms. Greenpeace Australia Pacific has been working on climate change for over 20 years. We have over 100,000 supporters around Australia who support our work. We have offices in the Pacific. What we are seeing and what we are hearing from climate scientists is that climate change is far more urgent than we had ever imagined. I know you have heard submissions from David Karoly and other climate scientists and no doubt you have got a clear overview of the urgency and seriousness of climate science. It is in that context that we make our submission to you today.

Climate change is a very complex issue in many ways. In other ways it is quite simple. In order to solve climate change we need to stop burning fossil carbon and releasing it into the atmosphere and we need to improve land management and keep terrestrial carbon locked up. Climate policy needs to meet those two objectives. So I guess from our point of view we need an energy revolution that is going to transform our energy economy and then we need to deal with the land management issues. What we are seeing from the CPRS legislation is that it is not really going to do either of those things. It is largely irrelevant to solving the problem of climate change, which is a result of the design of the scheme.

There is an energy revolution that is happening internationally. Australia will be affected by that. If you look at the US, they are building a new wind turbine every hour and a half. In China they are building a new wind turbine every two hours. Germany now employs over 250,000 people in the renewable energy industry and the wind industry in Germany is now the second-largest user of steel behind the car industry. If you look at companies like Google, I do not know whether you have seen it but they have a program called RE less than C, which is getting renewable energy cheaper than coal, investing in high altitude wind, geothermal and solar thermal baseload renewable energy. If you look at those areas, China, Germany and the US, they are the industrial powerhouses of the world and they will define the industrial economy for the next generation. At the moment our CPRS will not help Australia at all keep up with that. We need industry policy to drive that energy revolution. There is not a single wind turbine anywhere in Europe that was built as a result of their emissions trading scheme—not one. They were built as a result of the renewable energy targets and feed-in tariffs and other direct regulatory policies.

Our view is that climate change is so serious that we need a robust and urgent response to it rather than a tangential one. That brings us to the issue of emissions trading and why we think it should not be the central policy mechanism but one of a suite of different mechanisms. When we realised that asbestos was a problem, we did not put a price on asbestos, we did not set up a trading system in asbestos, we banned it and phased it out. We replaced it. We think that we need to adopt the same kind of direct regulatory response in terms of climate change.

One of the other issues in terms of the limitations of emissions trading which we do not often hear about is the question of the price elasticity or price inelasticity of demand. We know that when petrol prices go up you do not have a corresponding decrease in demand for petrol. So a price mechanism is one part of the equation to help shift demand but it is not going to do it alone. At this point we feel as though we do not yet have that other suite of direct regulatory policies that we need to make the difference on climate change.

In terms of the CPRS, there are a couple of key problems from our point of view. The target is far too low by an order of magnitude. We probably need something closer to five per cent cuts per year rather than five per cent over the next 10 or 12 years. In terms of the tradeability of permits, Paul will speak to that in a moment. But we feel as though the 100 per cent trading of permits basically undermines any incentive that the CPRS would have to drive shifts in the Australian economy. That is a significant loophole. If we want the CPRS to have any role at all in driving industry change, we need to close that loophole. The third issue is the granting of free permits to industries that really should have seen a carbon price coming a long time ago. If you are an executive in the coal power sector and you could not foresee the introduction of a carbon price by probably the early 90s then you were not paying attention. You see companies that have invested in new coal power generating assets during the 1990s, even early this century, the early 2000s, who are now claiming compensation when they should have seen that coming. It seems unjustifiable that the public would bail them out.

In terms of Australia's international role, Australia is a lucky country. We are one of the most privileged countries on this earth. When the first and second world wars broke out, we did not sit down and say, 'We are only 1.4 per cent of the global population—

Senator BOSWELL—Someone was coming down to kill us.

Senator IAN MACDONALD—I admire your originality.

Mr Hepburn—We did what was required and we earned the respect of the world for generations as a result of Australia actually punching above its weight and doing some of the heavy lifting. In terms of the global climate negotiations, the question is should Australia do what is an equitable response, should we do less than that or should we do some heavy lifting. Given the privilege that this country has, given our history of ingenuity, given how rich we are, given how abundant our renewable energy resources are, we think there is a very strong case that Australia should be setting a strong example globally. If we do not do it, who do we expect to take leadership? Is it going to be Chad or Uruguay? Who else is going to do it if not Australia? We can talk briefly about targets later on. I will hand over to Paul Winn to speak about the forestry offsets issue briefly.

Mr Winn—Under the draft exposure bill for CPRS, Australia has the ability to purchase unlimited international offsets in lieu of reducing domestic greenhouse gas emissions. These carbon credits would need to be sourced almost entirely from the developing world. Apart from the inequity of offsetting our emissions on developing countries, many of the potential offsets carry significant environmental, social and economic risks. The most likely offset credits that Australia would be seeking to purchase are those associated with reductions in deforestation, responsible for about 20 per cent of global greenhouse gas emissions. Last month the Australian government releases its preferred mechanism for reducing emissions from deforestation and forest degradation in developing countries, or REDD. Under this model, developing countries would reduce deforestation rates below an agreed level and sell the emission reductions to developed countries like Australia. The European information website EurActiv reported yesterday that Australia was the most vocal advocate of including a forest carbon trading mechanism in the international climate agreement. It quoted Senator Wong as saying that the US and Australia have converging views, saying that recent releases of the discussion draft of the US climate bill prepared by Congressmen Waxman and Markey foresees the use of international REDD credits to offset a progressively increasing share of the compliance target from 2012 onwards.

What Senator Wong failed to say was that the draft Waxman-Markey bill also proposes to supplementarily earmark up to 10 per cent of the revenue from the proposed annual auction revenue of the US pollution permits for a fund to be distributed to developing countries who undertake REDD. While proponents of the market mechanism for REDD argue the need for private funds through carbon markets to secure the \$15 billion to \$35 billion per annum needed to reduce deforestation rates by 50 per cent, they ignore the more secure funding option of public money. An annual auction of between five and 10 per cent of developing countries' Kyoto pollution permits, or assigned amount units, could raise the same level of funding as that proposed for the carbon markets. This market linked, fund based approach for REDD is much more flexible and does not carry the same risks as a market based mechanism does.

While most countries favour a mixed model of private and public funding for REDD through a UNFCCC administered fund, many countries have strong objections to the use of international carbon markets to reduce emissions from deforestation. The EU, for example, will not consider a market option for REDD until after 2020 and Brazil, the country with the highest deforestation rates in the world, is fundamentally opposed to a market based REDD mechanism.

There are many good reasons for these misgivings. Firstly, there are significant risks associated with the permanence of forest offsets. Forests are frequently affected by fire, pest and disease and weather events that cause much of their carbon store to be released. These events are likely to increase in the future with the onset of climate change. Indeed, recent reports of significant forest feedback suggest that this may start at about 2½ degrees of warming. The question of liability for the carbon loss is a major issue of importance to developing countries, who may forego, for example, agricultural development in exchange for REDD carbon finance and then may have to repay that money if the carbon is lost to the atmosphere in the future. A fund based mechanism does not carry the same risk to the atmosphere and it is much more flexible for developing country economies.

Secondly, compliance markets demand measurable, reportable and verifiable emission reductions. With deforestation rates reported as being between seven million and 13 million

hectares per annum, it is really necessary to act quickly, but compliance markets currently lack the maturity to deal with the urgency and many developing countries simply do not have the institutional, legal or policy framework to deliver carbon credits of sufficient quality to the carbon market. Currently, the only countries with the capacity to deliver these high-quality carbon credits are, in my opinion, Brazil, which is opposed to carbon markets, and probably Mexico, which could generate only a very low amount of REDD credits. But, more importantly, to avoid international leakage most forested developing countries would need to participate in a REDD mechanism globally. Otherwise, you get Indonesia, for instance, reducing its deforestation and those drivers of oil palm plantations then moving to a country that is not participating in the REDD mechanism. So, without the required capacity to enter the market, many forested countries will just take the next best option, which is to deforest. But a fund can be much more flexible in delivering funds for REDD while at the same time building capacity for the institutions and governance in these countries.

Finally, once developing countries achieve the capacity to deliver forest credits to the carbon market, there is a possibility of a flood of relatively cheap credits driving down the price of carbon. Greenpeace commissioned a report recently that identified a possible 75 per cent reduction in the carbon price in 2020 due to a flood of cheap REDD credits. There is also a significant reduction in the alternative developing country financial flows due to REDD, because it competes with other low-carbon mechanisms like the CDM, and it could lock in dirty technology for decades to come in developing countries. So there are significant risks associated with the market, and we believe that Australia should look elsewhere. As with many other countries currently, we should be looking at a fund based mechanism with public money.

Senator MILNE—Thank you. The first thing I would like to come to is the target and the capacity of the target, together with industry policy, to drive the transformation that is necessary. Yesterday the minister said that, if Australia does not go to Copenhagen with its five to 15 per cent target locked in, we will be undermining the global negotiations. I wondered what your view is about burden sharing, and will the five to 15 per cent target in fact undermine the global negotiations of itself?

Ms Harrup—I think, contrary to Senator Wong's claim, Australia going to the Copenhagen negotiations with its target locked in and with all the proposed design elements of the CPRS locked in would inhibit its ability to participate in a strong global deal at Copenhagen, if consensus for a strong deal emerges. We could present you with numerous scientific reports to show that a global deal that had developed nations reducing their emissions by, say, 15 per cent—as proposed by Australia—would be completely inadequate to avoid catastrophic climate change. So we know that developed nations will need to do far more than minus 15 per cent by 2020. If Australia were to propose that position, and be locked into that position and unable to easily move because of a domestic policy lock-in, that would inhibit other countries from moving forward as well. There will be an expectation that all countries do something within a range of each other. Does that answer your question?

Senator MILNE—What about the transformation issue in Australia?

Ms Harrup—I was at the recent first intersessional session of the UNFCCC climate negotiations in Bonn. President Obama sent his climate change envoy, Todd Stern, to address the opening plenary. It was the first address from the Obama administration. In that address he made

the point strongly that those countries that locked themselves in to a high-carbon future would be economic losers in the future—because the world will change. Even if one country tries to isolate itself, eventually the impacts of climate change and the momentum to respond to climate change will be unavoidable. Those countries that have continued to lock themselves into a high-carbon future will be economic losers. Australia faces the prospect of being an economic loser because, at the moment, the climate change policy proposed by the Australian government essentially avoids the need to make any substantial changes to our economy and move it towards a low-carbon economy. That is partly because of the low target of five to 15 per cent. It is obvious to anyone that that is going to require only a very small change in our emissions profile. More importantly, allowing 100 per cent of that to be offset or achieved in other countries—as Paul has addressed—also avoids any need to change our economy.

Senator MILNE—Thank you. My second question, Mr Winn, is in relation to land use. We had a land use round table and we have heard other evidence today. It is quite clear that we need some mechanism to incentivise the protection of existing carbon stores—our native forests, our native vegetation—and that there is huge potential to create jobs in rural and regional Australia through environmental rehabilitation, restoration, weeds, feral animals and so on. In your submission, you say that we should take the plantations out of the CPRS. Have you thought about a mechanism, a program or something else that would incentivise the right aspects of land use in terms of climate change, biodiversity and rural jobs? Those are all the things that we are concerned about. There is quite a deal of concern that we come up with some mechanism, as a complementary measure, to actually get those outcomes.

Mr Winn—The best approach that we believe Australia should take is a fund based model. The problem with the market is that it will always look at the least cost option, which traditionally has been growing pine on degraded land. That is a very risky mitigation avenue to take, because pine is very often more at risk than eucalypt plantations. A fund can deliver the money where it is needed to begin with in the regions where job creation is required. It also can deliver funds to projects that will benefit both regional communities and biodiversity. This is pretty much the same sort of idea that we have for the international regime, where you would earmark a proportion of the revenue from auctioned permits for a fund that then could be delivered strategically to areas where land use change and forestry emission reductions are required.

Senator MILNE—So you are suggesting that, if we took plantations out of the CPRS and earmarked a percentage of the auction money, the government would oversee the allocation of that money. Essentially, instead of biodiversity credits or whatever you would get funding allocated for those kinds of programs.

Mr Winn—The idea of having a fund is that the criteria could be set at such a level to deliver that funding and reduce emissions in a way that did not, for example, impact on extreme biodiversity and water users—which some of the plantation establishment processes may eventuate in. But also the fund based mechanism does not offset emissions. That is the critical difference. Because terrestrial carbon is very impermanent, it is very risky to offset industrial and fossil fuel emissions on it because you are likely to send that carbon stored in terrestrial ecosystems into the atmosphere again. So you would end up increasing emissions and it would become a very expensive way to increase emissions—as opposed to using cost abatement mechanisms.

Senator MILNE—How is what Australia is doing with REDD and continuing logging and land clearance in Australia whilst giving money to Indonesia and so on being seen in the global negotiations?

Mr Winn—There is a requirement for Indonesia to increase its institutional capacity to deal with the significant challenges in its land use sector. One thing that Australia is doing well, through its bilateral agreements with Australia and PNG, is helping to increase that capacity. On the negative side, Australia is looking to offset its emissions on those very same areas. We would challenge that either PNG or Indonesia would have the institutional capacity, no matter how much money we spent, to deliver credits of the quality required to enter into a global carbon market. That is where we see the problem.

Senator MILNE—How would you cap access to overseas permits? At what level would you do that? The developing countries would argue that they need some revenue stream to be able to develop, but if you allow 100 per cent access you do not drive any transformational change. Does Greenpeace have a view on what the cap on access to overseas permits should be in the CPRS?

Ms Harrup—Yes. Our position is that three-quarters of Australia's emissions obligations should be met domestically. In addition to Australia's emissions reductions targets and those taken by other developed nations, there will be a requirement for substantial funding to be made available to address basically three areas. One will be the requirement to adapt to the climate change we have already caused. Much of that will be in our region, but globally there will be a requirement for adaptation. The second will be the fund to help build the capacity and then to reduce deforestation. Finally, there will need to be technology transfer to developing nations to allow them to develop on a low-carbon pathway. We have estimated that that will require around US\$150 billion per annum to be generated globally, and Australia will need to provide a share of that funding. Australia's fair share would be in the order of US\$2.5 billion, based on our current GDP indicators.

Senator FEENEY—Mr Hepburn, in your opening statement you talked about the energy revolution taking place in the BRIC economics—and I think you particularly focused on China—and suggested that the CPRS will not keep up with that. Are you asserting that the CPRS represents an inferior scheme with respect to emissions than what is presently taking place in India or China?

Mr Hepburn—No. China obviously is not moving as quickly as Germany or the US, but it is starting to invest seriously in renewable energy. The point I was trying to make is that the CPRS will not drive the transformation of our energy economy. It has not done so in Europe. Achieving that kind of shift and the sort of investment in renewable energy that we are seeing in other countries will require mechanisms such as feed-in tariffs, mandatory renewable energy targets or direct support mechanisms.

Senator FEENEY—On that, you use the analogy of asbestos and how we did not create a market for asbestos; we simply banned it. In terms of the model you are suggesting and how we deal with carbon, is Greenpeace opposed to a CPRS model in its entirety or are you simply saying there are flaws in the design?

Mr Hepburn—There are flaws in the design and we think it is not sufficient in itself. We see a need for a range of direct regulations. We think that you should place a ban on new coal-fired power stations that do not, as part of them, have carbon capture and storage implemented. We need a range of mechanisms and direct regulations such as that and mandatory energy efficiency standards, so you have mandatory best practice for household appliances, industrial buildings and so on.

Senator FEENEY—On that, you made the point that the leaderships of emissions-intensive and trade-exposed industries and generators should have seen the carbon price coming. You suggested, generally speaking, that it is inappropriate for taxpayers to save them from their own planning failures. I am sure that is a debatable point, but let us accept it is true for a moment and that there has been significant market failure in the leaderships of these organisations. Does that not still leave us as policymakers with the important reality that these organisations, these companies, these enterprises create the power for our domestic economy, that they are obviously the exporters and so on? That is to say, if we follow your reasoning and we do not assist them and, instead, let them, as you put it, face the consequences of their bad planning, does that not mean, even under your prescription, we all pay the price?

Mr Hepburn—There are a couple of different issues regarding compensation. In terms of the trade-exposed sector, I certainly agree that it would be foolish for Australia to disadvantage its domestic industries relative to those of other countries. In terms of the fossil fuel generating sector, in particular, we think that we should implement a phase-out plan. Over the next decade we want to replace every single coal plant in this country, with reductions in demand through energy efficiency and increases in renewable energy. We want to implement a significant structural reform to drive that change. It is clear we cannot continue burning coal at the same rate. Coal has been an important part of our economy. My father worked in the coal industry; I used to work in the coal industry. It has been an important part of this country's economic history, but it cannot be in the future. That is just a biophysical reality. I understand the point you are making: we cannot just turn the lights off overnight but nor can we just let business as usual continue. We need a phase-out plan for the coal industry and it needs to allow for social justice and a transition plan for coal workers and communities in the Hunter Valley, the Latrobe Valley, the Bowen Basin and so on.

Senator FEENEY—Finally, you spoke about the global leadership position that Australia can play. You used the example of Australia punching above its weight in important international conflicts like World War II, Iraq, Afghanistan. But are you not proposing a model that would mean that we would go to Copenhagen with a model that was in fact less compatible with what is going on around the world?

Senator XENOPHON—I do not think they mentioned Iraq or Afghanistan, though.

Senator FEENEY—I had assumed the analogy. I assumed their reasoning was consistent. Does that not then mean that we would be going to Copenhagen with a model that in fact was less compatible than the CPRS with respect to what is being proposed by the EU, the United States and so forth? Are you not in fact offering a prescription that means Australia has a very different scheme from that operating elsewhere?

Ms Harrup—I can address some of that. Australia's CPRS is not compatible with what we have seen, as an example, with the proposed cap and trade scheme from the USA which has 100 per cent auctioning as the proposed distribution method. I think the most important thing will be the overall emissions reduction target that Australia is willing to take to the next Copenhagen deal and also the financial contribution that Australia is willing to make.

Senator FEENEY—The whole world is willing to make, as well as Australia?

Ms Harrup—Yes.

Senator ABETZ—Mr Hepburn, can you tell us what a safe level is of asbestos in the atmosphere?

Mr Hepburn—Zero.

Senator ABETZ—Zero. That is where your analogy with carbon falls down, does it not? Carbon occurs naturally and we in fact need carbon in the atmosphere; all we are talking about are the levels.

Mr Hepburn—The point I was making in using the asbestos analogy is that if we decide we want to regulate a product, whether it needs to be regulated to zero or to a level of pollution, the most effective way we have managed to do that historically across a range of different sectors has been through direct regulation rather than through price mechanisms.

Senator ABETZ—You are of the view that direct banning has been the way to achieve these things in the past? Is that Greenpeace's position; that is what I am trying to get a handle on?

Mr Hepburn—Our view is that direct regulation is more effective than market mechanisms. Market mechanisms have a role to play and price signals have a role to play. But if we think it is a serious problem and an urgent problem then we need to respond in a fail-safe way, and direct regulation has more certainty than a market mechanism.

Senator ABETZ—We will not go into the World War I analogy, because I do not think Billy Hughes declared war on the Kaiser.

Senator IAN MACDONALD—That is a very good point.

Senator ABETZ—We will not go there. But in relation to the issue you raised about the number of wind turbines being developed, I think, every hour in China—

Senator BOSWELL—In America.

Ms Harrup—A wind turbine is developed every two hours.

Senator ABETZ—One wind turbine is being developed in China every two hours. Is that right?

Mr Hepburn—That is right.

Ms Harrup—That is right.

Senator ABETZ—How many coal-fired power stations are being built in China, per month?

Ms Harrup—I would be happy to send through to this committee a list of the current climate change policies being pursued in China, because they are significant. I will answer your question, but it goes partly to Senator Feeney's question about the compatibility of the CPRS with what is being undertaken in China. In many senses, what we are proposing in Australia is inferior. With regard to the coal-fired power stations, in 2007 China closed 20 gigawatts of coal-fired power stations. They have a program of shutting down their least efficient and dirtiest coal-fired power stations. They have also implemented export taxes to reduce the incentive for energy-intensive industries to develop in China. They are pursuing an aggressive policy of energy efficiency in the range of 20 per cent in the near term, increasing to 45 per cent by midcentury. They are also pursuing an aggressive policy of renewables.

Senator ABETZ—How many new coal-fired power stations are being built in China?

Ms Harrup—I could not answer that question off the top of my head, but I am sure we can provide that for you.

Mr Hepburn—I cannot give you that figure off the top of my head, but—

Senator ABETZ—If you are trying to convince us—

Senator CAMERON—You can take the question on notice.

CHAIR—Yes, take the question on notice and come back to us later on.

Senator ABETZ—If you are convincing us about an energy revolution and are telling us about wind turbines being developed every two hours, that is great, but I think we also need to know how many new coal-fired power stations and nuclear power stations are being built as part of the mix and which are acceptable to the Chinese, despite all the wonderful policy initiatives that Ms Harrup was able to list for us, so we get a handle on it. Also, how much power is generated by one of those turbines compared to one of those new coal-fired power stations? Me thinks that the majority of the new power being generated in China, according to my sources, is in fact still from fossil fuels and not from turbines.

Mr Hepburn—Sure. That is absolutely the case.

Senator ABETZ—Right.

Mr Hepburn—I wish we could come here and say: 'Look, there are other people who are doing this really well. This transformation is happening as quickly as we would like it to be happening.' That is not the reality. There are significant changes that are happening in the US—in California in particular but more broadly across the US now. There are significant changes that have happened to create jobs and drive a new energy economy in Europe. China is starting on that road; it has obviously got a long way to go—China has got a lot of problems, as we all know.

Senator ABETZ—On page 3 of your submission, you refer to the ‘potentially dangerous technology of carbon capture and storage’. Why is that ‘potentially dangerous’?

Mr Hepburn—We do not believe carbon capture and storage is a viable solution to climate change. The potential danger comes in from the inadvertent release of CO₂ if it proves to be unstable in storage.

CHAIR—But you said before that we should not approve any new coal-fired power stations unless they had carbon capture and storage attached. There are some very confusing signals coming out of the evidence in that respect, if you are saying to put that indication on and then say that you do not support or believe the technology. You cannot give evidence both ways.

Mr Hepburn—Our position is that we do not think carbon capture and storage is going to be viable at scale. Now, if we can—

Senator ABETZ—That is different from it being dangerous. I understand the argument as to whether it is going to be proven up, whether it is going to be viable; I understand that debate. But I think it is one of the first times I have heard that it is dangerous. I want to understand what the danger is. I fear that we are getting into another asbestos type analogy—

Senator MILNE—Its leakage.

Senator ABETZ—which is overdramatised.

Senator CAMERON—Asbestos was never overdramatised.

Ms Harrup—The dangers are in the potential for the release of captured carbon into the earth’s atmosphere and therefore adding to the problem of climate change it is supposed to be reducing, as well as the danger of a concentrated leak near a populated area, or in an ocean, which could cause the death of fish and all the other problems with fishing and shipping.

Senator ABETZ—But if the science is proved that you can put it in liquid form underground at a certain level and it then stays in liquid form—

Ms Harrup—Our view is that we are a long way from proving that at this stage—

Senator ABETZ—it would be no danger. It would be like saying you should not build high buildings because there is always the possibility of earthquakes everywhere. It is a question of risk management, it is a question of what is likely in all the circumstances and I would have thought, if the science got proved up, there would not be the danger. I can understand the viability aspect of it. A final question: in relation to biofuels, would you consider wood waste a biofuel?

Mr Winn—Second-generation biofuel technology is not really online yet, so wood waste is not really an option at the moment. If it were—

Senator BOSWELL—It is an option; there is plenty of it.

Mr Winn—You are talking about biomass in power stations, are you?

Senator BOSWELL—Yes.

Mr Winn—Look, the problem with wood waste—

Senator ABETZ—Or in a mill burning sawdust for a boiler instead of using diesel, for example. Is that renewable energy, in Greenpeace's view of this issue?

Mr Winn—Well, it has the potential to be a renewable energy source. The problem with it, though, is in trying to distinguish between actual wood waste and silvicultural waste—which is old-growth forest conversion to a—

Senator ABETZ—Silvicultural? You are saying the old growth—

Mr Winn—The silvicultural cultural practices that have driven the woodchip industry in Australia have generally focused on converting an old forest to a younger, working forest. Large trees that have been removed therefore end up in the waste stream of the woodchips. That is the potential problem that we see—that it would have biodiversity consequences.

Senator ABETZ—Right. Let us not go there at all because, with great respect, we could spend all day debating that.

CHAIR—And we are not going to.

Senator ABETZ—All I want to know is: if you have a pile of wood waste, irrespective of where it comes from—and you have the issue of whether it ought be harvested in the first place, I understand that; but if you have a pile of wood waste—would you see that as a renewable energy source?

CHAIR—Or do you have to bury it?

Mr Winn—I think I have already answered that, Senator. I said it has a potential, but there are some consequences and definitional consequences.

Senator ABETZ—Why only a potential? It is a genuinely renewable resource: you chop down a tree, you plant a tree, and the cycle continues, doesn't it?

Mr Winn—I am sorry, Senator, you asked for my opinion. That is it.

Senator ABETZ—All right. Thank you. The record will show it.

Senator PRATT—I understand that Greenpeace and other environmental groups are quite clear in their demands that we need to do more and that the current CPRS does not deliver what you want. I want to ask you what you think of the coalescence of those who are against the scheme with those who are for it, in terms of those who are garnering efforts against the scheme because it asks for too much abatement, and the kind of political debate that we are creating for ourselves when we know we need to move forward with some urgency. It takes time to solidify

our efforts and a way forward and to get a mandate from the community and industry in order to take the actions that we know we need to take. It could end up in a debate that goes nowhere, so—

Senator BOSWELL—What is the question?

Senator PRATT—I want to ask you how we find a way forward. Can you explain to us how you see those political risks playing out in the future?

Mr Hepburn—Our real concern with the CPRS is that we lock in a bad scheme and a low target prior to the Copenhagen agreement. We think that would be a negative result in terms of the impact it would have on the global negotiations. I saw Professor Garnaut's comment, as quoted in the paper, that it was line ball whether or not it was worth introducing the CPRS. Our view is probably similar. We are now convinced that with such a low target it is actually worth going through the effort to introduce the scheme.

Senator IAN MACDONALD—Not better than nothing?

Mr Hepburn—It may not be better than nothing. It may be worse than nothing in terms of locking Australia into a high-emissions future. It seems odd for an organisation like Greenpeace that has been advocating for action on climate change for over 20 years to be at this point where we are on the verge of opposing the introduction of climate change legislation because we think it is going to be so ineffective. It does not feel like a very good position to be in, but the scheme seems to be so bad and it will lock us into a high-polluting future.

Senator PRATT—What happens if the alternative is no scheme, which means that we do not turn our emissions trajectory around?

Mr Hepburn—That comes back to the point I was making earlier about the range of other policy mechanisms that we have at our disposal—the introduction of a national gross feed-in tariff, for example, to drive investment in renewable energy; energy efficiency standards; direct regulation. There are a range of other mechanisms that could drive down emissions significantly in lieu of an emissions trading scheme.

Senator MILNE—And land use.

Mr Hepburn—Yes, land use; that is right.

Senator IAN MACDONALD—I take it from what you said that you would prefer to leave passage of the legislation and the regulations which follow it, which we do not know anything about, till after Copenhagen?

Mr Hepburn—We think we should not lock in a target prior to the Copenhagen meeting. If the mechanisms were developed and significantly improved and the loopholes we have outlined were improved then—

Senator IAN MACDONALD—There is no indication of that from the government or from the draft bill.

Senator IAN MACDONALD—I have just one other question, which Senator Abetz did not take up. You were talking about the fact that Australia should be leading the world, as we went to defend the mother country in two world wars and played our part as good world citizens protecting against the enemy. But, with respect to Senator Abetz, as he pointed out of course Australia did not start either of those wars. We were not first out of the blocks. We went along to play our part as world citizens after everyone else had got involved. Why wouldn't we do that with emissions?

Senator MILNE—The European Union is already there.

Senator ABETZ—Really, Christine, you would not follow that model, surely?

Senator MILNE—We did with the Empire.

Senator ABETZ—And that is where the analogy falls down, I would have thought. But Greenpeace raised it because you were championing it.

Senator IAN MACDONALD—Let me take the analogy to the real protagonists, which are China, India and the United States.

Senator CAMERON—Look, any analogy is on the table.

Senator IAN MACDONALD—Get the ones which are relevant, which are really analogous.

Mr Hepburn—The reason why Australia would is that Australia will be more affected than most by climate change.

Senator IAN MACDONALD—Why do you say that?

Ms Harrup—Of the developed countries, Australia is the most vulnerable to the impacts of climate change, and we are also situated in a region that is highly vulnerable to climate change, which will have flow-on effects for our regional security issues. The evidence of the IPCC supports that Australia is the developed nation most likely to be impacted by climate change.

Senator IAN MACDONALD—Sure, but unless everybody else does it Australia is still going to be in that position, isn't it? Would you agree with that?

Ms Harrup—Absolutely. Greenpeace is well aware that what is required to address climate change is a strong global deal, but, as Greenpeace Australia Pacific, we are talking to you about what Australia's role needs to be in that strong global deal. It is hard to see a scenario where Australia helps to achieve a strong global deal by offering to do very little in Australia.

Senator IAN MACDONALD—But we are obviously concerned about jobs and unionists and rural communities, which can be devastated if others are not doing the same thing. By going ahead of China, India and the United States, I think you accept we are not going to make any difference to the changing climate of the world.

Ms Harrup—I think it remains to be seen whether we are going ahead of any of those nations.

Senator IAN MACDONALD—That is good to hear. I hope you, and not everyone else I read, are right. But if that were the case, it is not going to make any difference to the changing climate of the world whether we have cyclones or floods in Australia. That is still going to happen, isn't it, if the big emitters do not come in?

Ms Harrup—So it is in Australia's interest that there be a strong global deal to limit—

Senator IAN MACDONALD—Of course. I am not arguing with that.

Ms Harrup—carbon emissions below that level which we think risks catastrophic climate change. In trying to pursue that, Australia can put forward progressive policies and also show its willingness in global negotiations to do its part. It is that indication of willingness from developed nations to do their part in reducing emissions that developing countries are waiting for and requiring before they will make their own commitments. May I say, even today we have seen reports that China is contemplating the need for it to make a binding emissions reduction target.

Senator IAN MACDONALD—We had evidence yesterday from Murdoch University that they had said, 'Chinese industry should not pay' and they are not going to make it pay. It will be someone else, the consumer, who does it, not the Chinese, according to Murdoch University yesterday. But my point is: you are promoting this argument seriously that what Australia does will impact upon what China, the United States and India do—and Brazil.

Ms Harrup—What each nation is willing to do at the global deals will be a part of the formulation of the deal, because it is a global negotiation. Let us remember that Australia is the chair of the umbrella group, which is a global grouping of nations that have a huge role in a global deal.

Senator IAN MACDONALD—But we are not playing a game or having a debate here. We are costing people real jobs, real lives, real houses, real communities. Real regions of Australia can dissipate if there are no corresponding reductions by the really big emitters, which would make a difference to climate change.

Ms Harrup—I do not think we accept the assumption that responding to climate change or moving Australia towards a low-carbon economy will cost jobs and will cost rural communities et cetera—not if it is done well.

Senator IAN MACDONALD—Okay.

Ms Harrup—And we have outlined that in the *Energy Revolution* document and also the 'A just transition' report which we have presented to the committee.

Senator IAN MACDONALD—That is where we and the unions take issue with you and the Labor Party. I guess it is a difference of opinion.

Senator CAMERON—When did you ever talk for the trade union movement!

Senator IAN MACDONALD—On this issue we are talking—

Senator Abetz interjecting—

Senator CAMERON—Here is the Work Choices—

Senator BOSWELL—Chair, I have not had one go at this yet. Everyone else has.

CHAIR—Senator Boswell, you will get your go and you will get it more quickly if the committee comes to order. Senator Cameron.

Senator CAMERON—Thanks. I want to look at these targets. The information I have is that the US is proposing a target of zero per cent growth against 1990 levels by 2020 and what is described as an ambitious 2050 target of an 80 per cent reduction. The government has said that we will play our part in any international agreement, and it looks to me as if the 2050 target is just forgotten about. I really think this question of getting the scheme up and running and getting a cultural change in the economy and then society has been underplayed by the argument that you must have purity. But there is this argument that if you have got to have purity you will be impotent. I just think we are going to end up impotent if everybody wants purity. Business wants purity on the basis of no government involvement. Some of the environmental groups want purity because they want these massive cuts upfront. How do you deal with that dilemma?

Ms Harrup—Just to clarify the USA position, as I understand it, President Obama's pre-election position was stabilisation at 1990 levels by 2020 and, I think, an 80 per cent reduction by 2050. The bill that has now been presented to congress actually has more like a 20 per cent target by 2020. What we need to say is that, finally, a US administration is starting to address this issue and put numbers on the table, but the US target is not clear yet—

Senator CAMERON—Is that a good thing?

Ms Harrup—That is a good thing. The target—

Senator CAMERON—Well, isn't it the same, then, for Australia?

Ms Harrup—The target that they will take to international negotiations is not clear yet, and it may be substantially more than—and it would need to be substantially more than—stabilisation by 2020.

Senator CAMERON—But what if it is not?

Ms Harrup—One of the concerns with the US approach and possibly the approach the Australian government wants to take, which is to delay significant action till post-2020, saying, 'We will do more post-2020,' is that scientists have done modelling of the impact that that will have, and that is the risk that we exceed a temperature increase of two degrees Celsius. It reduces our ability to be certain that we will avoid catastrophic climate change the longer we delay action, because of the accumulation of carbon stock in the earth's atmosphere.

Senator CAMERON—But I am sure that the debate going on in Australia is going on in every advanced country in the world and that the same arguments are being put forward by business and by the sceptics against the arguments that are being put forward by environmentalists. There is no doubt about that. If Australia does not take the first step then I am really pessimistic that there will be a way forward to meet these targets in the future—even these modest, moderate targets that you are talking about. How do you ever get across that hurdle? I just do not think putting other measures in place will be the answer, because I am convinced there has to be a market based approach.

Ms Harrup—I think we would completely agree with you that Australia does need to start taking that first step. You referred to the US; one of their first steps was a massive injection of funding into green aspects of their economy through the stimulus package. They have put substantial money on the table towards renewable energy et cetera.

Senator CAMERON—As have we.

Ms Harrup—I do not think it compares by any measure. As John outlined before, Greenpeace and I think many in the environment movement are supportive of there being an eventual price on carbon as a way to regulate it. But we cannot support the existing proposed CPRS scheme as a first step.

Senator CAMERON—But if it is good for President Obama to actually start thinking about a scheme and talking about numbers, aren't we in exactly the same position? There has been lots of talk for the past decade and more but no-one has done anything about it until now. So why is it good that President Obama does it and bad that the Labor government does the same thing?

Ms Harrup—His is a much newer administration. He only took office at the end of January. Also Australia has an extremely high level of public concern about climate change and Australians have a desire to see their government implement a response on climate change, which means it is a problem for those elected representatives to solve.

Senator CAMERON—How do you deal with the sceptics, those people who, against all the evidence, are simply saying that this does not happen.

Senator BOSWELL—Saying that it is not—

Senator CAMERON—Like Senator Boswell. How do you deal with this nonsense that we get in the political sphere? You have got to have some reality about where we are in this.

Mr Hepburn—We would be supportive of the introduction of the CPRS if there were a number of significant amendments that meant that we were not locking in a high polluting future. There could be a number of different reforms to it that would mean that it would be a good scheme. If we can lock the target in after the Copenhagen round then we would be really supportive of that.

Ms Harrup—The Rudd government talks about the need to achieve balance in its climate policy response, but the reality is that the atmosphere is not going to recognise political realities

or balance; it is only going to recognise the flow and stock of greenhouse gas emissions in the atmosphere.

Senator CASH—Mr Hepburn, you said that Greenpeace had been advocating action in relation to climate change for 20 years or more. How long have you used the term ‘catastrophic climate change’?

Mr Hepburn—I would say for the last five or so years, as the science has shifted and it has become clear what the impacts are today and what the impacts are likely to be, we have felt that we have needed to talk about climate change as a much more urgent problem and a much more serious problem. While there are a number of climate change sceptics still in the community, there are not that many—

Senator CAMERON—There must be overrepresentation here.

Mr Hepburn—That is possible. There are a lot of people who think that climate change is a problem who do not yet understand how a big a problem it is.

Senator CASH—Okay. On page 18 of your submission you refer to carbon leakage and the fact that the impact of carbon leakage is overstated. We have heard from a number of emissions intensive trade exposed industries that carbon leakage is a real problem, and in fact we had one here this morning, the Lime Association of Australia. Putting that aside, you say where there are genuine cases to protect our international competitiveness. So you acknowledge there may be genuine cases where we need to protect our international competitiveness. How would you determine what a genuine case is? You make some very strong statements that IETE industries are capital intensive and you make a number of statements that carbon leakage is overstated. Then you also acknowledge that there are genuine cases to protect our international competitiveness. I am assuming you have worked out what those cases are.

Mr Hepburn—We have worked out that some people are trying to game the system. When you have got people like the aluminium sector saying, ‘We are going to pack up and close down our aluminium facilities and move them to other countries as a result of this scheme,’ that probably wants to be taken with a grain of salt. We have not done the analysis—

Senator CASH—Why do you say that? Have you spoken with the aluminium industry? Have you looked at the modelling they have done?

Mr Hepburn—We have looked at the modelling they have done and we have spoken to people who have done a more detailed assessment of the aluminium sector than we have. But if you look at the subsidies that Australia currently provides the aluminium sector in terms of cheap energy, it is vast. There is one figure quoted by Clive Hamilton, who was saying that each employee in that sector could be paid \$70,000 a year to stay at home and the taxpayers would be better off.

Senator CASH—How can you say that we determine what a genuine case is in order to protect our international competitiveness? What companies will qualify?

Mr Hepburn—I do not have—

Ms Harrup—Methodology.

Mr Hepburn—Yes.

Ms Harrup—I will address aluminium first of all. All the major aluminium companies that operate in Australia have operations worldwide that are based on 100 per cent renewable energies, and most of the new aluminium smelting infrastructure being built in the world is being built using renewables. I know that is driven by economics rather than by climate change. But that is a case where it is by no means proven that leakage of that industry offshore would increase greenhouse gas emissions. In fact, it would most likely result in a reduction of greenhouse gas emissions, particularly if it came from brown coal.

Senator CASH—Let's talk about the cement industry then. Is that a genuine case where we need to protect—

Ms Harrup—I do not think it is reasonable to expect us to be able to answer each of the genuine cases. I think you need to look at the methodology—

Senator CASH—You have put forward a statement.

Ms Harrup—We do recognise the need to protect Australia's international competitiveness in some of these industries, but I think that we would prefer the treatment to be some other means of doing that that does not undermine any domestic energy efficiency gains or fuel switching gains that you could get. For example, it could be through some form of border adjustment, which would then allow the export market for those products to be protected, but it would also give them and the entire domestic economy the incentive to adjust to a carbon price domestic—

Senator CAMERON—Do you say a tariff?

Ms Harrup—No; a border adjustment, and there are other border adjustments that take place.

Mr Hepburn—It is a very good question, Senator, and I understand that it is one of the issues the government has been grappling with for some time, which is why you are having all these negotiations with industry. The way to avoid having to make case-by-case assessments is to do just as Trish was saying—set up a border adjustment scheme in which it is quite clear cut whether or not a company is affected by that international trade.

Senator CASH—I have one more question. My understanding is that Greenpeace advocate that we can replace fossil fuel plants with wind and solar power.

Mr Hepburn—Not on its own.

Ms Harrup—With a renewable energy mix.

Mr Hepburn—In order to replace the coal sector in Australia, a big part of that heavy lifting I guess would be done by energy efficiency—stopping energy waste. There are massive savings, and range of studies show that we could probably reduce energy demand by roughly 30 per cent, depending on how aggressive those policies are. We then have geothermal coming online; it is

not quite here yet, but if it receives the same kind of investment that the coal industry has had over the years, or a significant investment, that could come on stream early.

Senator CASH—Just so that you know, I am very supportive of renewable energies. I am not going to dispute that, but I would like to know how far away we are in Australia in terms of realistically bringing those forms of energy online. I know that there are some wind plants, but realistically, how close are we to a secure energy supply?

Mr Hepburn—Our energy revolution model, which employed Hugh Sadler and Energy Strategies—some of the best energy modellers in this country, and this was with consultation with the renewable energy industry as well—reckoned that we could replace every coal plant with renewables and energy efficiency by 2030 with no disruptions to any supply, and that is with today's technology.

Senator CASH—Have they costed that?

Mr Hepburn—I would need to come back to you on that.

Senator CASH—If you could, I would greatly appreciate that.

Senator BOSWELL—Ms Harrup, did I understand you to say that all aluminium factories or processes in America were driven by renewable power?

Ms Harrup—No. I said every major multinational aluminium company that operates in Australia has at least one operation internationally that is 100 per cent renewables based, and much of the new infrastructure being built is being built on renewables.

Senator BOSWELL—You seem to be very fulsome in your praise for China and America, and, by implication, Australia is backsliding. What proposal will China take to the Copenhagen round? Will they rock up with anything concrete and say that this is what they are prepared to do?

Senator CAMERON—This will be the front page of the *Australian* tomorrow.

Ms Harrup—My crystal ball prediction for China is that—

Senator BOSWELL—I did not ask for a crystal ball prediction.

Ms Harrup—They are giving indications that they understand they need to—

Senator IAN MACDONALD—They are going to follow Kevin.

Senator BOSWELL—You come in here and praise China and America. We will get to America in a minute. What constructive proposals are they going to take in their briefcase to Copenhagen, if any?

Ms Harrup—What I was doing was listing the existing policies that they are implementing in their country.

Senator BOSWELL—We can all have policies. Policies do not cost anything. Policies are on a piece of paper. It is when you implement something that a cost is involved, and that is where Kevin Rudd has got into trouble. He promised the world; now it is time to deliver and he is in trouble. I will ask you another question because you obviously are not going to turn up with anything.

Senator CAMERON—Have a look at the reports this morning. It does not look as if he is in a lot of trouble.

Senator BOSWELL—He will be in trouble when people lose jobs.

Senator CAMERON—What about Malcolm; where is he?

Senator BOSWELL—You were praising the Waxman bill and saying that it was going to put significant targets on. Are you aware that at the end of that bill it had a sort of a doctor's clause that, as long as we do not harm anyone, that no-one is going to pay any additional costs and it is not going to hurt industry, we will go ahead with this. That does not seem to me to be a terribly enthusiastic way to present a piece of legislation because it has the greatest escape clause in it. Are you aware of that get-out clause?

Ms Harrup—I just want to clarify for the committee that I do not want to give the impression that I was praising either China or the US for doing things, which you might be suggesting that I am. To be clear, it was not just policies that we were outlining in China; they have targets that they are meeting and exceeding in terms of the growth of their renewable energy industry. So it goes beyond policies on pieces of paper to meeting and exceeding their policies. I am not aware of all the details in the Waxman bill. My point was that China and President Obama have proposed in speeches that they will pursue 100 per cent auctioning, and they are indicating they are moving on targets; and 20 per cent by 2020 I believe is the target that has been proposed by that bill.

Senator BOSWELL—Yes.

Ms Harrup—It is not the administration's policy yet.

Senator BOSWELL—But I would expect an organisation like Greenpeace, who then go in and quote the Waxman bill to a Senate inquiry, would understand what was in the Waxman bill. The Waxman bill clearly said, 'We'll do all these things as long as it doesn't harm anyone, doesn't cost anyone, doesn't put anyone out of a job, and then we'll go and do that.' I suppose the next question is: can such a bill exist?

Ms Harrup—No. I do not think that it would be legislatively possible to put that sort of caveat on.

CHAIR—Thank you very much for your evidence today, and thank you for the time you have spent with us.

Proceedings suspended from 1.13 pm to 1.51 pm

BENNETT, Ms Polly, Manager, Government Affairs, Caltex Australia Ltd

TOPHAM, Mr Frank, Manager, Government Affairs and Media, Caltex Australia Ltd

CHAIR—I welcome representatives from Caltex Australia. I invite you to make a brief opening statement.

Mr Topham—We circulated a written statement to the committee yesterday. I have provided the committee secretary with a slightly updated statement today. If you are relying on yesterday's statement, there is no need to change your documents because it is essentially unchanged. I will highlight some of it to save the time of the committee and at the same time make clear the key points we would like to make. They are the five points bulleted on the front page of the document.

The first point is that we believe the CPRS or an alternative emissions trading scheme should not start effective operation until properly designed and until economic conditions return to normal. The second point is that the international competitiveness of emissions-intensive trade-exposed industries, such as oil refining, should be fully maintained—for example, through a 100 per cent free allocation of permits—until overseas competitors, such as refineries in Singapore, have equivalent carbon costs.

The third point is that the excise reduction provided for motorists and certain other fuel users under the CPRS will make the inclusion of these users environmentally ineffective for many years yet it will create massive churn in emission permits. As a consequence of that ineffectiveness, due to the excise reduction, we suggest that private motorists and some commercial users be excluded from the CPRS, and we have some simple and practical proposals to achieve this. Finally, there are various complementary measures that should be implemented to help reduce emissions from transport.

You can see, therefore, that our points relate to the process for design implementation of the scheme and its timing, the question of emissions intensive trade-exposed industries and the need to maintain their international competitiveness, and the total ineffectiveness of the scheme in relation to petrol consumers in particular and the need to do something different. We have very clear ideas on what those different things should be.

To comment briefly on some of these items, the timing of the introduction of the scheme is less important than making sure it is properly designed. We believe the work should continue in order to fully investigate all key design issues prior to a complete and integrated package being put to the parliament. The current process has not allowed sufficient time for the development of the full package of legislation and supporting regulation, nor will it provide the parliament with an opportunity to debate and amend the package. We are particularly concerned that certain key design elements—such as regulation of emissions-intensive, trade exposed industries—will be presented to parliament on a 'take it or leave it' basis through regulation rather than being embodied in legislation so that it is subject to amendment by the parliament. This is a very critical point in terms of process.

In terms of the excise reduction, all petroleum products supplied to the Australian market, whether sourced from imports or local refineries, will be subject to a carbon permit liability. Suppliers from oil terminals will have what is called an 'upstream point of obligation'. That is, they will be required to purchase permits for customers' emissions. They then recover those costs by charging customers at the pump or through contracts. That particular design feature means that Caltex will be the largest single purchaser of permits in Australia, at over 40 million tonnes per annum or around 12 per cent of the permits available at auction. The cost will be somewhere between \$0.9 billion and \$1.6 billion per annum for Caltex alone, under the CPRS minus five and price cap scenarios.

The inclusion of liquid fuels in the CPRS is not effective environmentally, for three reasons. One is that the price elasticity of petrol is low, oil prices are quite high and taxes are quite high. What that means is that the effect of adding a carbon cost to the price of petrol is small and therefore the emissions response is small. The situation with the CPRS is actually much worse than that, because the CPRS does not effectively impose a carbon cost on petrol and does not effectively impose a carbon cost on a lot of smaller diesel users. What it does is more than offset the petrol price increase due to carbon with an excise reduction, so the CPRS actually increases carbon dioxide emissions from petrol. In fact, we calculate that there will be no overall reduction of emissions from petrol until about 2025. In that period, the oil industry—that is, petrol suppliers—will have purchased about \$20 billion worth of permits for absolutely no environmental effect whatsoever.

CHAIR—So what you are saying is that by 2025 the emissions from liquid fuels—

Mr Topham—From petrol—

CHAIR—will be exactly the same as they are now, with \$20 billion worth of permits churned through the system.

Mr Topham—Correct. The reason for that is that for several years the price of petrol will go down under the CPRS compared with what it would have been otherwise, which will increase emissions from petrol. Then it takes quite a few more years to actually recover that increase with a decrease. It is actually about 15 years before you are back to square 1 in relation to emissions from petrol. We therefore recommend that private motorists and certain commercial users, smaller users who are not eligible for a fuel tax credit, should be removed from the CPRS, and the CPRS, in relation to transport, should apply only to either very large users—that is, above the 25,000-tonne threshold—or users who are eligible for a fuel tax credit. That means essentially trucks above 4½ tonnes and a class of other non-transport users. Those two options are very simple to implement and are totally consistent with the current design of the CPRS.

Finally, if you are going to leave motorists and certain other commercial users out of the CPRS, you have to have alternative or complementary measures. We propose a set of measures which would incorporate voluntary targets for carbon efficiency, a feebate scheme which essentially provides cash back for the purchases of high-efficiency vehicles, grants for research and development into low-emission vehicles and low-carbon fuels, and a package of other measures relating to consumer education, public transport, better road management and better urban planning. That package of complementary measures would be far more effective than the totally ineffective CPRS as it relates to motorists and small users.

Senator ABETZ—If we were not to have that churn of some \$20 billion that you describe, am I right that the Australian motorists would then be paying that extra amount of money for petrol over that period of time?

Mr Topham—The scheme more than offsets the increase in petrol price due to carbon with a reduction in excise. So, under the CPRS, the price to motorists is reduced by an amount that varies over time. For example, the maximum reduction in price to motorists is around 1.1c per litre, and that tapers off over time. If motorists were not in the scheme the petrol price would be essentially unchanged. Yes, there would be a small change, but the motorists would not really notice 1c a litre at the pump. You would eliminate the massive churn and, therefore, money which is going to financial intermediaries but not actually benefiting either the environment or the motorists.

Senator ABETZ—What would the cost of the churn be? We possibly would need to ask that of the department rather than you. What increase in price do you think motorists would be looking at if your suggestion were adopted? Would that be 1c a litre?

Mr Topham—There would be no increase in price, because what we are suggesting is that motorists be taken out of the scheme.

Senator ABETZ—It would be an effective increase in price, because they would not be enjoying the reduction in price of—what was it?

Mr Topham—The maximum is about 1.1c per litre on our best case, which is a CPRS minus five price case.

Senator ABETZ—Let's make it easy: 1c a litre would be what motorists would be paying above what they would under the design of the scheme. It would be interesting to see what the cost of churning that \$20 billion would be and whether the total economy would benefit.

Mr Topham—One cent a litre is about \$200 million. But it is a very curious emissions trading scheme indeed, which actually reduces the price of fuel and increases emissions.

Senator ABETZ—Yes. I can see that design fault with it. Some of us are concerned as to the cost to the average Joe and Josephine Bloggs, and this may ameliorate some of the other costs that they might have to suffer as a result of the poorly designed CPRS. You are pointing out that the compensation that they might be gaining on this one has huge administrative cost, churn costs and inefficiency costs attached to it. How do other countries deal with this?

Mr Topham—To my knowledge, no country includes transport in its emissions trading scheme. But, of course, we do not have many examples to go by. There is really only the European scheme, which is well established and running, as opposed to schemes which are being proposed. Transport is not included in the European scheme. The Europeans impose mandatory targets on fuel efficiency. We are proposing that Australia can leverage the regulation of the Europeans, which is driving much more fuel efficient vehicles in that market, by having voluntary targets, which would essentially allow us to choose the best vehicles from Europe, the United States, Korea and Japan on the basis of their environmental characteristics. The way you would derive that change would be to provide incentives to consumers to purchase low-emission

vehicles. If, for example, you buy a highly fuel efficient vehicle—and this would be subject to design, perhaps below five litres per 100 kilometres—you would receive a cash-back from the government. On the other hand, if you buy a big V8—and people might choose to do that; we do not want to stop people choosing those vehicles—there would unfortunately be a penalty or a carbon penalty. Since the cost of those vehicles is typically very high, that might be a relatively small price to pay for obviously the joy they would get out of purchasing those vehicles.

Senator ABETZ—What would be the impact on the Australian automobile manufacturers of your policy?

Mr Topham—The policy—and this will be clear in our submission—envisages that this scheme be implemented taking into account the development of the automotive industry over the next 10 years to 2020. The targets would be chosen so that they would essentially be aligned with vehicle technologies available from overseas—which local manufacturers can either import or incorporate into their own production facilities—and the ‘feebate’ scheme would be implemented at a rate that the local manufacturers could cope with. It would provide an incentive for local manufacturers to shift their production to more fuel efficient vehicles, which they are already doing, but not disadvantage employment or output from that industry. That is quite critical to the scheme. But that could be done over a period of 10 years.

Senator CASH—I want to look at carbon leakage. Treasury’s modelling claims that there is very little evidence of carbon leakage. We heard evidence earlier today from Greenpeace that the impact of carbon leakage is overstated. However, on page 17 of your submission you say that there is an increased risk of refinery closure in Australia, with production moving offshore leading to carbon leakage. Could I get you to respond to the statement that carbon leakage is overstated?

Mr Topham—I think under the CPRS carbon leakage will be a very grave threat to Australian manufacturing industries, including oil refining. It is very difficult to quantify at this stage what the exact impact would be. Certainly the Australian Institute of Petroleum has proposed—and we would not disagree with this proposal—that some refineries in Australia could close over the next decade as a result of the carbon costs imposed by the CPRS, unless there was adequate offset in terms of a free allocation of permits. The reason for that is that Australian oil refining is totally exposed to imports from Singapore and Korea, and in the future from India. If you cannot compete with those imports—and we only receive an import parity price for our production—then you will go out of business. So the refining industry like a lot of manufacturing industry is not highly profitable and it would face great difficulties in absorbing the carbon costs that would be incurred under a CPRS, which is why we suggest that until overseas competitors have equivalent carbon costs then there should be no effective carbon costs imposed on Australian refineries. Under the CPRS that could be done by way of the allocation of free permits.

Senator CASH—Do you have any comment on Australia’s fuel security if the legislation is passed in its current form?

Mr Topham—Yes, our expression for this is: you do not make the fuel supply chain stronger by removing some of the links. In other words, you do not want to end up in the situation where there is no oil-refining industry in Australia or the oil-refining industry is very severely diminished. Imports of petroleum products are important to Australia at present and imports will

become more important in the future, but you need a balanced system which has both imports and local manufacturing in order to provide energy security.

Senator CASH—Some may say that Caltex and companies like yours are more about the financial bottom line than actually doing something that is positive for the environment. Do you have a comment on that statement?

Mr Topham—Absolutely. The key to reducing emissions from refining is reducing emissions from consumption. The products we produce emit roughly 20 times as much emissions as refineries. If you drove refineries out of production in Australia you would not reduce the emissions from the fuels that vehicles use. The solution—and we have provided speeches on this which make it quite clear—is to shift away from the use of fossil fuels over the longer term by 2050, primarily to vehicles that run on renewable electricity, biofuels and the like. If you do that, you will reduce emissions. But you do not slash emissions from refining because that will have no effect really on emissions from the consumption of the fuels that we produce.

Senator XENOPHON—Has Caltex any evidence as to the energy efficiency of an overseas refinery as compared to Australian refineries?

Mr Topham—Good information is very hard to come by and the information which is available is strictly confidential, not by us but by the people who put it together. Our observation though is that there are a wide range of carbon efficiencies and energy efficiencies in overseas refineries. But when you compare Australia with overseas you do not compare an Australian refinery with a big brand-new overseas refinery, because those refineries will always be in production because they are lowest cost. You compare an Australian refinery with a marginal Asian refinery, which is likely to be older, smaller and more inefficient. Our qualitative observation, if you like, is that the overseas refineries, which would replace Australian production if Australian refineries went out of business, are going to be, if anything, less carbon efficient and probably no more carbon efficient than Australian refineries, so you would displace production for absolutely no gain.

Senator XENOPHON—You say that Europe has mandatory fuel efficient standards and that we should be going down a voluntary path. Why wouldn't we go down a mandatory path as well to ensure that we get the policy imperatives in place and ensure that change takes place?

Mr Topham—The reason for that is that a large proportion of European vehicles are manufactured in Europe and therefore regulation has the ability to directly control the production of the vehicles, whereas a very large number of Australian vehicles are imported—our domestically produced vehicles are only less than 20 per cent of total demand. If you impose mandatory carbon efficiency standards on manufacturers and importers, it is something which they cannot really control. It is consumers which control which vehicles they buy, so imposing mandatory standards on importers and producers of vehicles in Australia is really not an effective policy because consumers will dictate that choice. That is quite different from Europe because the manufacturers are actually located in Europe.

Senator XENOPHON—If we were giving incentives for fuel efficient vehicles, would that fall foul of any WTO rules—and I am not saying we should be bound by the WTO? Have you looked at that?

Mr Topham—We have not, but my observation would be that the rules apply equally to imported vehicles and local vehicles, so I could not see that there would be any WTO implications. I guess our point is that you can leverage the best of the technology around the world with a voluntary system because you provide inducements to consumers to purchase those vehicles rather than forcing producers to produce something that consumers might not want to buy. So the trick lies in making sure that the financial incentives to buy more fuel efficient vehicles are there. That is why we suggest some sort of a feebate system—rebates for the most efficient vehicles and a fee, or a penalty, if you like, for the less efficient vehicles.

Senator XENOPHON—It is quite extraordinary that, as an oil refinery or petroleum wholesaler, you are basically saying that, if you are not exempt from the CPRS, you will be better off because you will not have the revenue churn that is inherently inefficient.

Mr Topham—Yes. The problem with the CPRS is the excise reduction, which was introduced very late in the policy development—it was just ahead of the green paper. If the CPRS did not have an excise reduction, it would mean that the price of carbon would flow through to the customer. That would have a very marginal effect on reducing emissions but it would still reduce emissions. But the CPRS does not propose that. The CPRS effectively takes motorists and light commercial vehicles out of the CPRS by providing an excise reduction which is either equal to or greater than the increase in carbon cost.

Senator XENOPHON—Are you saying that it is foolish from a policy point of view?

Mr Topham—It is crazy. We have said to put transport in the scheme but they have taken transport out of the scheme by means of the excise reduction. If the government want to do that, it is up to the government and to the parliament, ultimately. But, if they are going to do that, it is much simpler to take the people out of the scheme in the first place rather than have this system where they impose a carbon cost and then have an excise reduction where industry has to buy permits and recover the cost. That is just creating a whole lot of financial churn, as I said, for no purpose at all. However, just to clarify: large users would still be part of the scheme. We are not proposing that all users come out of the scheme—only motorists and light commercial vehicles, and maybe some larger trucks.

Senator CAMERON—Basically, the government's proposal is that the fuel industry will fund itself in the CPRS. Isn't that the case? That is the reality of where it is at.

Mr Topham—Let us take petrol as an example. The government's proposal is that, over the period to 2025, petrol suppliers—that is, Caltex and other petrol suppliers—would have to buy \$20 billion worth of permits at auction on the open market, and we would then charge motorists at the pump or through fuel supply contracts to get that permit cost back. It does nothing by way of reducing emissions. You are quite right that we would have to fund that, but the funding is massive. As I said, it is \$1 billion or more per annum for Caltex alone.

Senator CAMERON—Did you put these arguments to Professor Garnaut?

Mr Topham—Yes, we did. I think Professor Garnaut took some of these things into account in his report, but the proposal for an excise reduction only appeared in the green paper. As far as

I can recall, that green paper came out just after Professor Garnaut's draft report. I cannot recall whether in fact the excise reduction issue was commented on in his final report.

Senator CAMERON—You say that the CPRS or an alternative emissions trading scheme should not start effective operation until 'properly designed and economic conditions return to normal'.

Mr Topham—Correct.

Senator CAMERON—What is 'normal' for Caltex in terms of profitability? Are you saying 'no scheme' until you return to some kind of profitable level?

Mr Topham—What we are really saying is at the end of what now appears to be a recession. The fortunes of the oil industry tend to rise and fall with the economy as a whole. The oil industry does better when there is greater demand for products—for example, diesel used in mining, agriculture and so on. Therefore, while we talk in our statement about Caltex, the point applies equally well to the economy as a whole.

Senator CAMERON—Let us hope this is not the case and is never the case, but if banks continue to behave the way they are behaving and the Japanese experience is any experience to go on, this could be a very long, drawn out situation that we are in. So Caltex would say, 'Forget about any abatement for maybe three, five, seven, 10 years until the economy comes back to normal'?

Mr Topham—If the situation is that dire, we will find that emissions are either falling or are stable. I think, as Professor Garnaut has pointed out, we do have a bit of breathing space with the rapid growth in emissions slackening off.

Senator CAMERON—That is not what the scientists are telling us, though. Professor Garnaut is an economist. He is not an environmental scientist.

Mr Topham—But the point I am making is that we will not see emissions growing as rapidly in a period of recession. We are coming at it from the point of view of affordability, investment and jobs. The issue of climate change is a very long term one.

Senator CAMERON—The Treasury has modelled the long-term trajectory. Treasury have said that the current downturn does not need to be modelled in there. Treasury modelling says there will robust growth in the economy, even with a CPRS and even with the current downturn. Do you agree with that proposition?

Mr Topham—One would hope that the world is going to recover its historical rates of growth. The Treasury modelling applies well, no doubt, in the period 2020 to 2030, 2040, 2050 and so on. We are not saying that you should not have a CPRS or some other emissions trading scheme. In fact, we support an emissions trading scheme for major point-source emissions. When the economy returns to normal—and let's hope that happens is less time than you suggested might be the case, Senator—

Senator CAMERON—No. I am not suggesting that is the case.

Mr Topham—in the scenario that you painted, I should say—we will have an emissions trading scheme. Let us say that the economy is full steam ahead by 2013. By that time let us have an emissions trading scheme in place. We are not talking about massive delays. We are talking about one to two years at most in which we can go into the details of the CPRS more thoroughly or look at an alternative scheme if the parliament wishes to do that more thoroughly. We can get a scheme going well and truly by the time economic conditions are back to normal growth.

Senator CAMERON—Are you part of the EITE?

Mr Topham—Yes, absolutely.

Senator CAMERON—What level?

Mr Topham—The current indication, based on discussions, would be a 60 per cent allocation of free permits.

Senator CAMERON—So there still will be a cost to Caltex in relation to the scheme but just on the 60 per cent?

Mr Topham—That is correct. The cost would be somewhere between \$25 million and \$40 million per annum.

Senator CAMERON—That is designed for emission-intensive industries to send a market signal?

Mr Topham—In fact, all it would do is act as a penalty, not an inducement. The reason for that is our energy bill in refining is so high that people work very hard to get the emissions down. For example, under the EEO legislation—energy efficiency opportunities legislation—we looked very closely at what savings in energy were available over two- and four-year payback periods. From memory—and I would have to check—of the order of two to three per cent of energy could be saved within those payback periods. The results for carbon abatement would be similar. In other words, at the kinds of carbon prices we are looking at, the emission abatement from refining is minimal. Therefore, the CPRS simply acts as a tax or a penalty and not as an effective inducement to emission abatement.

Senator CAMERON—But isn't Caltex's position no different from those of the other companies that have come here and said that they do not want to have to pay anything to reduce CO₂ emissions? It is actually no different. You may have framed it in a different way, but you just do not want to be a part of the scheme and you do not want to make a contribution. Isn't that the case?

Mr Topham—No. In fact, we are quite explicit in our submission. We say that we support an emissions trading scheme and that, once our competitors have equivalent carbon costs, we should be part of the scheme.

Senator CAMERON—That could mean years.

Mr Topham—Regrettably, it probably does. We would be delighted, though, if Singapore and other competitors joined in Copenhagen this year in a scheme which started virtually immediately. That would mean that a carbon cost of, say, \$25 or \$40 a tonne would apply to us and to them. That carbon cost would have probably some small effect as an incentive to reduce emissions. We are not at all opposed to that, provided our competitors face the same costs.

Senator CAMERON—What does Caltex say to the argument that early adoption will provide benefits to the economy both in the short term and the long term in relation to technology and employment?

Mr Topham—That would only be the case if there was global agreement. Otherwise, we would find that it would simply displace jobs out of Australia.

Senator CAMERON—In fact, the argument that has been put here is that if there is no global agreement the early adopters will actually have the technological benefits and the employment benefits.

Senator BOSWELL—It was Greenpeace, mate. I would not put too much weight on it!

Senator CAMERON—That is the argument that has been put.

Mr Topham—That would only be the case in industries which are receiving direct benefits from the CPRS, and not traditional manufacturing like oil refining, steel making, chemicals and a whole lot of other industries which will suffer from the inefficiencies created by the CPRS—unless there is a global agreement. That is the key.

Senator CAMERON—So what is your planning between now and 2050, when we are all going to be driving electric cars? What is Caltex's business plan for the future in a carbon-constrained economy? I would like to hear what you are going to do.

Mr Topham—Sure. Already more than half of our business is on the marketing side and not on the refining side. We have got Australia's largest chain of convenience stores, and an increasing proportion of our income is coming from those kinds of operations and a whole range of operations related to fuel marketing, such as provision of fuel card services and so on. We are also—

Senator CAMERON—But that will disappear, won't it?

Mr Topham—The retailing side of the business will not—not the convenience retailing side of the business. We also have the largest change of service stations selling biofuels, both ethanol blends and biodiesel blends, and that is an area of business which will grow over time as well. So in a sense we are already starting to diversify into alternative, more renewable fuels.

Senator CAMERON—Do you plan to have charging points for electric cars in your stations?

Mr Topham—It is a very interesting suggestion, Senator. The real estate of service stations obviously provides you with a range of opportunities for alternative fuels—apart from convenience retailing. That is not something which we are currently looking at, but, with a very

well situated chain of outlets in suburban areas, there are obviously many possibilities for providing services other than, as I said, convenience retailing. So the future for us is one in which we will adapt, and we are very clear on the potential changes that might take place in a carbon-constrained environment.

CHAIR—Senator Macdonald.

Senator CAMERON—I may have some questions on notice as well.

CHAIR—Okay.

Senator IAN MACDONALD—You could sell batteries, I guess, couldn't you?

Mr Topham—We probably already do sell small batteries.

Senator CAMERON—At a vastly inflated price! I know that personally!

Mr Topham—But the convenience was wonderful, Senator!

Senator CAMERON—The convenience was wonderful, yes!

Senator IAN MACDONALD—And well done on the E10 initiatives. My Caltex service station sold E10 when others did not. Who are your big competitors in imported fuel—which refineries; who owns them?

Mr Topham—The refineries in Australia are owned by Caltex. We have two refineries.

Senator IAN MACDONALD—No, I mean Singapore and—

Mr Topham—BP? Oh, Singapore refineries? Our major competitors there are ExxonMobil and Shell. Both have significant refinery capacity in Singapore, and therefore, whilst I cannot speak for them, it is clear that one of their choices is: do you produce in Singapore or do you produce in Australia? In Australia a refinery does not have to be uneconomic before you switch production from Australia to overseas. In the case of Caltex, we are an Australian company, we have no overseas interests and therefore our future lies in Australia, and our Australian refineries have to make money if they are going to keep operating. But for those other companies it is a bit different.

Senator IAN MACDONALD—I was going to say: if you were one of the other companies that did not have the same connection you have with Australia, and if this scheme comes in, why would you refine in Australia? The cost of trans-shipping refined oil would probably be less than shipping other sorts of oil, wouldn't it?

Mr Topham—It essentially comes down to the cost of shipping products versus the cost of shipping oil and processing it. So, if you can ship crude oil to Australia and process it for less than it costs to bring in the products from an overseas refinery, then you will refine the crude oil. Once it becomes more economic to import the finished products rather than import the oil and

process it, you will import from overseas. Indeed, that has happened with, for example, the Port Stanvac refinery in South Australia which ExxonMobil closed down a few years ago.

Senator CAMERON—That was not simply the issue there. There was a lack of investment. I was involved intimately in that—

Mr Topham—That is true, Senator, but nevertheless—

Senator CAMERON—and that is a very simplistic statement that you have made.

Senator IAN MACDONALD—Vicious union leaders too, I guess.

Mr Topham—I would agree with you, Senator Cameron. I was simply trying to say that one of the factors was clearly the import economics for fuels versus the import economics for crude oil and processed oil.

Senator CAMERON—Pretty crook management, I thought.

Senator IAN MACDONALD—Probably too much union influence there caused them to shut it down.

Senator CAMERON—Probably not enough.

Senator IAN MACDONALD—I clearly know little about the oil industry, but does it not stand to reason that refined oil is smaller in quantity, volume or weight than crude oil, or is that not the case?

Mr Topham—The difference is not very great.

Senator IAN MACDONALD—So, if there is no relief, as you are suggesting—and I appreciate you cannot speak for your competitors—why would they continue to produce in Australia?

Mr Topham—As I was saying, the view by the Australian Institute of Petroleum is that under the CPRS some refineries in Australia are likely to close. That is a statement which they have made in submissions, and we would not disagree with that view. We are certainly not saying they are our refineries, but some refineries in Australia may be under threat under the CPRS.

Senator CAMERON—I thought you said you were.

Mr Topham—No, I was being very careful with my wording to say—

Senator IAN MACDONALD—You were indeed.

Senator CAMERON—So you are talking for other refineries now, are you?

Mr Topham—No, I was simply—

Senator PRATT—Are you talking for BP?

Mr Topham—No. I was referring to the statement made by the Australian Institute of Petroleum, which was not specific on which refineries.

Senator IAN MACDONALD—Which, for all the right reasons, we would leave that way. We do not want to put you in a commercial fight with any competitors.

Senator CAMERON—So you are going to be here, but you are now saying that others may not. Wouldn't it be more appropriate for others to come here and put that proposition?

Mr Topham—I would hope they are going to appear before the committee, yes.

Senator IAN MACDONALD—Thank you. You have been appropriately balanced in what you are saying, which I appreciate. I think it says this in your submission somewhere, but can you repeat for me: how many people are employed in the refining industry in Australia, by you and by the industry as a whole? Do you have those figures?

Mr Topham—I do not have the figures for the industry as a whole. For us, it is around about—I am just checking my figures here—1,400 employees and contractors.

Senator IAN MACDONALD—Where is that?

Mr Topham—In the statement we supplied to the committee, it is para 4 on page 2. There are about 1,400 Caltex employees and contractors, and when we are doing major maintenance it can increase to around 2,600. We are about 30 per cent of Australian refining capacity.

Senator IAN MACDONALD—I think I understood your point that the big refineries in Singapore are the most efficient and therefore they are always operating. You would be replaced by the less efficient, dirtier ones. Is that the point you were making?

Mr Topham—Well, no. There are big refineries in Singapore and there are smaller refineries in Singapore and around Asia. My point was that the very large refineries, which are probably more carbon efficient due to their scale, will tend to always be in operation. When margins drop and refinery production has to be shut in, it is the less efficient refineries which are going to shut in. They will probably tend to be less carbon efficient due to their scale, due to their technology et cetera. So, as I was saying to Senator Xenophon, we do not have good data on this but our belief is that the emissions would be pretty well lineball between an Australian refinery and a marginal refinery in Asia. So shutting an Australian refinery would not do much overall to change global emissions.

Senator IAN MACDONALD—Thanks very much.

Senator PRATT—You argued before that you wanted some delay to the introduction of the CPRS because of the economic circumstances, but you also argue, in effect, that the introduction of the excise rebate—the reduction of the excise—will delay the effect of the scheme too. You seem to be contradicting yourself in terms of saying, 'Look, we don't believe it's economically

opportune to do it now,' and yet you are also currently seeking to delay the introduction of the scheme. I find that a little bit contradictory.

Mr Topham—Just to clarify, we are saying that, for example, the cost to Caltex's refineries from the CPRS would be in the order of \$25 million to \$40 million a year, which would be very difficult to absorb at any time—of course, one could not absorb it, obviously. It would be very difficult to maintain viability at any time, but in a recession it is obviously more difficult to do so because our overall profits are down. Therefore, when the economy is in recovery—hopefully in one, two or three years time—we suggest that that would be a more appropriate time to actually introduce the CPRS. However it is a different matter when it comes to motorists. The CPRS itself provides an excise reduction, which completely neuters the scheme in relation to motorists, particularly in relation to petrol and to a lesser extent in relation to motorists using diesel. We are saying that that design feature of the CPRS is completely inappropriate for a scheme which is supposed to reduce emissions and benefit the environment.

Senator PRATT—But you acknowledge that it is a three-year program that would be up for review at the end and that it is about getting it ready?

Mr Topham—No, in fact, Senator, that is incorrect. We have taken a fair bit of effort, including checking with the government, to clarify the scheme. There is a perception, which is quite widespread, that the excise reduction for motorists will cease after three years. That is in fact not the case. The excise reduction for motorists will continue permanently. The rate of the excise reduction will be equal to the rate in the final six months of the first three years of the scheme, so that in 2020 you will still be getting the same excise reduction as applied at the end of 2013. So that is the feature of the scheme, which really negates any benefit of the scheme on reducing emissions from petrol. In fact, it drives up emissions from petrol over time.

Senator PRATT—The scheme and these particular provisions were announced when petrol prices were quite high. Maybe we do not need the excise reduction and we should be bringing the CPRS in now without it. It seemed to be widely welcomed at the time and acknowledged by organisations like the Australian Automobile Association that the excise reduction was required as a way of smoothing the transition to this scheme.

Mr Topham—I think there are two separate issues. One is whether at the time of high oil prices, the burden on motorists and families is too high and therefore excise should be reduced. I think that is a separate policy issue from the CPRS. The reduction for a period of three years at a time of high oil prices might be one way of smoothing the introduction of the scheme, and perhaps that is what was anticipated before the green paper and before the white paper. However, once we got to the white paper, the excise reduction continues permanently. Perhaps government senators would like to suggest that the price of petrol does in fact jump by up to 10c a litre after the third year of the scheme. Maybe that is a recommendation senators could put forward.

Senator CAMERON—Leave the recommendations to us; we will work out the recommendations.

Senator IAN MACDONALD—It is not a bad idea. Thank you.

Senator CAMERON—Typical. Anything business says, you will agree with it.

Senator BOSWELL—You say that you will have to purchase \$1.6 billion worth of certificates and you say the ETS is going to cost you \$40 million a year. Are the two figures cumulative?

Mr Topham—No, the two things are quite separate. There are two price scenarios. One is the CPRS minus five scenario, which is, if you like, the basic CPRS scenario and Treasury modelling. The other is what we call the ‘price cap’ scenario: \$40 a tonne. The \$1.6 billion and the \$40 million are at the price cap. The \$40 million is the impact on refining. That is the cost which we cannot recover. We will take the hit on the bottom line from that \$40 million, whereas the \$1.6 billion of permits, which we must buy for motorists, will be recovered at the pump and through contracts.

Senator BOSWELL—Yes, but you would have to rock up to the bankers, I presume; you would not have it in petty cash. There would also be a borrowing cost on that \$1.6 billion.

Mr Topham—Indeed. There will be a working capital cost. For example, if we went to auction to buy that \$1.6 billion worth of permits, if there were 12 auctions which we participated in, that would be roughly \$130 million additional working capital which would have to be raised in order to be able to participate in the auction and buy the permits. Then hopefully we could pass on the cost of that working capital—

Senator BOSWELL—It would cost you \$130 million a year to borrow \$1.6 billion.

Mr Topham—Yes, that is correct, if we are participating in a monthly permit.

Senator BOSWELL—You talked about the financial intermediaries. Have you got any idea how many permits will be out there and how they will be traded? Will there be a stock exchange for permits set up?

Mr Topham—We anticipate that the permit market at the start of the scheme will be around 480 million permits. About 25 per cent of those will be issued to emissions-intensive, trade exposed industries, which means that the government will auction, in our estimate, around 360 million permits. In addition to that, there will be a secondary market, where you can buy permits from overseas or permits from other projects within Australia—for example, sink projects which generate credits.

Senator BOSWELL—These are things that Senator Christine Milne and I are totally opposed to—the sinks.

Mr Topham—There are other sources—for example, methane projects from garbage dumps may well generate credits if they are actually saving emissions. I am not quite sure. It is an area which is not really part of my expertise. But there will be other permits which are not government auction permits.

Senator BOSWELL—We are very concerned that we will blot up a lot of agricultural land on sinks. I think I have spoken to you about that.

Mr Topham—Indeed you have.

Senator BOSWELL—In the worst case scenario, where the economy has not gone ahead and you are saddled with this ETS, have you worked out how much the RET is going to add on to your \$40 million cost per year?

Mr Topham—That is not a calculation which was explicitly made, and I would have to take that one on notice.

CHAIR—We will have to wind it up there. I have one quick question. You talked about what is happening with emissions trading schemes in other jurisdictions, particularly those where your main competition is. Do you have any sense of what is actually happening in, particularly, Singapore and Korea?

Mr Topham—As far as we are aware, there is nothing by way of any emissions trading scheme being developed in Singapore. There may be something being contemplated in Korea. I would have to take that one on notice. There is certainly some sort of scheme being contemplated in Japan, but it is early days. To get to a level of carbon cost comparable to Australia, most Asian countries will take many years.

Senator MILNE—I would like to put one question on notice. You spoke earlier about mandatory vehicle fuel efficiency standards and said that you thought, in the Australian context, a fee-based system and a rebate system would work better. Could you provide any details you have about how you think that might work, or where it has worked?

Mr Topham—Yes, we would be happy to provide that.

Senator CAMERON—And could you take another one on notice. You have got a very strong disclaimer in your submission, right at the end—that you cannot be held, you have tried your best to have accurate statements but you cannot be held to the statements.

Mr Topham—I am not sure it is our submission. Are you sure it is ours?

Senator CAMERON—It is on page 99.

Ms Bennett—We have not given you a 99-page submission. The statement that we provided you was—

Senator FEENEY—There are two numbering systems.

Senator CAMERON—If I have got the wrong numbering system, I apologise. I would just like some further explanation on this disclaimer. It is a very strong disclaimer. That is the only reason I am raising it.

Mr Topham—This is from the green paper submission. Because the green paper submission provided scenarios in relation to Caltex profitability, and we are a listed company, the disclaimer was necessary so that people did not rely on the financial projections which we put in our green paper submission. It was purely for technical purposes.

CHAIR—Thank you very much, Mr Topham and Ms Bennett.

[2.47 pm]

ROWLEY, Mr Nicholas Hugo, Director, Kinesis

TAPER, Mr Bruce Stewart, Director, Kinesis

CHAIR—Welcome. We invite you to make a short opening statement so that we can get as many questions in as we possibly can.

Mr Rowley—Thank you very much. We might just kick off with about five minutes of presentation. I will say a bit and then my fellow director, Bruce Taper, will say a few things. Firstly, thank you very much for inviting Kinesis to be here today. Committee work is always very difficult. It is a lot harder when there is no natural light, and there is stale air, and there are a lot of people talking to you about technical elements of policy that I try to understand in my professional career.

I will kick off with a bit about Kinesis and a bit about my background and then Bruce will talk a little bit about his background. Both Bruce and I have worked in government on developing policy in relation to achieving emissions reduction over a fair while. I used to be a senior adviser to Bob Carr, for nine years. Through that period, we helped initiate the Greenhouse Gas Abatement Scheme here in New South Wales. Bob Carr was writing and saying things about the climate problem before most, certainly here in Australia. It was then viewed very much as a sort of environmental issue and one of Bob's indulgences. I think we have all moved a long way from that.

I then worked as a senior adviser to Tony Blair at 10 Downing Street from 2004 to 2005, advising him on climate policy. Through that period, we did a number of things in relation to international engagement on climate policy, but also I was at No. 10 at a time when the European emissions trading scheme became active, in early 2005. Bruce Taper and I have now set up Kinesis. We work on assisting both government and business—in Australia and in other places—to achieve measurable, reportable and verifiable emissions reduction. We are not into offsetting, we are not into believing that one's emissions performance is a great stamp of one's moral rectitude or anything else. We believe that the future risk associated with the climate problem is extremely real in terms of direct climate risk, and it is certainly very real in terms of risk associated with regulation and policy as it might impact on business. Indeed, the same goes for the extent to which the Australian economy is exposed in relation to those rules as they are developing through international processes. We do not want to spend too much time talking about ourselves, but I now hand over to Bruce to say a little bit about his background in New South Wales and other places.

Mr Taper—Just for your interest, I started work as an electrician and I spent 10 years in the power industry. I have worked at various levels of government. I have delivered what I think is still Australia's largest solar village, just down the train line at Kogarah, in the town square. I worked right across government and with the development industry to implement BASIX in New South Wales in 2004. That is still the only greenhouse measured new-building policy in Australia, if not in the world, and certainly the only one in the world with internet delivery. The terms that we worked in the New South Wales government to deliver and implement that system were very similar to what was agreed in Bali last year in terms of measurable, reportable and

verifiable emission reductions. And they are effectively the three planks we have set up our business on; that is the type of consulting work we do.

One of the things that Nick and I led on most recently that probably has some implications for the discussion today is the work we did for the City of Sydney and Clover Moore's Sydney 2030 plan. We modelled an emission reduction strategy for a 56 per cent reduction over 22 years without using any technology that was not currently proven or any policy frameworks that could not be implemented. While that did not get to the mayor's target of a 70 per cent production by 2030, it is worth pointing out that Nick and I have had 30 years of experience and know how hard it is to implement change. If you look at the *Tracking Kyoto* figures, from 1990 to 2012 stationary emissions are on track to go up by just over 50 per cent. For the city strategy, in the 22 years from 2008 to 2030—so the same period as the Kyoto agreement—we were getting a similar sized reduction. With that experience, Nick and I are pleased to be here and answer your questions openly and honestly. Thank you.

Senator CASH—How important is it for an emissions reduction strategy to incorporate increasing energy efficiency but particularly in our buildings in a country like Australia?

Mr Taper—It is very important. Certainly, BASIX has proven that in New South Wales. I would say, though—and Nick and I have had experience not just in the building industry but in other sectors—that energy efficiency is just one metric that you apply yourself to. A lot of the greenhouse gas reductions delivered by BASIX—and they have been monitored and measured now—have been delivered by energy efficiency, but not all. I am careful about recommendations, after Senator Cameron's comment before, but my advice to all of our clients is that you focus on greenhouse and that energy efficiency by itself is not the golden fleece. For instance, large airconditioners are more energy efficient than small airconditioners, and if you get in the habit of mandating energy efficiency only you may end up with a larger bit of plant or equipment producing more cooling and effectively more emissions. That happens across a number of things. We have worked for a transport company that came up with an energy efficiency solution in terms of fuel mixing for their trucks, but they actually showed the ability to put a physical restraint on the accelerator to capture that energy efficiency gain into a fuel reduction saving. Efficiency by itself would have just meant the truck driver would have pressed the accelerator harder and taken off faster at the lights, but they actually captured that fuel mixture energy efficiency by restricting the amount of acceleration. So efficiency in buildings is part of the solution.

Senator CASH—What about building design specifically?

Mr Taper—Yes, that too: building design should be a combination of thermal design, energy efficiency and greenhouse performance.

Senator CASH—So you would see a suite of measures as being a more appropriate strategy to reduce carbon emissions?

Mr Taper—I would see a measure that focused on greenhouse gas reductions and that it had a suite of opportunities to achieve that outcome. That is effectively what BASIX did in New South Wales, where the government said, 'All new buildings will reduce emissions by 40 per cent compared to the previous state average.'

Mr Rowley—I might just say a few things because I think that you have phrased a really clear question: what is the role for energy efficiency and what makes for effective climate policy? We are here because we are talking about the current proposal that has been put before the parliament from the current government which will achieve one thing: a price on carbon. Even if you had the perfect pricing mechanism, whether that was a tax or an emissions trading scheme, you would still have to do a fair bit more to actually achieve the transformation required in our economy and in other economies to come close to achieving the emissions reductions that the science tells us are required. We have a number of frames in which we look at this issue, and really a debate around the effectiveness or otherwise of a carbon pollution reduction scheme has become the great debate about the rigour or otherwise of the government's policy. Part of that is due to the way in which the government itself has chosen to frame the debate, but not even the International Emissions Trading Association will tell you that trading and hence pricing is going to achieve emissions reductions close to adequate.

Senator MILNE—You say in your introductory remarks that you are a strategic director to the Copenhagen Climate Council, working towards a new global climate policy. The government's scheme has a target of five per cent to 15 per cent going into Copenhagen. In your experience, having worked in the UK, do you think the rest of the world is going to regard that as adequate burden sharing from Australia given the task of the developed world to go first? Given what you said about the science, what do you think the target should be?

Mr Rowley—The first part of your question is easy and the answer is no. The second part of the question is that the target needs to be primarily scientifically informed. However, do we think we have actually achieved something merely by going from, let us say, arguing for 60 per cent and then going: '60 per cent sounds good. Actually 70 per cent is better. No, 80. No, wait a minute, we need 90 per cent'? That is actually a serious debate around the real challenge of delinking our economic growth from energy growth and that energy growth from emissions growth. I think we make a real error: the debate has focused far too much on what and not enough on actually how, and that how—to draw on Senator Cash's question—is going to have to be an ongoing learning exercise. There is going to be a rich mix—pricing, emissions trading, carbon taxation, energy efficiency standards et cetera. I think Al Gore called it a silver buckshot approach to the problem.

Senator MILNE—Having said that and having said that you should be informed by the science, we had Australia's leading—

Mr Rowley—I said primarily informed by the science. You cannot allow your policy to solely be guided by science because there are very important upfront costs to be considered which have economic, human, social and other implications. Just to say, 'Let's just find out what the IPCC says and let's just apply that in terms of the driver for our policy,' I think is both unrealistic and not sensible.

Senator MILNE—In terms of a time frame, the scientists also say we only have until 2050 for global emissions to peak, so I presume you do not assume we have forever to get to this target.

Mr Rowley—No, of course not. It is not all going to suddenly happen in 2049.

Senator MILNE—That is exactly the point. Having said that and with what you have come up with for Sydney, and the extent of the cuts that have been achievable or that you think are achievable for the city of Sydney by 2030, to what extent can we extrapolate that mix to the whole nation? If we were to go with a more ambitious scenario and put together all the strands, all the complementary measures we have been discussing, to what extent would it be possible to scale up from the kind of scenario you have put forward for a city?

Mr Rowley—I think that is definitely a question for Bruce, but I think that there are two components to the answer. One is what we might learn from the experience of having worked with Sydney and the other is what we learn from the actual approach as to how we achieve a robust emissions reduction.

Mr Taper—What we did was provide a customised, if you like, or bespoke emission reduction strategy for the city of Sydney. The black and white answer is that it is not immediately transferable to any other area. In any area that is densely populated and urbanised in the commercial business district focus, it is immediately transferable. So it is transferable in the CBDs of every major capital city, and components of Newcastle, Wollongong and other major urban areas. We use maybe seven or eight policy levers at the control of the city and the state and federal governments to achieve those emission reductions. In relation to the point that Nick made, the way in which we went about it was a knowledge-building exercise for the city and everyone with which it consulted—it consulted extensively with business. I think it has received unanimous support from business, industry and the property sector. It has shown a lot of commercial investment interest from energy companies in terms of how they achieve that.

We did not set out to solve the world for Clover and get her carbon neutral by 2010 or 2020. We gave her a transition strategy in which we said: ‘We know that switching from coal to gas is a low carbon solution. We know that using gas firing on site is a more efficient form of electrical energy delivery in an urban system.’ I guess what we were most proud of was that everyone pretty much agreed with it and that it actually did not split the atom in any funny way that people had not done before. It was a very simple delivery system, but it provided a lot of political will and investment at the right point in time.

Over 22 years, it was a 42 million tonne reduction; and it had a pretty even path. We did not promise things that we could not deliver in the next year but we did make statements like: ‘In 2015 we might look at some waste energy generation within the city LGA.’ The city would have to start planning for that right now if that were to be delivered. It was only one per cent of reduction. The majority of energy reduction or greenhouse emissions just involved switching from coal to gas. You can do that in a densely populated environment like the city of Sydney.

Mr Rowley—In terms of what we have learnt from the work that we have done—and it may be that this has some resonance with the way in which you are having to make decisions about the carbon pollution reduction scheme—pricing is but one element of effective climate change policy. As I said, I worked in the UK for two years. The UK was the first European economy to develop a domestic emissions trading system. It led on the establishment of the EU ETS. I make no claims in any way for the EU ETS being a perfect emissions trading system, but the whole way in which it was developed was with a sense of: ‘Let’s first establish a market; let’s take those sectors of the economy that we believe will respond well to a pricing signal; let’s learn by doing this. Are there overallocations? How have we allocated permits et cetera?’ This was done

with a view to developing a more robust system, with more sectors of the economy coming in through time. It was also done with the understanding that pricing is a necessary but not adequate means to achieve emissions reduction; therefore, there are a whole suite of other things that we are doing. Certainly from the British government's perspective, achieving measurable, reportable and verifiable emissions reduction and tackling climate change was the organising principle about which the government was actually about. That is what its purpose was.

In the UK, there is a carbon tax in terms of a climate change levy as well as an emissions trading system. The Climate Change Act 2008 is independently overseen by a committee of the great and the good. They are looking at possibly the second most important metric in the UK economy, which is: what is your emissions growth through time? There are a whole suite of other measures for promoting renewables and efficiency and other things. I do not say that Australia needs to learn from the UK, because the UK can learn a lot of things from Australia. But I do think it is true that there has been an overemphasis on 'economism' in the way in which the federal government has gone about using a pricing signal in the carbon pollution reduction scheme. It has done so not only as the primary—in your terms of reference I think you said it was the central plank of your climate policy; it is the driver for emissions reduction within the Australian economy. In my view, that is the wrong way to look at it, because you need a whole suite of different things to achieve the reductions that are required.

Senator MILNE—Since you are involved to some extent in the global negotiations, what do you think Australia's target should be, such that it would be acceptable to the other annex 1 countries?

Mr Rowley—I think it needs to be at least 60 per cent by 2050, which is already government policy.

Senator MILNE—Yes, that is government policy.

Mr Rowley—I am saying 'at least'. If you look at the work that has been done by Nick Stern and if you look at the work that has been done by—

Senator MILNE—That is fine. What do you think it should be by 2020? You just said that it was not enough. What should it be?

Mr Rowley—If you are looking at what they have currently come up with, it is between five and 15. Five is not going to get you anywhere; 15 may. If you are going to get new technologies on stream post-2020, it could get you closer to 60, but you are probably going to have to go a fair bit more than 60 if you are going to achieve the global emissions reductions required from an economy of this nature.

Senator MILNE—How about a straight answer. What should the target be? You have given us government policy to 2050. You are saying that we should be guided by the science, in principle. What should it be?

Mr Rowley—You want me to pluck out the answer. You want the answer from Kinesis in terms of 2050.

Senator MILNE—I asked you whether you thought five to 15 was enough, and you said no. We have to vote on this issue in a matter of months. We are being asked to say that five to 15 is adequate to meet the science and acceptable to the international community.

Mr Rowley—It is not.

Senator MILNE—Thank you. It is not. So what should it be? What is the vicinity?

Mr Rowley—You are talking about the 2020 target?

Senator MILNE—Yes.

Mr Rowley—The 2020 target is going to have to be at least 20 to 30 per cent. But what you are actually going to have to do is achieve your 2050 target, which is going to be at least 60 per cent.

Senator CAMERON—Mr Rowley, I am interested in this dynamic you have raised about the abatement being important, in addition to the economic arguments and the targets. I was in London a couple of years ago and there was a debate going on then about a scheme that Ken Livingston was involved in with councils and banks around the world. Is that scheme still in place?

Senator MILNE—Has Boris gotten rid of it?

Senator CAMERON—Boris might have got rid of it. It seemed to me that that was a very big issue at the time. The councils were looking to try and leverage up borrowing across the whole world to reduce carbon footprints in councils. Is that still there? Have you heard about that?

Mr Rowley—It is still extant. The way that came about was through the G8. During the G8 process in 2005, which I was deeply involved in, the Greater London Authority thought it would have something which was initially called the C8. The eight big cities in the world would come together to see what they could do in terms of emissions reduction. That then became the C20, and now it is the C40. That has been taken over by the Clinton Global Initiative. One of the things that it was looking to do was leverage major investment from finance houses into particular approaches and technologies that could be used in urban contexts in a whole variety of cities around the world.

Mr Taper—Sydney and Melbourne are represented in the C40. In fact, the mayor took the work that we had done and presented it to the last Clinton Climate Initiative conference.

Senator CAMERON—I am interested in the issue of the science determining where we go. They say that politics is the art of the possible. How do we then reconcile the arguments from businesses that are coming in here and basically saying that we should have no targets? Some are arguing that there is no problem. On the one hand, sceptics are coming in and saying that there is no global warming and, on the other hand, environmentalists are coming in and saying, ‘You’ve got to give us 25 per cent, you’ve got to give us 30 per cent or you’ve got to give us 80 per cent by 2050.’

Mr Rowley—A ‘what’ debate is always easy because you just have to spurt out numbers. Maybe that is why I was not as immediately forthcoming with a number. Ultimately, it is the ‘how’ question which is the really challenging question. How would you get close to any of these numbers? One of the things that you all know about and do not even need to be sitting on this committee to find out about is simply the conservatism of much of the industrial lobbying in Australia. It is very different in the United States, strangely, through the US Climate Action Partnership. It has been very clear in wanting to have a price on carbon and an emissions trading system in the US. It is led by some pretty big companies like Duke Energy, GE and others. They are not Johnny-come-lately, small little firms that are arguing for things. In the UK, the CBI is arguing for a much more progressive and clear-sighted policy from the UK government.

So the whole notion that we have this tension—which I think is an absolutely artificial tension—between economic growth and emissions reduction or, on the other side, a price on carbon is very, very different to the way that Barack Obama is looking at this problem in the US in terms of saying, ‘Look, one of the ways that you can absolutely grow your economy, stimulate your economy, is by being very clear about what your longer term goals are, what the constraints are, and then allowing business to actually innovate within those constraints.’ If we have businesses that sell petrol telling us that in 50 years time they are just going to be in retail, that does not strike me as a particularly dynamic perspective in terms of how you operate within constraints. But that is for you to judge rather than for me to judge.

Mr Taper—Again, just a little learning from the City of Sydney: the mayor and the city had emission reduction targets before we got the job to do the 2030 strategy, but they were going backwards. Every city around the world has set targets, but again—one of the things that Nick and I have learnt by implementing policy—you need a mechanism for change, and announcing a target, announcing carbon neutrality, makes people feel good when they walk out of the room. But in our work we are constantly working with government and business that are now finding out how hard it is to turn around emission reductions, even from the work that they do, where they have direct control over all of their emissions. It is hard.

Mr Rowley—And it is both hard and challenging, and there will be a measure of pain if you are going to impose a serious cap in relation to emissions. That will have some consequences that are upfront consequences. We have to be very realistic about that. If you describe a future for Australia which is all about carbon pricing, effective climate policy, massive growth in green jobs and we are all going to be happy and profitable and nobody actually loses out, I think that that is as ridiculous in many ways as saying, ‘We are an economy which must continue having coal as our primary export and we must continue burning coal to be the primary provider of the energy that we all require.’ That also, I think, is absolutely wrong, because it exposes our economy and our country to enormous risk in terms of what the international policy drivers are likely to be. So neither of them, I think, is right.

CHAIR—Okay. Senator Macdonald.

Senator IAN MACDONALD—With your inside running on the Copenhagen climate conference later this year, you are perhaps the best placed to give us a forward guess: how is the conference shaping up? We have heard evidence about China and Russia—that China, for example, is saying, ‘Our manufacturers aren’t going to pay; yes, we’re reducing our emissions, but our people aren’t going to pay.’ We have had different interpretations of what President

Obama has actually said he will actually do and what his congress will allow to be done. You may be operating under some form of corporate confidentiality here, but, if you are not, what sort of agreement are the bureaucrats working towards? We all know the agreement is done long before the leaders get to the conference. What are they working towards?

Mr Rowley—I am tempted to say I will read out the Kinesis disclaimer for 10 minutes!

Senator IAN MACDONALD—We will take that as read! You are probably the best person we have had so far to give us a bit of a feel for how things are shaping up.

Mr Rowley—Well, I am a tragic optimist when it comes to these matters, because I think if you are not then you are just setting yourself up to fail. There is an absolute need to get the parameters of a global climate treaty agreed, if not by December in Copenhagen then pretty soon afterwards. The problem with the UN process up until now is that you have had the wrong people, really, talking about the wrong issues through that process. Climate policy, at the highest level, actually needs to be decided by heads of state. That was part of the thinking behind Tony Blair making climate change one of his two key priorities for the G8 in 2005. One of the things that were achieved through that was further engagement with the rapidly developing economies, including China, India, Brazil, Russia and others.

I could talk about this long, long into the stale air and the artificial light this afternoon. But what do I think are the likely parameters of a global climate deal to be made in Copenhagen in December this year? Let us go ‘possible’, ‘probable’, ‘actual’. I think it is possible to probable that you will have a global agreement in relation to what a global target is going to be. I am very hopeful that that is actually going to be a target which is calibrated around the amount of pollutant in the atmosphere rather than reductions with regard to emissions rates within economies. I think that that is quite likely. Ross Garnaut believes ‘Well, why would you really care too much about that?’ but I disagree. I think the symbolism of that is very important and I think you can get agreement from some of the rapidly developing the economies on that.

Senator IAN MACDONALD—On pollutants.

Senator MILNE—So this is parts per million?

Mr Rowley—Yes, on a ppm target. It is very challenging to do that but I think that that is certainly possible to probable. I am also hopeful that one can break down the artificial division between annex I and annex II countries, in terms of what needs to be done in the second commitment period post 2012. That sets up a sort of false tension in many ways, and you have countries like Togo described in the same way as India, when their emissions and the nature of their industrial processes are very different. I am confident that there will be a breakthrough in relation to the way in which forestry is used. I think that, if you have rapidly developing economies—those commonly known as BRIC nations—not agreeing to mandatory caps in 2012, I think there is a possibility that they will agree to a timetable whereby they will be part of a global treaty which will include caps, not by 2012 but pre 2020. I also believe there is the potential for an agreement in relation to the linking of different market trading systems around the world. That is also very important, given the deliberations around the CPRS.

Senator IAN MACDONALD—Could I, perhaps, without interrupting—

Mr Rowley—That is all right.

Senator IAN MACDONALD—I was just going to try to be a bit more specific, to try to get you to where I am. You will remember that, at Kyoto, we all agreed that we were going to reduce emissions by a certain thing, and I think in the end result Australia was one of the few countries that actually discharged their agreement in what they actually did.

Senator MILNE—We had a nine per cent increase.

Mr Rowley—Australia did not agree to reduce its emissions.

Senator IAN MACDONALD—It agreed to keep them at a defined level.

Senator MILNE—Yes—an increase.

Senator IAN MACDONALD—A defined increase. But, of all the agreements made—tell me if I am wrong—Australia was one of the few that actually did what it said it was going to do.

Mr Rowley—We have not had the end of the first commitment period, which is in 2012.

Senator IAN MACDONALD—Yes, but it is shaping that way, isn't it? Tell me if it is not. I am not debating here; I am not in a position to debate with you. But that was my understanding.

Mr Rowley—For Australia tracking towards the Kyoto target, that is not a reduction; European economies—

Senator IAN MACDONALD—No. Really my point, in view of what you have just said, is that it is one thing for nations to agree to targets; it is quite a different thing for them to actually put those agreements into effect. Now, with Kyoto, as I understand it, Australia was one of the few nations that actually did what it agreed to do. Many others who took a prominent position at Kyoto agreed to do these things but never even got close to doing them. Is that correct? Is that a fair summation?

Mr Rowley—No, because there are some economies that actually have achieved those reductions, the UK being one of them. Other EU countries certainly have as well. Canada certainly has not. Japan certainly has not. They are both annex I countries.

Senator IAN MACDONALD—There are a number of them. A number of nations sort of cranked up their nuclear power plants so that they could meet them. It is quite clear that my position is that, yes, we have got to do something about it; yes, it is a problem. But why should little old Australia, with, effectively, no influence on the actual changing climate of the world, go first, because it will destroy our economy and jobs? That is my argument. I am not asking you to agree with that. I am just telling you what my argument is.

Mr Rowley—I must debate that with you, though, Senator Macdonald.

Senator IAN MACDONALD—Sorry?

Mr Rowley—I am happy to debate that with you.

CHAIR—We might do that at a different time because we are nearly out of time.

Senator IAN MACDONALD—I am only telling you that to be more specific in my question. How likely is it that there will not be just an agreement from the US, China, India and Russia but actually some implementation of whatever they agree, on the basis, as Senator Boswell has pointed out, that Obama has said certain things but he has also said—according to Senator Boswell, and I think it is right—‘Well, we’re going to do that, providing it doesn’t hurt anybody.’

Mr Rowley—First of all, you are making a number of, I think, false assumptions, the first one being that nothing is actually happening already, that the countries that are signatories to the international treaty have been doing nothing in terms of achieving emissions reductions up to this point. That is certainly not true, even for those who are not tracking particularly well against their targets. They are doing a whole lot of things. But we are all waiting for Godot. We are waiting for this, hoping that somehow, at some point, something will happen that will change what we therefore do.

Senator IAN MACDONALD—Yes, but why should Australia be first? I am not disagreeing with—

Mr Rowley—You are telling me the reason why Australia should not be first is that we are small and inconsequential.

Senator IAN MACDONALD—Yes, and it will not make any difference to the changing climate of the world.

Mr Rowley—It will, but not massively, in the same way as, whether or not we—

Senator IAN MACDONALD—Give me a percentage.

Mr Rowley—If we commit troops to Afghanistan, is that going to solve the Afghanistan problem?

Senator IAN MACDONALD—Well, if you listen to certain of my colleagues here, no, it will not and they should never be there. Perhaps we should adopt that same approach to this argument! Senator Milne would obviously agree with me then.

Mr Rowley—I do not want to make international policy for you, but the point is that we have a global tragedy of the commons writ large. If we have 100 people over the commons, all polluting the commons, and all we do is say, ‘Look at the other 99 people on the commons—I’m not changing my behaviour until they do something,’ that is hardly leadership. The only way you can get the other 99 to actually change what they are going to do is to demonstrate how it is—

Senator IAN MACDONALD—Sure, we want to be leaders, we want to be good and we want to walk out in the world, but you can destroy your job and everybody else’s job by—

Mr Taper—One bit of learning, and it is in a much smaller pond and possibly less consequential, is that the new-property development industry argued that we should not implement Basix in 2004 because new homes only represented two per cent of all building stock. But the consequences of the government implementing it was that there were effectively two rainwater tank companies in Sydney before 2004 and there are close to 100 now. It opened up the possibility of retrofitting the existing stock. All of a sudden, hot water systems that were solar powered went from being in under one per cent of new homes to over 25 per cent of new homes, and it effectively created a trade and an industry where those things could be retrofitted to existing houses in a far quicker fashion.

We never wrote that in the cabinet minute that went to the government. We never foresaw that, but those are the consequences of showing some leadership and giving the industry the flexibility to respond how they see fit. If you scale up that approach, I do believe that, while there will be pain and there will be losers, there will absolutely be transformation in our economy in a positive way that goes beyond the rhetoric of leadership and that will provide opportunity for those people who may be harder done by. So for the leadership in our region I think Australia stands to be not just significantly well-thought-of but profitable in terms of our economy, with the opportunities that that could create.

CHAIR—I want to call it to a halt there. I know Senator Pratt has a question that she might like to put on notice. I have one that I would like to put on notice, particularly in respect of your perception on the inclusion of soil carbon in the accounting process, because I think that is an important opportunity for the country. Thank you, gentlemen, for your time here today. It certainly has been of value, I believe.

[3.24 pm]

KEOGH, Mr Michael John, Executive Director, Australian Farm Institute

CHAIR—Welcome. Thank you for your time this afternoon. Would you like to make a brief opening statement? I expect there will be considerable interest in asking you questions.

Mr Keogh—Thanks for the invitation to address the committee this afternoon. The Australian Farm Institute was established in 2003 to carry out and commission research into strategic policy issues impacting on agriculture, and climate change policy is obviously a very important issue from that perspective. The institute has been active in commissioning and publishing research into the implications of climate change policy for the agriculture sector. In my comments this afternoon I wish to address in particular the committee's terms of reference concerning the choice of emissions trading as a central policy to reduce greenhouse emissions, taking into account the need to reduce emissions at the lowest economic cost, particularly as it relates to agriculture.

It is acknowledged that the government has advised that agriculture will not be a CPRS covered sector until 2015 at the earliest, although it has also announced that, if agriculture does not become a CPRS covered sector post 2015, emissions policies will be introduced for the sector so that it bears equivalent costs to other emitting sectors. It should perhaps be noted at this point that agriculture is the only sector of the economy that has reduced emissions since 1990 and, were it not for reduction in agriculture and land-use change emissions since then, current Australian emissions would be approximately 130 per cent of 1990 levels and the Australian government would have a multibillion dollar Kyoto protocol emissions liability to deal with.

The CPRS will impact on agriculture in two ways: indirectly through higher energy related input costs after 2010 and directly in the event that agricultural emissions incur a cost after 2015. Three modelling exercises have been carried out to investigate the indirect costs for the sector arising from the initial stages of the CPRS. In summary, all three analyses projected CPRS related input cost increases in the range of one to three per cent by 2015, which would result in decreases in farm profit margins of between three and six per cent, all other things being equal. These results took into account government fuel excise and rebate commitments. Each of the three modelling exercises also investigated the post-2015 direct CPRS impacts on agriculture, assuming agricultural emissions attract equivalent costs to other emissions.

One set of modelling, by the Centre for International Economics, which was commissioned by the Australian Farm Institute, projected that, relative to business as usual, agriculture sector outputs will reduce by up to 28 per cent for beef and wool production by 2030, with much smaller impacts for grain production. This modelling assumes similar emissions-intensive trade-exposed status for all agricultural activities.

Senator BOSWELL—Do you have figures for grain?

Mr Keogh—A reduction of between two and 2.5 per cent for grain, I believe. Australian Farm Institute modelling at a farm level predicted impacts of around a 20 per cent reduction in farm

profitability by 2030, with approximately equal impacts for both grains and livestock as a consequence of livestock production attracting EITE status and 90 per cent free emission permits while grain production would not. Therefore, grain producers would be required to pay for all their required emission permits immediately the sector became 'covered'. A third modelling exercise, by ABARE, projected much smaller impacts ranging from a 5.3 per cent increase in production for grains—that is an increase—to an eight per cent reduction in beef production by 2030 compared to business as usual.

The large divergence in modelling outcomes between ABARE on the one hand and the CIE and Australian Farm Institute on the other appears to arise from a number of differences in underlying assumptions. The most important one is that ABARE assumed all developed nation agriculture sectors would implement equivalent emission policy from 2010 and developing nations would do so from 2015. In contrast, the other modelling exercises did not assume equivalent international policies for agricultural sectors. Secondly, ABARE also incorporated a lower emissions price scenario despite the government white paper stating that in the event of international cooperation a 15 per cent emission reduction target would be adopted with consequently higher emission price forecasts. Thirdly, ABARE modelling originally assumed that there would be 3.3 million hectares of forestry development by 2030 and that this would be an important factor in achieving emissions reductions and reducing emission prices. More recently, this forestry plantation projection has been revised by ABARE, although the revised projection has not yet been published.

The differences between the ABARE results on the one hand and the other two sets of modelling highlight the potentially large economic impact that the CPRS could have on Australian agriculture in the event that competitors in international markets do not adopt equivalent emissions policies for their agricultural sectors—a situation that appears highly likely. Thus far, only New Zealand has proposed imposing a direct cost on greenhouse emissions from agriculture. Other developed nations, such as Canada, have proposed baseline and credit policies for agriculture that would provide incentives for sequestration but not impose a cost on agricultural emissions. Europe has excluded agriculture from its emissions trading scheme. The USA also appears unlikely to incorporate agricultural emissions in a cap and trade scheme. In addition, many of Australia's main competitors in international agricultural commodity markets are developing nations, particularly those in South America, Asia and Eastern Europe. None of these are likely to have binding emissions constraints and certainly not for their agricultural sectors for some considerable time.

In conclusion, the published economic modelling outcomes and in particular the differences in projected outcomes between ABARE and other modelling highlights that current CPRS proposals for the agriculture sector would impose a very high economic cost in the absence of equivalent international policies for agricultural emissions and at the same time would be largely ineffective in reducing global greenhouse emissions because of the resultant increase in developing nation market shares and emissions.

Senator BOSWELL—I have a series of questions. I listened to your statement very carefully. Can you just give us the baseline. We heard from ABARE last week, and they said we could actually improve by five per cent. What is your definition of where we will be when the legislation starts in 2010, and where will we be—give us a figure on grain and livestock—in

2015? How much will it increase? How much will grain and livestock increase in 2010 and 2015?

Mr Keogh—Firstly, the projections for the indirect cost impact—in other words, the energy related cost impact that flows through in terms of the cost of farm inputs—by 2015 is actually quite similar between ABARE and other modellers. The projected increase in farm input costs is in the region of one to three per cent, which results in a decrease in farm profitability somewhere between three and six per cent. That sort of projection is quite consistent.

Senator BOSWELL—That covers beef and—

Mr Keogh—That covers right across the agricultural sector. That is before agriculture would be required to pay for its direct emissions. Once the sector is required to pay for its direct emissions, the ABARE modelling suggested only a limited impact by 2015 and in fact an increase in the grain sector by 2030 and a decrease around eight per cent for the beef sector. But the key assumption underlying that is that all our competitors in international agricultural markets adopt the same policies at approximately the same time. If you take that assumption away, the CIE projections are probably closer to the mark. They suggest a decrease in beef output, for example, by 28 per cent by 2030. For grains, it is somewhere in the region of two to five per cent by 2030. It really highlights the difference in assumptions that underlie those projections.

Senator BOSWELL—I have a series of questions to ask and the chair gets very impatient—

CHAIR—I do.

Senator BOSWELL—so can I ask you about the forestry sinks. ABARE has suggested millions of hectares be turned over to carbon sinks. Can you elaborate on that?

Mr Keogh—ABARE did some modelling of potential developments of carbon sink forests and other plantations as part of the Treasury modelling. That provided estimates of up to 3.3 million hectares of additional plantations by 2030. A more recent report from ABARE that was released in conjunction with the Outlook Conference in March has taken away those figures and simply says, ‘There is some projected development of forestry’. It basically states that the previous estimate that ABARE supplied to the Treasury modelling should now be considered to be an upper bound for forestry development. That indicates to me that they have reviewed that original projection and reduced their forestry projections but they have not published an exact figure around that.

Senator BOSWELL—What other countries are going to place ETSs or CPRs on their agriculture sector?

Mr Keogh—At this stage only New Zealand has proposed it.

Senator BOSWELL—New Zealand is only proposing it on the manufacturing sector isn’t it?

Mr Keogh—To start with, but it is projecting a timetable for entry of emissions from agriculture commencing in 2018 and progressing through to full participation by 2030.

Senator BOSWELL—Have you done any costing on what it will cost the livestock farmers to put a beast through an abattoir?

Mr Keogh—The issue there is that some of the larger participants in the meat processing sector exceed the 25-kilotonne threshold and are not considered to be part of the agricultural sector, they are in fact food processing. The projections that have been done for that sector, as I understand it, indicate an additional cost almost immediately of around \$5 per head for the kill costs associated with meat processing. The more detailed work on that has been done by Meat and Livestock Australia and PricewaterhouseCoopers. They are probably better sources to get that information from.

Senator BOSWELL—I am particularly worried about a company that I had a lot to do with while it was a cooperative and before it was taken over by Heinz which is Golden Circle. They were struggling before they were taken over. The pineapple growers had their quotas cut by 40 per cent and they were facing a huge problem with imported products coming in basically in home brand cans. I am also worried about the dairy industry, particularly the dried powdered milk industry, which uses the same energy intensity as it does to dry cement. What will be the impact on those two industries if no other country comes into this emission trading scheme on food manufacturing?

Mr Keogh—I think Australian food manufacturing companies are already finding it difficult to compete against imported processed product. We see that in the processed vegetable sector and the processed horticulture sector. In the dairy industry and the meat processing industries what potentially will happen is that some of the larger players in those sectors will be required to be direct participants almost immediately while their smaller competitors will not, so there will be a differential created between large businesses within those sectors and smaller businesses. In a broader picture the issue will be, for example, if dairy companies are exporting dried milk powder into developing nation markets in particular they will have that added cost and therefore added lack of competitiveness in those markets. So you would anticipate, as some of the modelling shows, that they would be less competitive in those markets and therefore lose market share.

Senator BOSWELL—I presume that will force the price of baby food up in countries that cannot afford to pay extra for it.

Mr Keogh—I suspect the first response would be that manufacturers in other countries such as developing nations would fill that market gap.

Senator BOSWELL—If they cannot fill the gap now because we are more competitive, they can only fill the gap if the prices go up. We are pushing the price down. I just make that point because the cost of baby food will go up because of an ETS. Have you modelled into your considerations the RET, the renewable energy target, as well as the ETS?

Mr Keogh—No.

Senator BOSWELL—We have had evidence from Treasury saying that the RET will put the cost of electricity up three times as much as an emissions trading scheme. That has been

disputed, but, whatever it comes out to, it will be an increase. So you have not modelled that at all?

Mr Keogh—No.

Senator BOSWELL—We will, I hope, hear from the abattoirs when we are in Brisbane. I have asked Teys Brothers about it—and they do not mind me using their name. They say that it is going to cost \$7 on electricity charges and \$7 for certificates, which will increase the price by \$14 per beast. They believe that will not be paid for by the people they sell to but by the farmers.

Mr Keogh—The dairy processors and the meat processors have both made those comments on a number of occasions.

Senator BOSWELL—At the upper end of losses, the beef industry will go to 28 per cent.

Mr Keogh—They are certainly the projections arising from CIE work and similar work that the Australian Farm Institute did. Again, I stress that those results are based on which assumptions you make. Both of those modelling exercises assumed that there would not be equivalent policies for agriculture sectors amongst our competitors, at least for the foreseeable future. In contrast, ABARE assumed simultaneous adoption of equivalent policies for agriculture sectors internationally in their modelling.

Senator BOSWELL—I only learnt the other day that primary industry was to be picked up in emission intensive certificates. How would that work? Would every farmer get a certificate? Would they have to buy the certificate, or would they pick it up at the abattoirs?

Mr Keogh—The proposal at the moment, as I understand it, which is not an official one in the sense of written policy but has certainly been discussed is policymakers, is that the same emissions intensive, trade-exposed criteria that apply more generally under the white paper would also apply to agriculture. Under those criteria beef production, rice production and sheep meats production all meet the criteria for a 90 per cent free emission permit allocation. The way that presumably would work is that farmers in the initial year would in effect be involved in a dry run completion of their emissions returns. Presumably the government would then look at those returns, look at the proportion of those emissions arising from those activities that are considered EITE, and, in that way, they would presumably allocate a number of free permits to that business based on those calculations.

Senator BOSWELL—And, as those certificates decay, the farmer would then have to go into the market and buy more.

Mr Keogh—The farmer who was allocated, for example, the 90 per cent free permits for his livestock enterprises would need 10 per cent of extra permits, presumably out of the market, or to undertake emission reduction or sequestration activities equivalent to that. The grains producer would not get any free permits on the EITE criteria that has been published. Therefore, there would be a much bigger impact initially on the grains sector.

Senator BOSWELL—I am interested to know how a farmer goes in and buys certificates. Does he go to the NFF and say, ‘You be my agent; you buy me certificates,’ or does he get into the open market and buy them?

Mr Keogh—It would be in the open market—the same as any other participant in the CPRS.

Senator BOSWELL—There is going to be a lot of churn if you have got 200,000 farmers out there plus every manufacturer trying to buy certificates. Someone is going to make a motza out of this.

Mr Keogh—Certainly, the discussion within the white paper and elsewhere is that agriculture would not be covered directly, but that, in fact, the point of responsibility or point of obligation for emissions from agriculture would be at the processor level. So the processor would be responsible not only for their own internal emissions but also for the emissions assumed to be created by the producers that supply those—

Senator BOSWELL—That is contrary to what you just said. You are saying that it would be picked up at the abattoirs, but you said just before that the farmers would have to buy the certificates.

Mr Keogh—What I am saying is that in theory that is the proposal that has been floated. In practice, as you have noted, the transaction costs, or the churn, if you like, associated with administering 150,000 farmers directly involved in an emissions trading scheme would be too high—that is the general feeling. Therefore, as is the case in New Zealand, the proposal is that you would capture those emissions upstream or downstream. In other words, it would be upstream at the fertiliser manufacturer—for example, a nitrogen fertiliser manufacturer—or downstream at the meat processor. Those points would be made responsible for the estimated emissions generated on farms. That would be a more practical implementation of what is being proposed at the moment. But there is a lot of uncertainty around that, and no definite decision.

CHAIR—We are going to have to move on. Senator Pratt.

Senator PRATT—We have talked a little bit about modelling already, Mr Keogh, but we know that the Treasury modelling says that output and growth are going to continue across agriculture—

Mr Keogh—As do the three exercises I have spoken about.

Senator PRATT—Yes. As your research highlights, some subsectors will grow faster than others. We also know that failing to tackle climate change will impose other costs. How did you deal with the impacts of climate change itself in your modelling?

Mr Keogh—Those impacts are irrespective of what climate change policy decisions are made, so it does not really matter how you deal with them in terms of the modelling because what you are comparing is the situation with CPRS and the situation without CPRS. The way you do that is to establish a baseline scenario and then impose the CPRS impacts on that. Now, whether that baseline scenario includes the projected impacts of climate change itself on agricultural output does not really make any difference if what you are looking at is the projected

impact of the CPRS. So none of the modelling exercises have incorporated an assumed impact of climate change in their baseline scenarios. If you apply it to the baseline, you also apply it to the CPRS, so the net result is zero.

Senator PRATT—But you acknowledge the impact of climate change on agriculture as a kind of economic force that is also going to need to be dealt with?

Mr Keogh—Absolutely. The impact of the current drought is in fact bigger, much bigger, by many degrees, than the predicted impact of climate change itself.

Senator PRATT—How important is a global agreement to limit carbon pollution in order to mitigate those environmental impacts for farmers?

Mr Keogh—In what respect? The point that I think the modelling exercises so far have made is that, in the absence of a global agreement, the economic implications of climate change policy for agriculture in Australia will be quite large, and, if the projections are correct, the only way in which climate change itself will be moderated is if there is a global agreement. I do not think there is any doubt about that. So I guess the debate gets down to: should Australian agriculture, or Australia, move first or should we seek a global agreement? All we have tried to highlight in the modelling here is that, if Australia does move first and other countries do not incorporate agricultural emissions, because Australia is so dependent on export in its agricultural sector—two-thirds of products are exported; in some sectors, much more than that—

Senator PRATT—Across the globe, agriculture does make a significant contribution to emissions—

Mr Keogh—Based on Kyoto protocol accounting methodologies.

Senator PRATT—Yes. So there is merit in bringing agriculture in across the globe and seeking to make that a global objective, is there not?

Mr Keogh—If it were achieved globally, I suspect so.

CHAIR—I have a question following on from the modelling. One of the things I have found a little bit frustrating follows on from where Senator Boswell was in relation to, say, the dairy industry. You have already discussed that some companies may be in and some companies may not. That will create a differentiation in the market.

Mr Keogh—Within that sector.

CHAIR—But none of the modelling that I have read through seems to take into account the impact on farm of the CPRS on the processing sector of agriculture. There seems to be this truncation in all of the modelling that I have read that the CPRS effectively at this stage truncates agriculture at farm gate. As you have indicated, processing is then lobbed over into industry, but there does not seem to be anywhere that I can find—and it is particularly pertinent to start date, when and if agriculture comes into the CPRS—what the potential impact on industries like dairy and meat processing, and vegetables, but the highly intensive agricultural processing sectors will

be on the farms. There does not seem to be anywhere any modelling that can give any indication of that.

Mr Keogh—No, and the difficulty is that you cannot do that modelling until you know with some degree of certainty what proportion of the processing sector exceeds the 25 kilotonne threshold and therefore is required to pay a price for their emissions. If you looked at all the meat processors across Australia, it is my understanding that about half a dozen of the largest participants will be required to pay for their emissions but the others will not. Therefore you cannot assume a uniform impact right across the meat processing sector, it is very much limited to some of the larger processors, and the share of the market that they have will in effect give you some indication of that impact and therefore the flowback impact through the agriculture and the farm level. The added difficulty is that a lot of those, as I understand it, exceed the emissions threshold because of their waste water treatment arrangements, which were established some years ago as being the environmentally preferred way through settlement ponds. But of course those settlement ponds produce methane and that methane adds to the emissions profile of that business and therefore trips it over the 25 kilotonne threshold and requires that business to pay for permits equivalent to those emissions. That is the difficulty. The same applies in the dairy sector. I understand there are at least two or three dairy processes, again the major ones, that exceed the 25 kilotonne threshold. I do not know in relation to things like vegetable processors but I suspect a couple of the major ones might depending on the fuel they use for their boilers.

CHAIR—It makes it very difficult to get a decent handle on what the impact is going to be on those obviously emissions intensive but also trade exposed industries.

Mr Keogh—As I understand it, they do not meet the emissions intensive trade exposed criteria. They do the trade exposed but not the emissions intensive and so they would not, as I understand it, at this stage be eligible for free permits.

CHAIR—That is correct, they do not get free permits, but they still have to buy permits under the system. That again makes it very difficult to get a decent handle on where those particular industries are going to go. You can do your generic modelling on what might happen on farm, but then you need to find out where they might end up because of the impact of the CPRS. It is effectively unknown because we are just going to have to wait until the effects flow through. I think that from a farmer's perspective that is one of the most frustrating part of this whole process.

Mr Keogh—The recent report released by ABARE which included this modelling I am talking about suggested processing sector impacts in the region of six to nine per cent by 2030 compared to what would otherwise have been the case.

CHAIR—But they are assuming that they are going to have access to permits. We had this discussion with ABARE last week and it was absolutely gobsmacking that they had no concept that they were not going to get access to permits. They were making assumptions in respect of the work that they were doing that just were not correct. It seemed to me that they could not get their heads around the fact that the free permits would be available once you reached the threshold but they do not reach those thresholds.

Mr Keogh—That is my understanding of what the situation is at the moment.

CHAIR—So in that sense in those industries we really have no idea what is going to happen or what we are going to do to them unless we can get some definitive information and measurement from them.

Mr Keogh—And we have got differential impacts, so in fact there will be a disincentive there if you like for large, efficient processors versus—

CHAIR—And a smaller processor who is just under one of the thresholds might decide, ‘It is not worth me increasing my business because I tip over and then incur those additional costs that make me uncompetitive or put me out of business.’

Senator XENOPHON—We have heard a lot about the risks involved and the potential impact on agriculture. We heard earlier today from Mr Rob de Fegely about some of the projects he has been involved in in terms of even tillage or no tillage or low tillage and the impact that can have on carbon. We have heard about the sticks. Where are the carrots in terms of incentives to have complementary measures that would actually make a difference but that are not punitive from agriculture’s point of view?

Mr Keogh—At this stage the only options there are forestry, so in carbon sink forestry development, the definition is 0.2 hectares, more than 20 per cent crown cover and capable of growing more than two metres in height. So that gets down to quite small-scale areas of forestry, bearing in mind the transaction costs are likely to make it uneconomic at that sort of—

Senator XENOPHON—What about encouraging tillage practices that—

Mr Keogh—No. Under the arrangements that are in place under the Kyoto protocol accounting system, under article 3.4 Australia opted not to include what are called additional activities on agricultural lands, which includes sequestration in soil, because of the accounting rules associated with the Marrakesh Accords. So at least until 2012 there is no option in Australia’s official inventory to include either sequestration or emissions of soil carbon.

Senator XENOPHON—That is a loophole or an oversight though, isn’t it?

Mr Keogh—No, it was a deliberate decision.

Senator FEENEY—And couldn’t Copenhagen change that?

Senator XENOPHON—Yes, but the consequence of that decision is to give a disincentive for potential measures that would make a difference in abatement.

Senator FEENEY—Can’t Copenhagen change those rules?

Mr Keogh—If the agreement is reached in that international forum for a variation in those rules as part of the agreement post 2012, certainly that can occur. The Australian government has put submissions forward to that effect. The progress in that is less than certain.

Senator FEENEY—Sorry; I did not mean to interrupt you.

Senator FURNER—Just going back to that response, is that one of the important issues you would hope to achieve out of the Copenhagen agreement?

Mr Keogh—Yes. For Australian agriculture that is more important than any target—a more comprehensive accounting system that recognises both sequestration and emissions from agriculture as opposed to current systems, which only recognise gross emissions.

Senator FURNER—Has the farming sector been working with government in terms of ETS? What are the promising technologies and farming techniques that you are hoping to achieve out of it?

Mr Keogh—The government has initiated a work program leading to, it is hoped, a decision in 2013 and has initiated some limited research and development. I think that is going to be one of the biggest challenges. Research and development is obviously critical, particularly in terms of ruminant livestock emissions. My understanding is that the CSIRO has actually closed down the laboratory that was the prime source of that sort of research and asked everyone to relocate only in recent times. At a state level in New South Wales we have research laboratories also closing in places like Inverell that have done a lot of research into things like soil carbon. So, unfortunately, at a time when research and development seems an absolute priority if we are serious about finding ways to reduce agricultural emissions, we seem to be going the other way.

Senator FURNER—Finally, what do you think the government should take into account as a result of the 2013 decision on agriculture?

Mr Keogh—I think it is going to boil down to what is technically and practically feasible. There is no easy way to reduce emissions from livestock, particularly broadacre livestock. The scientists, if they are honest, will tell you that now. In intensive livestock, there are options, such as feed supplements and a number of different mechanisms, but for broadacre livestock there are no easy options. If we had a more comprehensive emissions accounting scheme and then looked at, for example, best practice models that were shown to reduce emissions, and if you introduced them as a baseline and credit scheme to provide incentives for farmers to adopt them, then you could progressively work toward systems that allow reductions in emissions from agriculture, but the way it is proposed at the moment, which would just be a price on emissions with no incentives for abatement other than forestry, it is very difficult to see what progress can be made in relation to agricultural emissions.

Senator MILNE—Thank you, Mr Keogh. I do not know very much about the Australian Farm Institute. How are you funded? How did you come about?

Senator IAN MACDONALD—Mr Keogh is a regular attender at Senate committee hearings, particularly on climate change. I think this is your third now, isn't it, Mr Keogh?

Mr Keogh—I do not know. The institute was established initially with seed funding from the New South Wales Farmers Federation. Since 2003 we have sought sponsorship and support from a whole range of businesses that have an interest in agriculture, including the major banks, pastoral houses, agricultural chemical manufacturers, corporate farming and individual farmers,

so it goes right down to individual farm members. We commission research, usually from external consultancies, into specific issues. We have looked at issues ranging from water to government services in regional areas to developing agricultural industries in Argentina and Brazil—a whole range of issues that are strategic in terms of the future of agriculture.

Senator MILNE—What is your relationship with the NFF? We have had quite a few people come before the committee with various interests in agriculture; we had a round table on biocarbon the other day. There seem to be a whole range of views about whether agriculture should be in or out, how quickly it should be in or out et cetera, so from a policy point of view it is hard to get any sort of consistency of thinking in the sector. My understanding of why Australia did not sign on to article 3.4 is that, if you look at the emissions—what is counted, as you say, as ruminant animals et cetera—what happens in a drought is that you have massive emissions from the agricultural sector, so you are exposing farmers to a huge risk if you put them in and do your full carbon accounting.

Mr Keogh—Just to clarify, I was not criticising that decision.

Senator MILNE—That is all right. I thought from what you said that you were critical of the decision on 3.4, but my understanding is that the rationale for it was that, if you embraced 3.4 as it stood, what you got was the full accounting, which meant that farmers would then be up for the costs associated with the emissions during drought et cetera.

Mr Keogh—Farmers and nations.

Senator MILNE—Yes, and that.

Mr Keogh—The three rules that are critical are the net-net accounting requirement, the lack of separation of natural and man-made changes in emissions and the ‘one in, all in’ rule—in other words, you could not put just a paddock or a few areas of agriculture in; you had to put in the whole lot.

Senator MILNE—I take it from what you are saying that you support agriculture going in.

Mr Keogh—As a covered sector? I do not think there is enough information to support that at all.

Senator MILNE—Okay, that is good.

Senator FEENEY—The issue is the very reverse, actually, isn’t it?

Mr Keogh—If there were global commonality on policies for agriculture then, yes, you could see that it might make sense. The way things stand at the moment, you cannot see that. Also, the way things stand at the moment, you cannot see the technical mechanisms to reduce emissions.

Senator MILNE—Well at least that is something that is pretty consistent—everybody saying that there are difficulties there. One of the things this committee has been trying to do is look at ways in which that might incentivise if you kept the whole agricultural sector out, including plantation forestry, and then look at ways to devise some complimentary measure that

incentivised the right outcomes in terms of protecting the carbon stores through native forests and native vegetation, but also incentivising change practices for soil carbon—incentivised all the things we would all like to see happen. Have you given any thought to what kind of mechanism that would be? We have had talk of biodiversity credits. We have had talk of stewardship type schemes. This morning Greenpeace suggested that there be an allocation of funds from the auctioning system to create a fund which would then support these kinds of mechanisms that I am talking about. Have you given some thought to, in an ideal world, how to incentivise so that farmers really can make money from increasing the carbon on their properties in which ever way they can do it?

Mr Keogh—Given what we know so far, the most logical way of doing that is through what might be termed best management practice or best emission practice management schemes that you could have accreditation around. There is the potential that the government could recognise the emissions changes from those schemes in national accounts and therefore as part of meeting a Kyoto or post-Kyoto target, but unfortunately they require the appropriate level of research and development to occur first. In other words, you would have to develop the best management practice—for want of a better word—carry out the research to verify what average emission change that generated, then submit that to the IPCC and the appropriate technical committees to allow that then to be recognised in national accounts for the proportion of that sector that had adopted that. So, if 10 per cent of farmers running cows adopted that best management practice standard, then you could recognise that through international imagery. So it would not be a part of a CPRS or a trading scheme, but it would be economically beneficial from an emissions perspective for the nation and assist in reducing overall emissions.

Senator MILNE—On notice, because we have time constraints, could you send into the committee any further information or fleshed-out ideas about how that might work and how we would fund something like the research that would need to be done, and how comprehensive it would need to be—any other thoughts you have about it.

Mr Keogh—Okay.

CHAIR—There will be a couple of questions on notice. We are running really tight for time.

Senator IAN MACDONALD—Thank you again for your submission. I do not know what you are going to do when the Senate committees stop. You will have nothing to do with your time. Senator Milne mentioned this. I do not want to verbal the Grains Council, and you might have a look at the Hansard, but I understood them to say that they were more or less wanting to be in the scheme now.

Senator BOSWELL—No; definitely not. They were not saying that.

Senator FEENEY—They said they were interested in complementary measures. They thought about them—

Senator BOSWELL—Yes, but they definitely did not want to—

Senator IAN MACDONALD—Okay. I misunderstood that. I was going to ask you to comment on that but if it was not said I will not ask you to comment on it.

Senator XENOPHON—I think they supported complementary measures.

Senator BOSWELL—Yes; but not being in the scheme.

Senator XENOPHON—They supported doing something.

Senator IAN MACDONALD—Do you have a comment on that?

Mr Keogh—I think that is essentially what we have been discussing with Senator Milne. You could imagine a system whereby agricultural emissions did not attract a cost but, in fact, you put in place complementary measures similar to the US voluntary soil carbon scheme, similar to the schemes that the Canadian provinces are developing.

Senator IAN MACDONALD—Is that more or less to measure it and see how it all works?

Mr Keogh—They basically entail adoption of practices about which there is some knowledge that an adoption of those practices had that impact on emissions. For example, the voluntary soil carbon market in the US, the adoption of minimum tillage practices is assumed to sequester or to not release about 0.5 or 0.6 tonnes of carbon per hectare, and therefore farmers are paid for that. It is only a voluntary market. The market price is about \$2.00 per tonne. It is for companies like IBM who want to call themselves carbon neutral, but at least it shows the link between the science recognising that practice has an impact, then finding a way to have that impact recognised in a market and generate some revenue for the farm sector.

Senator IAN MACDONALD—Perhaps we have mentioned this, but we are still struggling to measure the impact of rural farm production on sequestration. If a scheme like this goes ahead and people start getting credits, is there any way we can justify to government that those who have already made a substantial contribution to the reduction of greenhouse gas emissions should in some way benefit from the fruits of their—

Senator FEENEY—Opportunity cost?

Senator IAN MACDONALD—Yes.

Mr Keogh—I think you might be harking back to the land-clearing issues again.

Senator IAN MACDONALD—Yes, I am.

Mr Keogh—I think that probably a better way to do that is through some of the broader stewardship schemes associated with biodiversity. I suspect that even the credits that you might recognise by way of sequestration in agriculture through complementary measures would not generate permits within a scheme. I suspect you would have to have some incentives in place to encourage them not to impact on the scheme, because of the uncertainty around what volume of credits, for want of a better word, might be generated or how quickly or how often that might occur. So I am not sure that the sorts of credits you might be talking about through those complementary measures would be suitable, in terms of additionality, permanence et cetera, for inclusion in a formal trading scheme.

Senator IAN MACDONALD—Finally, since I last spoke to you, the exposure legislation has come out. Has that filled you with any confidence or despair, or are you equally confused?

Mr Keogh—I do not really have a comment on that. I have had a brief look at it, but the main focus of what we do is research. It is for others to look at legislation.

CHAIR—Mr Keogh, two more senators want to ask questions. I do not want you to answer them. I want you to take them on notice, because we really do need to get to our next witness.

Senator FEENEY—Mr Keogh, I was interested in your response to the proposition that a greater danger and/or challenge for the agricultural sector in this country—that is, greater than the CPRS and agriculture going into the CPRS—would be the continuing degradation of the Australian natural environment through things such as salinity and erosion. I would like a response from you about the proposition that the CPRS may open up revenue streams and opportunities for us to redress those environmental challenges.

Secondly, your report referred to the OECD figures in terms of the Australian agricultural sector being a fully trade exposed sector, so I took the opportunity to look at the OECD report you referred to. The average tariff for grain products in Australia is basically zero. In the US it is 3.3 per cent, in Canada it is 12 per cent and in the EU, incredibly, it is 64 per cent.

Mr Keogh—In Japan it is 70 percent.

Senator FEENEY—Rather than somewhere in the 200s. That strikes me as a vastly greater challenge to the Australian agricultural sector. Of course, those figures I cited with respect to grain apply to every sector. I am interested in a response from you about how, in the order of magnitude of challenges facing agriculture in this country, those two issues, environmental degradation and tariff protection, are far greater than what we are doing today.

Senator IAN MACDONALD—And while you are at it, tell us how to fix the tariff protection.

Senator FEENEY—Quite right.

Senator CAMERON—Mr Keogh, I am interested in whether you have done any research on jobs that may come from dealing with the issue of reducing CO₂ emissions, colloquially called green jobs. What are the positive opportunities for the industry instead of all the negatives that we hear?

Mr Keogh—Tree inspectors.

CHAIR—Thanks very much for your time, Mr Keogh; it has been valuable.

[4.16 pm]

DENT, Ms Kelly Eliza, Economic Justice Team Lead, Oxfam Australia

RICHARDS, Ms Julie-Anne, Climate Change Advocacy Coordinator, Oxfam Australia

CHAIR—Welcome. Would you like to make an opening statement?

Ms Dent—As some of you are probably aware, Oxfam Australia is a not-for-profit development organisation that works in partnership with people and communities to overcome poverty and injustice worldwide. We do this by supporting long-term development projects, by responding to emergencies and by campaigning for change. We work on climate change because it will touch everybody. However, climate change will affect poor people in developing countries first and most dramatically. Poor countries have fewer means to adapt to climate change.

The right to decent livelihoods is vital in the fight against poverty. Poverty makes people vulnerable and limits their choices. For example, if crops fail, subsistence farmers have few alternative means—or none—to provide food for their families. With a temperature rise of two degrees above pre-industrial temperatures, we are looking at a decline in crop yields across Africa and other tropical regions and up to two million more people will be at risk of hunger. Obviously there are a number of factors contributing to hunger, and climate change is one important contributory factor. With a rise of three degrees above pre-industrial temperatures, we are going to see severe declines in agricultural yields. For example, we will see up to 30 per cent lower yields of rice and wheat in India. Again, the number of people at risk of hunger will increase from two million to six million, and then there are the associated issues of malnutrition. At four degrees above pre-industrial temperatures, we will see crop yields fail across a number of regions in the world. Some regions would fall out of production completely—for example, parts of southern Africa and Australia.

Climate change has contributed to increased food prices. In Sri Lanka, for example, where some of our partners are, since the food price increase we have seen workers in export processing zones forced to spend up to 80 per cent of their already meagre income on food, which, as you can imagine, leaves very little money for vital expenses.

Natural disasters—such as increased flooding, severe storms and other forms of extreme weather—can overwhelm poor households and affect their ability to cope. I will not take up time by going through some of the effects there. We have put them in table 1 on page 5 of our submission. That talks about increased flooding across much of Asia affecting millions of people, the displacement of up to 50 million people by 2010, and an additional 170 million people being affected by coastal flooding, if we are looking at temperatures three degrees above pre-industrial temperatures. If we look at four degrees above, we are looking at severe water shortages across about a quarter of China's population and affecting hundreds of millions of people in India.

Climate change impacts even at low temperatures, and some of those examples that I have just given show why urgent action is needed. Pacific island nations have called for temperatures to be kept within 1.5 degrees of pre-industrial temperatures. It is ambitious, but it is also in our mutual interest and it means lower costs in the long run. And it is required if we are to keep the

livelihoods and the culture of our Pacific neighbours alive. For Australia, this means targets of at least 40 per cent below 1990 levels by 2010. In the words of a woman called Ursula, from the Carteret Islands, it is not just about the science; it is not just about the statistics. It is about our human rights. It is about the lives of people who live in developing countries—people like Ursula. Julie-Anne wants to make a few remarks and then we will let you ask us questions.

Ms Richards—As Kelly outlined, climate change is going to affect poor people in developing countries first and worst, and that is why the actions that Australia takes on climate change are very important. Those actions are obviously contained within the global action that are taken on climate change. It is crucial that Australia take a leadership role in the international negotiations on climate change, not only to help benefit our Pacific island neighbours and other developing countries but also because we are the developed country most at risk from climate change.

We have outlined in our submission a number of key steps Australia needs to take in order to play that leadership role within the international climate change negotiations and to get the best outcome. The first step we have outlined is that Australia needs to acknowledge that developed countries have a historic responsibility for climate change and the capacity to take action on climate change. Historically, developed countries have emitted roughly 76 per cent of the greenhouse gases that are in the atmosphere already and that are responsible for roughly three-quarters of the climate change that we have experienced to date. We have largely got wealthy by emitting those greenhouse gases into the atmosphere—

Senator FEENEY—What is the source for that statistic?

Ms Richards—It is in our submission and I can get the source to you. I believe it is the IPCC—the Intergovernmental Panel on Climate Change, but that is off the top of my head and I can definitely look it up later.

We have that historical responsibility to take action but also, in burning those fossil fuels and emitting those greenhouse gases into the atmosphere, we have become wealthy. Therefore, we have the capability to take action as well. So developed countries have to acknowledge that if we want to keep warming as low as possible within the 1.5-degree range called for by our Pacific island neighbours, developed countries need to make emission reduction cuts of at least 40 per cent by 2020 as a whole, and developed countries need to work out how to share those emission reduction targets within the international negotiations.

The Australian government has suggested sharing those targets based on forecast population growth only. We do not believe that that is a fair way to approach sharing those targets. We think that the criteria that should be used to share out the developed country targets should be responsibility and capability. We think that for a number of reasons: partly because they are already acknowledged within the United Nations Framework Convention on Climate Change, which almost every country has signed, and the reason they are acknowledged within the United Nations Framework Convention on Climate Change is that that is the fair way to share effort. Also, including population growth is the only way to share out the effort. There are a number of other reasons but, partly, the reason is that it will not be acceptable within the international negotiations, and various parties within the negotiations have made that clear.

The third step that Australia should take in showing leadership in the international negotiations is acknowledging that the large majority of that effort—40 per cent below 1990 emissions by 2020—needs to happen at home, that it cannot all be bought in from developing countries. Finally, Australia could help the international negotiations by acknowledging that developing countries will need help on two fronts. They will need help to reduce their emissions and, as we all globally stand to benefit by developing countries reducing their emissions, it is in our interests to help them and they will need financial help to do that. They will also need help to adapt to the unavoidable impacts of climate change, and we have an obligation to provide finance for that as well.

We have included estimates within our submission on what the costs of that will be. They are high. They are a lot lower, though, than the costs of runaway catastrophic climate change. Using the estimates that are out there, we estimate that between A\$133 billion and A\$240 billion will be required each year globally to help developing countries to both reduce their emissions and adapt to climate change. We have calculated Australia's fair share of that—using the Oxfam responsibility and capability index, which we have published previously—as between \$3.9 billion and \$6.9 billion per year.

Senator FEENEY—What is that as a percentage?

Ms Richards—As a percentage of the whole?

Senator FEENEY—Of the total.

Ms Richards—I think it is 1.5. It is in our report but I think it is 1.5. I have a final two points before I take your questions. We have identified two potential sources for this funding, which could be auctioning 100 per cent of permits under the CPRS—so, rather than providing free permits to the big polluters, auctioning those permits and using that revenue to provide financing to developing countries for their adaptation and reduction of their emissions. Secondly, considering levies on international maritime and international aviation, which are being considered at the international level anyway—and we see similar aviation levies that France has applied and the EU is considering. Thank you very much.

Senator MILNE—On the issue of burden sharing, as you would be aware, Minister Wong has said that Australia would consider 15 per cent if all the developed economies restrained their emissions significantly and all annex 1 countries made a comparable effort to Australia. You have mentioned that you do not think per capita is an appropriate way of going, and I would like you to expand on that. Instead, you said that we should look at the issue of historical responsibility and capacity to deliver as more appropriate criteria to consider. Would you just expand for a minute on what you said when you said that other countries have already rejected the per capita argument. I would be interested to know which ones and how, because that would seem to undermine Australia's position immediately. I would also like you to expand on the issue around capacity and history.

Ms Richards—As I outlined, developed countries have put into the atmosphere roughly three-quarters of the emissions that are in there now. It certainly is the case that developing countries are emitting more as time goes on, but we have had many—100 or hundreds—of years

of emitting greenhouse gases into the atmosphere now which have essentially used up the budget that exists in the atmosphere.

It has been compared to Kelly and I sitting down to a four-course meal, eating the first three courses, getting halfway through dessert and then being joined by this committee, and we offer to share the remaining dessert equally with the committee, rather than saying, 'You've only arrived for the last course, so you can have the last course.' Developed countries have used up the budget; therefore we need to make allowances for developing countries and their need to develop. Obviously developing countries are developing and hence a proportion of their population are in poverty. They need to focus on bringing those people out of poverty. That will require them to emit more greenhouse gases into the atmosphere.

The reason we do not think that estimations of population growth is a fair method is that responsibility and capability are internationally accepted. They are the key principles within the United Nations Framework Convention on Climate Change. They have been used as the basis for other methods of sharing the effort to reduce emissions. The Greenhouse Development Rights is one quite well-known method of calculating how to share effort, and that uses responsibility and capability. At the recent meeting in Bonn, which was one of the lead-up meetings to the Copenhagen meeting this year, a number of developing countries, including South Africa and others that I cannot remember—I think Malaysia, though I am not quite sure—came out and talked about responsibility and capability being used to share the effort amongst developed countries. It is internationally recognised and clearly some other countries consider that to be the standard.

The European Commission's recent set of documents came out with a modified responsibility and capability approach where they used a series of measures. They suggested four measures of responsibility and capability, and mitigation potential as well. Whilst they use population growth as one of the measures, it was one of four measures rather than an individual measure. It is quite clear that by using just the population growth measure, Australia is locking itself into a position as a high per capita polluter. We are already one of the highest per capita polluters in the world. Using just that measure says that we are going to continue to be one of the highest per capita polluters in the world for quite a long time and we think that position is okay.

Senator MILNE—You said other countries projected it. Could you tell me which ones?

Ms Richards—Other countries have not used it and they are the EU. The EU use a four-measure approach and South Africa has suggested responsibility and capability.

Senator MILNE—Are you saying Australia is isolated?

Ms Richards—At the recent Bonn meeting, Australia had an opportunity to put forward its approach using population growth and it chose not to.

Senator MILNE—That is interesting.

Senator PRATT—I would like to talk about the impact of climate change on our local region and the kinds of responsibilities Australia might undertake in the region, noting adaptation as

well as mitigation. Clearly we are going to be living with the impact of climate change into the foreseeable future.

Ms Richards—Our Pacific neighbours have been called the canary in the climate change coalmine, pardon the pun. We see the impact of climate change already affecting our Pacific neighbours. It is expected that they will be one of the most impacted regions. Certainly at very low levels of warming there is a high possibility that some of our Pacific island neighbours will cease to exist. There will be cultures that will cease to exist and be forced to move to other places to live. That is the worst case scenario and one that we would like to avoid, hence we are recommending firm targets for Australia and for other developed countries.

The Pacific Islands countries are feeling the impacts now, and these are going to be felt more and more the worse we allow climate change to become. Right now some of them are having trouble with getting enough fresh water. As sea levels rise, their freshwater supplies become salty and it is difficult to get enough fresh water. That also has an impact on them being able to grow crops. Some Pacific Islands countries now have to either exist on imported food or grow crops in big pots because they cannot grow their crops in the land anymore, which is too saline from the rising sea levels.

Senator PRATT—I want to ask about adaptations specifically, but they are pretty severe impacts. There are two schools of thought, one of which does not carry much weight these days but nevertheless keeps being raised—that is, this is just climate change that is happening anyway and that the jury is still out on whether or not humans have contributed to it. What does that mean as far as our capacity to take responsibility for what are these very real impacts and, I suppose, our denial of our own culpability in them?

Ms Richards—We do not find terribly many people hold those views anymore. Certainly we get a lot of support from the community who want Australia to take action, who think that Australia has a responsibility towards its Pacific Islands neighbours, towards other developing countries, and to take the most action for Australia's own benefit as well. We find that within the community there is a lot of support for Australia to take action on climate change. There is also a lot of sympathy and empathy towards our Pacific Islands neighbours. People can understand the plight that they are facing. There are also a lot of parallels between countries further afield and Australian impacts. For instance, in Africa and in large parts of China and Asia, there are going to be quite severe droughts—and in Africa and in China there are already quite severe droughts.

Senator PRATT—So is it nonsense to fail to recognise that we are not culpable in terms of those people who are still arguing that?

Ms Richards—We find that within the community there is a lot of support that we need to take action.

Senator PRATT—What about the small minority? What would you say about them?

Ms Richards—What would I say about them? I would say they are very small. Based on the polling that I have seen—the polling we do, the polling that our fellow organisations who do public polling have done—I would say that they are very small.

Senator IAN MACDONALD—Do you do polling?

Ms Richards—We do polling. We cannot afford very much.

Senator IAN MACDONALD—I would not have thought that you could afford any. I thought you were a charity.

Senator PRATT—I do have more questions, but I will let others have a go.

Senator CASH—Is there any merit in looking at alternative ways to ameliorate our carbon emissions, other than an ETS? If so, do you have any thoughts on what they might be?

Ms Richards—Our position would be that the key thing we need to do is set ourselves stringent national targets. Once we have established those stringent national targets and established our support for developing countries in reducing their own emissions and in adapting, there could be multiple ways as to how we meet those stringent national targets. We support the idea of an emissions trading scheme, and we think it should be introduced as soon as possible. There are certainly other methods that you could use to do it, but we support the introduction of an emissions trading scheme.

Senator CASH—Do you have any thoughts on what those other methods might be?

Ms Richards—I can take that on notice and get back to you.

Senator CASH—That would be greatly appreciated. Thank you very much.

Senator XENOPHON—Greenpeace, in their submission, provided us with some documents with respect to preserving the forests in Papua New Guinea. They talk about carbon corruption, promises and illegalities in PNG. What do you do about that particular problem? We are trying to do the right thing, but there are allegations—I do not want to single out Papua New Guinea—that some countries, including in Africa, and some representations have illegal practices that have a huge impact on greenhouse. How do we deal with that dilemma, where there are in some parts of the world corrupt governments? What measures, what sanctions, what approaches do you think we need have to deal with those countries that, by their conduct, are having a materially adverse effect on greenhouse?

Ms Richards—I am not an expert on deforestation and corruption and how much impact it would be having. Our response would be that we have responsibility for our own emissions and until and unless we are taking requisite action on the scale that is required, we cannot really be pointing fingers at others, particularly developing countries. On the issue of governance and the international deals that are done, there are a lot of capacity-building and governance requirements that need to be met within the international negotiations. Our view is that financing from developed countries, including Australia, needs to be provided so that developing countries can build the systems that mean that the emissions reductions they provide into the international deal will be rigorous. So we definitely need to build up systems, we need to build up capacity, we need to build up governance and basically developed countries need to pay for that.

Senator XENOPHON—So perhaps a carrot and stick approach: there are genuine incentives for them to do the right thing, but also that comes with responsibilities as to monitoring and compliance.

Ms Richards—Absolutely.

Senator IAN MACDONALD—I was just going to Google you, but what does Oxfam actually do? I thought I knew, but I have been confused.

Ms Dent—That must have been me who confused you.

Senator FEENEY—I think it might have been me.

Senator IAN MACDONALD—I am not saying.

Ms Dent—I am happy to provide any extra information you want. I have even got a copy of our annual report, which I am happy to leave with you if you want.

Senator IAN MACDONALD—No, but—

Senator BOSWELL—You are overseas aid.

Ms Dent—Yes, we work on international development. We work with people in communities, both in Indigenous Australia and overseas, to overcome poverty and injustice.

Senator IAN MACDONALD—Do you work on the ground, or do you provide money for others?

Ms Dent—Both. We have officers in different countries as well as in Australia. In our international offices we have mostly local staff employed, but they are employees of Oxfam. Some are expatriates. We do not work on a large expatriate model. We fund long-term poverty alleviation projects, we work on the ground in different countries and we campaign and lobby in Australia. If you want more information, please just let me know.

Senator IAN MACDONALD—Yes.

Ms Dent—We also have a trading arm, and we come up on Google.

ACTING CHAIR—Before I go back to Senator Pratt, I have a question. You said before that 40 per cent by 2020 was what the annex 1 countries should be aiming for. Is that on an average, or is that what you think Australia's share ought to be of that overall annex 1 country target?

Ms Richards—It is both. The Intergovernmental Panel on Climate Change said that if we want to keep warming between two and 2.4 degrees above preindustrial temperatures, then developed country emissions need to reduce by between 25 and 40 per cent—sorry for all of the numbers. We are saying that two degrees is too much warming; we need to stay as far below two degrees as we can. Our Pacific Islands neighbours have called for 1.5. Therefore, we developed countries need to be at the top end of that range, at least 40 per cent by 2020. Australia, as one of

the wealthiest developed countries with one of the highest emissions per capita, needs to be at the top of that range. Australia's emissions reductions need to be 40 per cent below 1990 levels by 2020. We acknowledge that is a very difficult task, but we think that the costs of doing it now outweigh the gains that we will make by avoiding catastrophic climate change.

Senator PRATT—We had a chance to talk a little bit about the impacts of climate change in the Pacific. I want to ask you about the adaptation strategies specifically, because clearly Oxfam is active in the Pacific in its development work. The kinds of impacts you are talking about clearly mean we are going to need to change, respond and integrate the impacts of climate change into our development work. What kinds of things might we be looking at in terms of movement of climate refugees or other kinds of programs that we will need to look at?

Ms Richards—That is a really good question. It has a really long answer—

ACTING CHAIR—But we do not have a long time, so you may want to put some of it on notice.

Ms Richards—I can give you a very short answer and perhaps I can follow that up. We are working in the Pacific and in many other regions. South Asia will be greatly impacted and we work in South Asia. So we are working with local communities to diversify their crops in some instances, if that is going to be helpful. We are working with local communities, particularly in regions that have been drought affected, on water resources and how to make their water resources go further. And we are working in, I think Bangladesh, with communities to raise their houses and on ways to deal with floods better, because obviously the floods are becoming more intense in that area. I am happy to provide you with a lot more information on what we are doing. We are obviously engaging with AusAID and other development NGOs.

Senator PRATT—I am interested also in how that will intersect with the Australian government's commitment, I think it is about \$150 million in the international climate change adaption initiative, but I know only some of that money has been announced so far.

Ms Richards—I think the Australian government has indicated that a lot of that will be spent in this Pacific region. I might notice as an aside that that is aid money that is being redirected to climate change, and Oxfam feel quite strongly that money for adaptation needs to be over and above the current aid commitments. But we are working with AusAID to identify the ways we think that money could be better spent in our work on the ground, how that could link in.

ACTING CHAIR—Have you done any work on the level of emissions of a person living in, say, one of the Pacific island countries and the level of emissions that person would then have if they came to Australia because they were driven out of their own country and culture by virtue of having to move, so dislocation resulted in them relocating? If we get to the point of having hundreds of thousands of climate refugees, not just in terms of cultural but in terms of emissions sense it makes a lot more sense to have them stay where they are where they want to be rather than having to move. I wonder if you have done any of that, and also if you could update the committee on where we are on getting climate refugees into the refugee convention.

Ms Richards—I will have to take a second question on notice.

ACTING CHAIR—I am very happy for you to take it on notice.

Ms Richards—I know it is being discussed. On page 7 of our submission, figure 7, we have graphed the top 20 world emitters on their per capita pollution and per capita income to give the senators an idea about where Australia sits. The Pacific islands do not rate as top 20 world emitters. I am not sure they would rate in the top 200. I am not aware of anyone having done any work on the carbon impacts of that, but certainly the Pacific islands have a very low carbon footprint, so it would have some impact.

ACTING CHAIR—So in theory it is probably a self-interested position for Australia to get real on this.

Senator IAN MACDONALD—Does your graph also contain a list of the big emitters in whole? You talked about per capita. Australia is, what?

Ms Richards—It depends on how you want to measure it but roughly 1.5 per cent of world emissions.

Senator IAN MACDONALD—It is number, what, 14, is it?

Ms Richards—Again it depends on how you want to measure it, but we make it into the top 20 quite easily.

Senator IAN MACDONALD—You mentioned before that Australia is a very wealthy country. Do you get a lot of your charitable funds from Australians? Where do you get your income from?

Ms Dent—We get our income from a range of sources through fundraising, through events such as Trail Walker, which is public fundraising. People participate. We also get donations either through one-off or regular monthly giving programs. We get a small amount of our funding for long-term development programs through the Australian government—it is about 15 per cent at the moment—and we get some from other institutional funding sources. But the vast majority of our income is through fundraising, and that is both small and large amounts. We have a lot of ordinary people who are donating as well as some—

Senator IAN MACDONALD—By your international standards, are Australians really generous and wealthy? I am just coming back to your comment that Australia was a wealthy country, financially.

Ms Dent—It is a hard question to answer. There is a difference between being generous and being wealthy. I think Australian people are quite generous, and we saw that after the tsunami. When I was collecting money then on the streets on New Year's Eve, with permission of Sydney council, I saw people who do not have very much put hundred-dollar notes into buckets. I do not think they were wealthy; in fact, I know they were not wealthy people because of where they were going, but they are generous.

Senator IAN MACDONALD—I was trying to get the correlation between Australia being a wealthy country and the contributions Australians make to very many 'charitable'—which

covers the whole spectrum—causes. You are but one of many thousands of charities. I am just wondering if you have any sort of assessment of whether, because Australia is a wealthy country—as I think you said—we are generous towards charities such as yours and many similar ones.

ACTING CHAIR—Perhaps you might like to take that on notice.

Ms Dent—I do not know what I can add to that. I think we are talking about a couple of different things.

Senator IAN MACDONALD—I am talking about the principle that you do not help the weak by destroying the strong, and I am just wondering how that fitted in. It does not matter.

ACTING CHAIR—As there are no further questions, thank you very much for coming today, Ms Richards and Ms Dent.

[4.52 pm]

WESTMORE, Mr Anthony Ian (Tony), Senior Policy Officer - Electricity, Australian Council of Social Service

ACTING CHAIR—Welcome. Mr Westmore, is Ms Martin coming or are you here alone today?

Mr Westmore—I am sorry, I am here alone. Clare sends her apologies; she was called to something entirely unexpected but really urgent.

ACTING CHAIR—Okay. I invite you to make an opening statement.

Mr Westmore—I will try to keep this brief. Thank you for the opportunity to meet with you. I am employed at the Australian Council of Social Service as a policy analyst and advocate with a focus on electricity issues particularly and energy issues more generally. I will note that our concern is primarily with low-income households and especially with households living in poverty. Low-income households will bear the brunt of climate change, whatever its causes and however it is manifest. They are generally less well equipped to cope, to adapt, to relocate. Low-income households are also likely to bear the brunt of our responses to climate change, particularly those that increase the costs of essential goods and services, that affect low-skilled employment, that affect particular geographies.

With regard to the choice of an emissions trading scheme as the central policy for carbon pollution reduction, we are convinced by experts in a range of sciences, including economics, that an emissions trading scheme is the best of the options considered; certainly better than any form of taxation. We are of the view that this matter has been litigated extensively and sufficiently both here and abroad. We believe that the emissions trading scheme proposed by the government, the Carbon Pollution Reduction Scheme, offers a clear and comprehensive but flawed approach. We are working in partnership with others to address the flaws as we see them.

We believe that the CPRS legislation should be scrutinised appropriately by both houses, amended reasonably and passed into law for commencement next year. Apart from getting the scheme as right as we can and ensuring that complementary measures are in place, our main concern is to make a start. We believe that further unnecessary delay will have extreme and deleterious consequences for the cost of mitigation and adaptation, for international agreements, for the development of enterprise and employment.

The need to ‘reduce carbon pollution at the lowest economic cost’ is complex. The reduction with the lowest economic cost for Australia may well be to do something about coal-fired electricity over the next 10 years. The issue begs other questions—the lowest economic cost for whom and when, and for which economy? As we understand the CPRS, it is intended to lead to transformation of the economy over time, using market based mechanisms.

With regard to contributing to a global solution to climate change, on the one hand we join the EU and USA in moving towards an ETS; on the other hand, as we understand it, a range of countries are looking to the CPRS as a model.

With regard to the relative contributions of complementary measures, we make these comments. We are disappointed that the government has not released for public consideration the results of the Wilkins review that reported in July of last year that was charged with the task of investigating the relative costs of abatement measures. It may be instructive. With regard to feed-in tariffs, we are agnostic at the moment. On one hand, they may encourage the uptake of some forms of renewable energy; on the other hand, they are arguably not a great thing for low-income households if the costs of feed-in tariffs end up spread across a low-income base. And it does not necessarily focus efforts to increase distributed generation in particular areas for particular purposes.

We regard energy efficiency as critical to both mitigation and adaptation, and we believe that there ought to be a coordinated set of policies that support households, especially low-income groups, but offer incentives and support for commercial and industrial improved energy-efficiency standards and disclosure.

We are of the view that the current proposed target of five to 15 per cent reduction is too low. It discourages ambition and sets an extremely low ceiling. There are models, notably in the EU, for protocols that allow the review of targets. The legislation should indicate a goal of 25 per cent of 1990 levels by 2020 and allow for review of the 15 per cent target when it is appropriate.

With regard to the range of issues under the terms of reference in paragraph 1(e), the proposed scheme cannot and should not be burdened with all of the responsibility for all of the fixes. As we understand the design of the scheme, it will send signals for investment and employment; it should send signals and provide resources for research and development. The scheme as proposed is deficient in the way it deals with industry; there should be much stronger provisions for conditionality and additionality in circumstances where the government provides assistance.

There are measures beyond the immediate scope of the CPRS that we regard as essential. Measures to assist low-income households and the Climate Change Action Fund are just two examples. There should be additional measures that are comprehensive and robust to regulate products and buildings, energy markets and government-sponsored infrastructure.

CHAIR—Thank you. Senator Boswell, would you like to start.

Senator BOSWELL—I read somewhere that it is going to cost a considerable amount of money to power nursing homes and institutions, with increased heating and cooling costs. What provisions have you obtained for your constituency to cover those additional costs? I also got information today that the price of household electricity would go up; I think it was about \$300 or \$400. That is not a lot of money to some people, but it is a lot of money if you are living on the breadline. Your main consideration should be the people you represent, not the international community—

Mr Westmore—That is right, Senator.

Senator BOSWELL—I remember seeing somewhere that it was going to cost a huge amount of money to pay for the extra costs of an ETS to nursing homes. Have you got any provision from the government to cover that?

Mr Westmore—First of all, as you may be aware, in the Northern Territory there is a proposed price increase for electricity and water at the moment. UnitingCare anticipate, on the basis of what they know now, that that is going to cost them an extra \$6,000 a month for their care facilities, particularly residential aged-care facilities.

Senator BOSWELL—An extra \$6,000 a month for one nursing home?

Mr Westmore—For the nursing homes that UnitingCare runs in the Territory. There is a general story that prices for energy are increasing dramatically across the country already.

Senator BOSWELL—Yes.

Mr Westmore—The effects of the ETS on those costs fall into two categories. The first is capital expenditure, so that you can improve your property and make it more energy efficient: replace boilers and air conditioners and those sorts of things. Separately, there are operating costs. With regard to the former capital costs, alongside the CPRS, the government is proposing to establish the climate change action fund that provides for an information campaign about how—

Senator BOSWELL—I am not terribly concerned about that. I want the real thing.

Mr Westmore—The other part of the action fund is that there is a fund for capital improvements and for pilot projects to test what kinds of improvements are most effective.

Senator BOSWELL—There is the cost of increasing the electricity due to ETS—

Mr Westmore—With regard to the operating costs—

Senator BOSWELL—I do not know whether you have factored in the RET either, because that sends it up higher.

Mr Westmore—Some people—Origin Energy, for example—estimate it at about six per cent by 2020, so, with the operating costs and because of the complex arrangements under which services are provided to state governments and the Commonwealth government as to where the operating cost is going to be, there is going to be a bit of a battle royal ahead. Ordinary indexation should reflect cost increases along the lines that are anticipated by the ETS, but they are going to be hard fought.

Senator BOSWELL—I would have thought that it should have been your first consideration to make sure that your constituency is going to not be handicapped.

Mr Westmore—Our principal constituency is low-income households, and we are reasonably satisfied at this stage that the government has done what it can—

Senator BOSWELL—What will the government give back to those households?

Mr Westmore—From 1 July next year, or from commencement of the scheme, there will be a 2.5 per cent increase in benefits, including pensions and allowances.

Senator BOSWELL—So they will put the pensions up by 2.5 per cent to compensate.

Mr Westmore—From commencement of the scheme. Similarly, for family tax A and family tax B, there will be an increase of 2.5 per cent adjustments to LITO, the low-income tax threshold.

Senator IAN MACDONALD—On that, Mr Westmore, we had some evidence in Mackay at the last committee inquiry you appeared before—and thank you for coming yet again and for your evidence—that rates might go up by 10 per cent because of the impacts of landfill emissions plus electricity and fuel costs on a significant council in coastal North Queensland. A 2.5 per cent increase is not going to help much with a 10 per cent increase in rates.

Mr Westmore—As we understand it, the 2.5 per cent includes two components. The Treasury modelling estimated a 1.1 per cent increase in the cost of living. Then there is an additional 1.4 per cent. I have not done the sums on rates and I do not know what component of rates are part of household outgoings, but Treasury should have picked up some of it.

Senator IAN MACDONALD—We have found the Treasury modelling—

Mr Westmore—Contested?

Senator IAN MACDONALD—Yes, and not complete. I guess your organisation is not in a position to be doing your own modelling. How do you monitor the costs of living of the people you look after? Do you just accept government or ABS figures, or do you try to do your own?

Mr Westmore—No. We commission our own research from time to time. We rely on the Australian Bureau of Statistics and work like HILDA and household income and expenditure surveys like that which are independent of government.

Senator MILNE—On the issue of compensation to low-income earners, when you have got a price signal in the market, whether it is through emissions trading, an increase in the price or through a gross feed-in tariff, you increase the price. In the case of the former, it seems that ACOSS has accepted that the government has said that it will compensate low-income earners. Why would you not do exactly the same for a gross feed-in tariff so that the concern you have is exactly the same across both and you can compensate both? The second thing I would like to ask is: consistent with the idea that if you give a person a fish, you feed them for a day; if you teach them to fish, you feed them for life, do you think that more of the compensation money that is going to be paid under the ETS to low-income earners should be paid in terms of assisting people to permanently reduce their demand—for example, install for them, or make provision for them to install energy efficiency and, if they are in rental accommodation, change the standards or assist the owners to do the same—rather than giving them cash? I am interested in whether you think the government has struck the right balance there or whether there should be a higher priority given to retrofits for people under a certain income level.

Mr Westmore—With regard to the first question and feed-in tariffs, this is contested ground. The capacity currently for householders to go and buy a photovoltaic system and to install it on their roofs is unlikely to be within the remit of low-income households. They are not able to do it. People who are able to do it are guaranteed some kind of return on that investment over an

extended period of time. So what you arguably effectively have is low-income households subsidising better-off households to power their own homes and sell electricity into the grid that low-income households pay a premium to obtain. It depends on what your policy goal is. If it is just about increasing the reach of photovoltaic or building a photovoltaic industry there may be some value in it. But if you are serious about working with markets and grids and installing distributed generation, I think that there are far more accurate, sensible ways to do it. We ought to be looking at communities on the fringes of the grids as we know them now and investing really heavily in distributed generation, for example, photovoltaic for those kinds of communities, because you reap savings across the whole spectrum.

With regard to the second question, it is not necessarily an either/or. We believe that energy efficiency is absolutely critical. We believe that there should be significant investments in it right now ahead of the CPRS, regardless almost of the CPRS. The government has made some steps in that direction with insulation and solar rebates. We believe that the government ought to be doing significantly more. How it is funded: from the CPRS, from consolidated revenue and from other sources, we are happy to have a conversation about. But it is certainly the case that low-income households should be able to improve the efficiency with which they use energy. It is not necessarily the case that doing that will reduce consumption and it is certainly not the case that doing that will reduce their bills. But we think that the trends would be positive if we aimed to do it.

Senator MILNE—So you do not have a comment to make about the balance the government has struck there. Would it be helpful, for example, if the government installed smart metres, obviously in everybody's home but at least starting with low-income earners first, and a whole range of things like that in addition to the ceiling insulation?

Mr Westmore—If the question is whether we ought not to—and I will use the word loosely—compensate low-income households for the anticipated costs of the CPRS but to reserve some of that money for use in improving energy efficiency, I would say no, not. It is a remark I have made in this forum before. People who receive Newstart allowance get \$225 a week, and not just for a couple of weeks. There are long-term unemployed people who live on \$225 a week. So to say that we ought to withhold some of that 2.5 per cent to invest in efficient light bulbs or solar hot water systems strikes me as being insensitive, unkind, unreal. But there must be other ways that we can help low-income households improve the efficiency with which they use energy. As I said, it gets to be about where the money for it comes from.

I am involved in the National Smart Metering Program. I think that misconceptions about smart metering abound. The program as it is set out and likely to unfold at the moment does not in fact provide for in-home displays for people, much to the surprise of a lot of people who think that that is what it is about. I certainly think that providing low-income households, at a reasonable cost, with some way of better understanding the way that they consume energy is a really valuable thing. In fact that is one of the downsides with the proposals to insulate homes. If we are going to go into a significant number of Australian homes, we could be using that opportunity to conduct audits, do some basic retrofits, do some draft-proofing or whatever and give people a bit of a clue about how they might be using energy inefficiently and could be using it better.

Senator MILNE—Just to summarise what you have just said, what you are suggesting is that, instead of the fairly ad hoc way we are approaching efficiency you would prefer to have a much more holistic package that addresses efficiency not only at the household level but through commercial and large-scale utilities?

Mr Westmore—Absolutely.

Senator PRATT—Your submission raises issues with regard to needing to work with state and territory governments to look at policy regulatory programs and financial frameworks to ensure community service obligations and look at utility hardship programs and making sure that those are maintained. I know lots of work has gone on in different states looking at utility hardship, but it is a little bit piecemeal. We have national community service obligation standards in things like telecommunications to prevent people from having their telephone disconnected under different health circumstances or because they have not paid their bill. How do we look towards examining those equivalent issues federally?

Mr Westmore—We would certainly like to see a little more consistency. For example, the utilities allowance is currently paid to pensioners and a range of other people but not to people on Newstart. So those people who, on \$225 a week, are arguably the poorest of the poor in this country, do not have that entitlement. So there is a measure of consistency that could be introduced on 12 May that would make a lot of people's lives very much easier. With regard to the very narrowly described hardship provisions, in terms of energy, there is a thing called the National Energy Customer Framework. The draft legislation for that framework is due out on 30 April. It aims to bring some consistency to a range of issues in the customer relationship with retailers and distributors, and hardship is one of those things. We are certainly hoping that the current best practice model, from Victoria, is elevated to a national standard.

With regard to some of the other community service obligations, concessions and rebates, they are ad hoc. Some governments are more 'generous' than others. Some governments do not recognise it as their responsibility, and there is some argy-bargy going on about whether they should be provided by governments or through retailers. There are some jurisdictional peculiarities about the nature of energy supply. They have hydroelectricity in Tassie. It is cold in some places and hot in others. There is a lot of jurisdictional history there. So we would certainly like to see some consistency, but we would not want to see any diminution in the better concessions that apply at the moment. It is certainly something that is alive at the moment as we move to a national market.

Senator PRATT—The concept of carbon liability and carbon pricing is really only one issue that is affecting increases in energy prices at the moment, isn't it? I think the failure to invest adequately in our networks, for example, is a great force in Western Australia. We have kept electricity prices artificially low in Australia for a long time with a lot of cross-subsidisation, which we can no longer afford. How do we prevent blame for price increases? The government is committed to offsetting the majority of the price increases for low-income households through the CPRS. Nevertheless, there will still be an increase in energy pricing for many of these households.

Mr Westmore—The impact on energy prices from the CPRS is not going to be invisible and it is not going to be meaningless, but we think it is going to be small relative to other price

increases from other factors. In the Territory they have just announced really significant price increases. We have been helping NTCOSS to some extent on their negotiations with the government to extend concessions to a wider range of people than currently get them. But those other factors—which go to reliability and renewables and, hopefully, smarter networks—are going to cost us money.

Senator PRATT—What about the equity of gross feed-in tariffs and the like if they are just blanket tariffs shared across the economy?

Mr Westmore—I tried to address the question of feed-in tariffs with Senator Milne. If there is going to be a feed-in tariff, we are of the view that it should be gross, not net, and that technology should allow for that so that we can actually measure the contribution that those forms of energy make. I suppose ACOSS's view is that it is not the best way to improve efficiency or the uptake of renewables.

Senator PRATT—Lastly, what about the claims being made that domestic transport, household vehicles, should be taken out from the scheme and that the excise reduction should not be in place? I am asking about the equity issues, I suppose, behind transport, as opposed to energy. Clearly, we cannot income test people at the petrol browser to calculate how much they should be offset. So the government made a decision to reduce the excise, to offset that, to enable us to progress to carbon pricing for petrol without creating an equity problem upfront. How is ACOSS approaching the issue of household vehicles?

Mr Westmore—I will have to take the question on notice; I am not expert in the matter. But with regard to your earlier question about the relative impact of changes of households: at this time last year, when petrol prices were up around the \$1.50 per litre mark, that impact on low income households was huge, unpredictable and uncontrolled and, measured against the likely impact of the CPRS, you can see where the relativities fall.

Senator PRATT—Lastly, I want to ask you about the impact on low income households versus, I suppose, other households more generally, of climate change itself, in terms of their capacity to adapt to its negative impacts.

Mr Westmore—That is the place I started out. Our very strong understanding is that low income households are likely to be impacted more heavily than most other people. It is about your capacity to make decisions and to take action, and those actions extend to doing something like using high-efficiency light bulbs, but they also extend to being able physically to move, if you need to, to go where there is work—those sorts of things. So they will be affected by climate change in rural areas, as drought becomes a permanent state, arguably; they will be affected when some industries close down as a result of climate change and its impacts and by their capacity or not to move—their ability to take what skills they have to new places; and they will be affected by price increases brought not by an ETS or a CPRS but by climate change increasing food prices and those sorts of things. So our view very strongly is that low income households are at the front of climate change.

Senator CAMERON—Thank you, Mr Westmore. I was interested in the question—I think it was from Senator Macdonald—to you about your responsibility being to your members.

Mr Westmore—Yes.

Senator CAMERON—It is a legitimate question and you gave a legitimate response, but I want to just expand on that a little bit.

Senator IAN MACDONALD—It was not me; it was Senator Boswell.

Senator CAMERON—I am sorry, Senator Boswell. I just want to expand on that. The interests of poor people overseas are actually the same as those of poor people in Australia, and we are all in this together—this question of global warming and climate change. So isn't there a legitimate position for ACOSS to be concerned about this in a global way and not simply as a domestic issue?

Mr Westmore—You are absolutely right. Our resources are extremely limited. There are some other organisations—including, I think, Oxfam, who were here immediately before—with whom we do work and consult, who take a more active role in the international negotiations. Through our work with the Southern Cross Climate Coalition—the Climate Institute, the ACF, the ACTU and ACOSS—we have some kind of interest in those areas, but we cannot claim to be expert in them, and there is an extent to which I suppose, in doing what we can to encourage appropriate policy responses here, there will be a flow-on effect to appropriate policy responses elsewhere. I hope that is not too much of a squib.

Senator CAMERON—We have had a number of submissions here from business, to say—and I am generalising a bit here—that we should not be taking any action during the global economic crisis; now is not the time; we should delay, wait until economic conditions come back to normal, and then consider dealing with this issue of climate change. Do you have a view on that?

Mr Westmore—My view, high-level or superficial as it might be, is: if we do not act now, when are we going to act? We will always find a reason for putting it off. Our sense is that the longer we delay the more expensive any response is going to get. If we lead—if we lead with technology—there are all sorts of opportunities that we can take advantage of. It is a global financial crisis—it is an unprecedented global financial crisis, to the extent that more or less everybody is in the same boat right now. So, if we do things that are clever, when we come out of it—assuming that we do—we are going to be ahead of the pack. It is not all businesses that are saying that. Some in fact are saying things to the contrary and, as long as the competitive level playing field is maintained, then they are happy to begin taking steps.

Senator CAMERON—The other argument from some business has been that they should be protected from any financial obligations under the scheme for as long as their competitors overseas are not in that scheme. Some have argued for 100 per cent permits; some have argued for financial assistance. These are companies like Caltex and Rio Tinto—not poor companies. What would that do for a government's capacity to look after those most needy in society?

Mr Westmore—It may not do anything if other parts of the scheme were adjusted so that that capacity was increased while leaving measures to assist low-income households remained. Possibly nothing, except the overall cost of the scheme would obviously be higher. Somebody is going to bear those costs and it is likely in the end to be households somewhere. If compensation

measures to look after the interests of the industry were at the expense of measures to protect low-income households then clearly low-income households would suffer, and that capacity to maintain people's spending capacity for essential goods and services would obviously suffer.

Senator CAMERON—Thank you.

CHAIR—Mr Westmore, in respect of the capacity of some low-income households in rental properties in particular to take action on energy efficiency, are you aware of any models that might exist other than providing the funding direct to a household, for example, that might find other methods of ensuring that that work got done? I was in the UK last year and they were talking about doing some of this work through the energy companies whereby energy-efficient appliances and insulation were installed through the energy companies. That gave them much greater efficiency in respect of cost, because you are doing large job lots at one go. You are actually getting the effect very quickly of say doing two or three blocks of insulation of houses at one go—and you are getting an even effect across the demographics.

Mr Westmore—There are models here in Australia. They vary significantly and they are funded in different ways. The program you might be referring to in the UK is called Warm Front, which is effectively funded through a levy across the entire consumer base. Retailers do have responsibility to improve efficiency, a certain proportion of that efficiency needs to be drawn from low-income households, and funds are set aside to do that work. The government's proposed insulation program might actually have the effect you are talking about. Contrary almost to what I said before, where we could take a more holistic, coordinated approach and do a whole lot of things at one time, if we are just going to do insulation and we are going to do it rocket fast and consistently, then maybe there is a case to be made for keeping it narrow in scope. It is one of the conversations we are having with the government at the moment. So taking a truck around street by street, throwing out pink batts and getting them whacked in means that you do get economies of scale, you do have efficiency doing it on a regional basis. So there is an argument to be made for that.

Just picking up the point on households, in Victoria, for example, some money was set aside for retailers by the government—so they are government funds—for programs administered by retailers. When a customer either enters, through self-identification or identification by the company, into a hardship program there are a whole lot of financial things that happen but they are audited, they are given some energy efficiency stuff—light bulbs, a shower head; that sort of thing. They may be given some retro fit measures, draft stoppers—those kinds of things. In some cases they might actually be given vouchers to go and buy energy efficient appliances, such as a new refrigerator. If, in conjunction with the company, they work out that the real problem with their energy consumption is the fact that their fridge is chewing through electricity and the best way to reduce their consumption is to buy a new fridge, there are models to do it. There are limitations to some of those models in the landlord-tenant relationship to split incentives and there are some questions about making improvements to the household or improvements to the way people live in the household, such as through appliances that are portable. But there are certainly models. They beg some coordination to roll them out. They do not need much more in the way of research. I do not know if you saw the report KPMG produced in conjunction with the Brotherhood of St Laurence late last year. It is a model for household efficiency for low-income households that could be turned on, as long as there could be some funding behind it, quite quickly.

Senator MILNE—In your introductory remarks you said that you thought the government's target of five per cent to 15 per cent was too low, and you said that 25 per cent should still be on the table. If the government does not move on the five per cent to 15 per cent target and does not rectify the other flaws that you have identified with the scheme, do you think it should be supported or do you think we should wait for Copenhagen and then implement something?

Mr Westmore—Our view, I think, is that a commencement as early as possible with a cemented target of 15 per cent, at this stage anyway, is preferable to further delay, to scotching it, to waiting for another few years. We are not players but our reading of the tea leaves at this stage suggests that if it falls over at this stage it could well be another few years before something got to this stage of completeness for consideration. The short answer is: in the very absolute worst case, 15 per cent is probably better than nothing, provided the other flaws are addressed as well.

Senator MILNE—15 per cent is not guaranteed; the only thing that is guaranteed is five per cent.

CHAIR—Thank you, Mr Westmore. Thank you for your time this afternoon. We appreciate it. I declare this committee hearing closed.

Committee adjourned at 5.26 pm