COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

SENATE

ECONOMICS LEGISLATION COMMITTEE

Reference: Renewable Energy (Electricity) Amendment Bill 2009

THURSDAY, 6 AUGUST 2009

CANBERRA

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SENATE ECONOMICS

LEGISLATION COMMITTEE

Thursday, 6 August 2009

Members: Senator Hurley *(Chair)*, Senator Eggleston *(Deputy Chair)*, Senators Cameron, Joyce, Pratt and Xenophon

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

Senators in attendance: Senator Mark Bishop, Boswell, Cameron, Eggleston, Farrell, Joyce, Milne and Xenophon.

Terms of reference for the inquiry:

To inquire into and report on:

Renewable Energy (Electricity) Amendment Bill 2009

WITNESSES

Committee met at 10.18 am

ACTING CHAIR (Senator Eggleston)—I declare open this third hearing of the Senate Economics Legislation Committee hearings into the provisions of the Renewable Energy (Electricity) Amendment Bill 2009 and the Renewable Energy (Electricity) (Charge) Amendment Bill 2009. On 18 June 2009, the Senate referred the provisions of these bills to this committee. The bills seek to implement the government's objective of increasing renewable energy targets from 9,500 gigawatt hours in 2010 to 45,000 gigawatt hours in 2020. This would imply that at least 20 per cent of Australia's electricity comes from renewable sources by 2020. The committee is due to report to the Senate on 12 August 2009.

These are public hearings, 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 actions 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 objects to answering a question, the witness should state the ground upon which the objection is taken and the committee will determine whether it will insist on an answer, having regard to the ground which is claimed. If the committee determines to insist on an answer, a witness may request that the answer be given in camera. Such a request may of course be made at any other time.

I remind members of the committee that the Senate has resolved that departmental officers shall not be asked to give opinions on matters of policy and shall be given reasonable opportunity to refer questions to superior officers or to a minister. This resolution prohibits only asking for opinions on matters of policy and does not preclude questions asking for explanations of policies or factual questions about when and how policies were adopted.

A witness called to answer a question for the first time should state their full name and the capacity in which they appear and witnesses should speak clearly and into the microphone to assist Hansard record proceedings. Mobile telephones should be turned off.

[10.20 am]

POOLE, Mr , Murray Goulburn Co-operative

Evidence was taken via teleconference—

CHAIR—Welcome, Mr Poole. Would you like to make an opening statement?

Mr Poole—Thank you. Good morning, Senators. I wish I was there with you and apologise for not being so. I guess the key issue for us in terms of the renewable energy target bill is fundamentally the linkages back to CPRS and the way assistance is provided in CPRS and the fact that our understanding is that those mechanisms will be carried across into this renewable energy target legislation.

The background of dairy processing is that we are quite high energy users in dairy processing but unfortunately we are not intensive enough in terms of our assessment to be considered emissions intensive trade exposed, so we find ourselves in this no man's land within CPRS where we are very heavily trade exposed and in fact trying to export products into the world's most distorted markets. We are very trade exposed and we are price takers in the market, but we are not emissions intensive enough to get any assistance under CPRS. For my company, Murray Goulburn, we are going to be exposed to about $30 million worth of CPRS costs at $40 a tonne for carbon. When we have done the figures and the estimates on the renewable energy target, in 2010 under a certain set of assumptions that adds a further $1 million to Murray Goulburn and by 2020 we are estimating that would be about $2 million, all else being equal. So there are a lot of costs coming towards us under CPRS even though we are trade exposed. We have got no choice but to pass those costs through to our owners, our farmers. We are a co-operative, so anything that happens to Murray Goulburn as a processor is passed through the chain to farmers. Farming families are the ones who are going to have to pay these costs, and that is going to be around $10,000 per family.

We have taken a position as a company that we actually support the architecture of CPRS. We are certainly not arguing against renewable energy, although I do find it a little bit unusual that we need this legislation given that CPRS was designed to encourage this. But our view as a company is that the architecture can be established but that would mean supporting trade exposed organisations or trade exposed industries like dairy at least for the first 10 years of the scheme, at which time we hope the rest of the world has come on board, our major competitors are starting to also have CPRSs and renewable energy targets, or at the very least we have been able to take action through research and development that means that we can generate our own renewables and/or reduce our energy consumption. We are very determined to act on all this but we feel we are being treated very unfairly under CPRS and through the impacts of RET. We are starting to feel very concerned about what this is going to do to the dairy industry and other food-based sectors in terms of employment and family farming businesses. We are continuing to talk with government. We want to work with government but we are very fearful of what is coming at us with CPRS.

ACTING CHAIR—Thank you, Mr Poole. Senator Boswell has some questions.

Senator BOSWELL—You have said the cost to Murray Goulburn as a result of RET will be $2 million by 2020 and about $1 million by 2014. Is that correct?

Mr Poole—You can only estimate going forward, this is all else being equal: 2010 we have estimated about a $900,000 cost of RET. That is because of the pooling factor in terms of what impacts on our electricity cost. By 2020 our estimate is about $2 million a year. That is assuming that our consumption stays the same.

Senator BOSWELL—You have worked out that your CPRS is around $30 million.

Mr Poole—At $40 a tonne. We have got a carbon footprint of about 700,000 tonnes as a company, so at $40 a tonne that would be $28 million, to be exact. We are the largest dairy company but other dairy companies are facing similar costs.

Senator BOSWELL—We are racing the clock here, so please answer these questions precisely.

ACTING CHAIR—We do have a tight time limit, Mr Poole.

Senator BOSWELL—If these costs go through unabated, what implication does this have for both dairy farmers supplying milk to your dry milk powder processing and other Australian dairy farmers supplying the fresh milk supply?

Mr Poole—Murray Goulburn as the co-op sets the price, so if we drop our price then other companies can follow suit. Notwithstanding that, other companies that are doing major processing are going to have the costs anyway, so they will need to follow suit because, like us, they will be incurring costs. So at $40 a tonne you are looking at taking about $10,000 worth of profit out of the average dairy farm business, and at the moment they do not make really any profit at all in the main. As you know, Senator, we are working in markets at the moment where subsidies have been reintroduced at a major level. We are feeling the totally impacts of the global financial crisis. Probably of all the sectors it is dairy that is feeling the brunt of protectionism. We have lived with that and I think have done pretty well in world markets over the last 20 years, but we did not expect the next distortion in the marketplace to come from our own government. That is essentially like a $10,000 tax on dairy farming. That might not destroy the industry but it is the last thing we can take at this stage.

Senator BOSWELL—The RET partial exemptions are tied to the CPRS definitions of ITE industries. Where does that leave agricultural processors such as Murray Goulburn?

Mr Poole—That is really the point of our submission that we put in through the Australian Dairy Industry Council, that we feel we have been very unfairly treated in the CPRS. If you therefore carry the emissions-intensive trade-exposure tests, which we think are just too harsh in terms of their treatments and cut-offs, you simply carry that unfairness across to RET. That is just a double whammy for us, I guess is the way to describe it. We are going to get hit under the way that we have been dealt with in CPRS and now we are going to get hit again without any capacity to pass any of these costs on.

Senator BOSWELL—What was the approach taken to the agriculture processing by the previous New Zealand Labour government?

Mr Poole—What we are asking for in terms of our policy position as an industry is some sort of parity and particularly with New Zealand. The previous Labour government in New Zealand had a system where food processors that were trade exposed could opt into the scheme and get 90 per cent free permits. The biggest dairy company and exporter in the world is Fonterra just across the Tasman, obviously operating out of New Zealand, where we have had common economic relations and total free trade with them now for 20-plus years. Under their system they would get 90 per cent free permits, essentially minimising the cost of their emissions trading scheme. You come across the Tasman to Australia and Murray Goulburn, as the second-biggest exporter of dairy products in the world, would be fully exposed. So it was just a straight comparative disadvantage.

Of course, the kicker of all of that is that the demand for dairy products does not change so, if our industry gets smaller and the New Zealand or the South American dairy industries get bigger, there is not even any benefit to the environment. The emissions just go offshore. If there were some environmental benefit from it then may be we could understand it. The frustration for us is that the tax on dairy farming families in Australia will do nothing for the environment.

Senator BOSWELL—Senator Cameron supported getting you on this program. I thank him for that. Does the government's assistance formulation take any consideration of the degree of trade exposure different industries face?

Mr Poole—In fairness, trade exposure is sometimes a hard thing to quantify at the margins; it is certainly not hard to quantify for dairy. In Murray Goulburn's case, or as an industry even, about half of our products are exported. The majority of dairy products sold in Australia are open to import competition. About 25 per cent of the cheese market in Australia is already imports. The only product that may not be trade exposed is fresh liquid milk, because that is not easily imported.

We would easily pass any trade exposure test that you can see around the world. Really where we have been caught is on the emissions intensity test because our most intensive products—powders—are about 600 to 700 tonnes of carbon per $1 million of revenue. We fall a fair way short on an emission intensity test. Because of the way that the dairy industry is structured, the costs go back to the farmer. There are about 8,000 dairy farmers in Australia now and they are going to pay all of the costs. It is a very narrow focus in terms of where all the costs ultimately lie.

Senator BOSWELL—What do you see as the—

Mr Poole—Solution?

ACTING CHAIR—No, let Senator Boswell—

Senator CAMERON—You are not coaching the senator in his questioning, are you?

Senator BOSWELL—No.

Senator CAMERON—I hope not.

ACTING CHAIR—Senator Cameron!

Mr Poole—The policy position of the industry has been in place now for six months or so and we have made submissions, Senator Cameron—

Senator BOSWELL—No, but what is the outcome—loss of jobs for the blue-collar workers in your dairy cooperatives? Have you worked out any loss of jobs?

Mr Poole—That is very hard to work out. The outcome is that $40 a tonne is going to cost the average farming family about $10,000. Even in a good year for the industry, average net cash incomes for dairy farming families might be $50,000 or $60,000, so it is like taking 20 or 25 per cent of their income away.

Senator CAMERON—I have been having a look at your website trying to very quickly come to grips with the make up of the company, and I am sure I will not be able to do that effectively. I see you have a $2.6 billion turnover.

Mr Poole—That was the turnover in 2006-07. Essentially, our company is 2,600 farmers. The scale of the company really needs to be looked at in terms of what those individuals then turn over. The average dairy farmer is going to be turning over gross between $400,000 and $1 million as a business.

Senator CAMERON—I will have to try and keep you tight on these responses because I only have a couple of minutes. I am happy with that response. The impost that you have indicated through CPRS and RET by 2020 is $2 million.

Mr Poole—That is just for RET. The CPRS would be another $9 million or $10 million, depending on the carbon price.

Senator CAMERON—There are opportunities to pass costs on. That is a price signal that everyone in the community has, isn't it?

Mr Poole—There is no opportunity for Murray Goulburn to pass costs on. We are basically fully trade exposed, so the price of dairy product is established by what those products trade for on the world market.

Senator CAMERON—You say you are fully trade exposed, but, according to your website, under half of your product goes overseas.

Mr Poole—Over half goes overseas, but of those products we sell in Australia—powders, cheeses, butters—all are freely imported. For example, from New Zealand there are no import restrictions, so the price of cheese in Australia is still established by, essentially, a world market price. We cannot just price cheese however we would want to; otherwise, we would lose market share to the New Zealanders and anyone else who wanted to bring cheese into Australia—the US, for example.

Senator CAMERON—That is no different from many other companies operating around the country. They are going to have to deal with the market realities, not just the CPRS.

Mr Poole—Yes, and we have done that for many, many years. We have tried to be a profitable and successful business, which we have been for many years, but we are already fighting a lot of distortions, as you know, Senator, with subsidies around the world and lack of market access. For example, we cannot get access, generally speaking, to Europe at all. European dairy products at least have some capacity to pass costs through because they are not exposed to imports. We support a government policy where there is free trade. But it does not operate like that around a lot of the world still.

Senator CAMERON—I have been saying that for a long time. I notice that you have put a report in about your carbon footprint and it is 700,000 tonnes per annum.

Mr Poole—Yes.

Senator CAMERON—You have looked at some abatement. I notice that what you are putting to us in terms of these costs is what the worst-case scenario would be if you did not undertake any abatement. Is that correct?

Mr Poole—Yes, it is.

Senator CAMERON—Why are you not factoring abatement into this figure? Why are you running up the worst-case scenario and not factoring in any abatement?

Mr Poole—Certainly those costs would be true in the first few years. As a company operating in Victoria, we have been exposed for quite a few years to legislation that compels us to undertake any project that has a three-year or better payback that reduces emissions or waste or increases water use efficiency. We already have a lot of the low-hanging fruit. We are now undertaking a very substantial R&D program. We are determined to get better at what we do over time. But what we are really saying is that we would like the government to help us with the transition. As I said in my introduction, we support the infrastructure of the CPRS and we believe—

Senator CAMERON—Mr Poole, I do not want you repeating what you have already told me, because I am really on a tight time scale here.

Mr Poole—I understand.

Senator CAMERON—I am sorry to do this to you.

Mr Poole—The answer to your question is that we are seeking support in the transition to the scheme.

Senator CAMERON—So the figure that you have given in evidence this morning of a $2 million cost by 2020 for RET could be reduced through abatement. Is that correct?

Mr Poole—Absolutely. We want the opportunity to do that. The more costs we have initially from something like CPRS, the less chance we have to invest in projects that could lead to abatement. We would like the opportunity to keep some of that money that we are going to be handing over for permits and increased energy costs so that we can invest in our R&D program.

Senator CAMERON—I just want to come to the very important issue of jobs. Senator Boswell has become the prosecutor-in-chief of job losses in Australia connected to carbon pollution.

ACTING CHAIR—It is a legitimate concern.

Senator CAMERON—He was continuing that with your company this morning. You have no plans to put people off at this stage because of the CPRS, have you?

ACTING CHAIR—That is leading the witness.

Senator CAMERON—You're a doctor, not a lawyer.

Mr Poole—It has not started yet, but inevitably under the CPRS as it is proposed the dairy industry in Australia, and food processing and agriculture generally in Australia, would become less competitive. As it is designed that is inevitable. How many jobs that costs is hard to say, but inevitably what the CPRS is going to do is make food processing and agriculture less competitive.

Senator CAMERON—You said you were continuing to talk to government. Are those talks continuing now?

Mr Poole—We are trying. We have written to Minister Wong many times, but at this stage we have not had any response. We would really like a meeting with Minister Wong, and we would really like to meet with Minister Combet as well.

Senator CAMERON—You have indicated that you would want some assistance. Have you done any analysis of what the cost to government would be for your company if assistance were provided to Murray Goulburn because you do not meet the trade-exposed area and what the cost would be in the community generally if we expanded that?

Mr Poole—Food processing, as a total number of permits, is very low. It would be less than a few per cent, and so the cost is just the equivalent of free permits. If you look at dairy processing, there is about 1½ million tonnes of carbon in dairy processing. So it is a very small proportion of total emissions. In the case of dairy, we have no choice—we have to process here—so it is a unique business in the sense that it is perishable. Those jobs are mainly in rural Australia. The products have to be processed here—we do not have a choice of moving our facilities—so we are not going to be one of these companies that can move. We have to stay here. Therefore the costs of the CPRS are inevitable for us.

Senator CAMERON—In your annual report, what advice have you given to the cooperative in terms of the CPRS and alerting people to what you claim to be the worst-case scenario? You have now conceded the worst-case scenario; what have you said about that?

Mr Poole—We have been quoting the range. In fairness to us, we have been quoting to our members that the cost from the impact just on the processing side of their business is $5,000 to $10,000 in the coming years if there is no assistance. So, even if we were able to reduce our emissions by half, for example, if the cost is at $40 a tonne then that still means $5,000 per farming family. So I think our range is a more than reasonable expectation for the cost.

Senator CAMERON—But that is not what Senator Boswell put to you and that is not what you put this morning. You did not put a range; you put the worst-case scenario.

Mr Poole—I said it was $10,000 at $40 a tonne. If you then look at what we have said in public and in our submissions, you will see that we have said that it is $5,000 to $10,000, because the opening price might be closer to $20 a tonne, so therefore you have a range of $5,000 to $10,000. You have to understand that the price of carbon is going to change, so therefore putting an exact figure is impossible. As you quite rightly point out, we might be able to change our carbon footprint as well, but my evidence is clear: the big projects that we are undertaking to do that are going to take many, many years to bed down if they are successful.

Senator CAMERON—But you do accept that the government has a responsibility to try and deal with the issue of carbon pollution.

Mr Poole—Yes, we do. My personal view, which I certainly put forward in the company, is that our view is of a soft start and a hard finish. So you give, particularly, trade-exposed businesses as much support as you can in the first 10 years, and then you give them clear market signals that they then have to run very hard through to the likes of 2020 and other targets after that, because that allows us to make that transition.

The problem with the modelling is that it has not modelled that transition. We want to be here and to be a strong company creating jobs in Australia in 2020 so that we can actually help meet those targets, and we are confident we can. But the trouble is that damage could be done to us as an industry in that first period, so we are really, really looking for help from the federal government in that period.

Senator CAMERON—Well, I hope you can convince Senator Boswell and Senator Joyce about the reality of climate change, because at this stage we have completely failed in that project.

ACTING CHAIR—Mr Poole, I have one question for you. Do you support decoupling or separation of the RETs from the CPRS? Would that be of assistance to you?

Senator BOSWELL—It would not make any difference to them.

Senator CAMERON—Are you coaching again?

Mr Poole—As I read it, the support mechanisms, the emissions-intensive trade-exposed mechanisms, is what is being coupled, so decoupling it would only help trade-exposed companies if there was some other mechanism to support trade-exposed companies. It is the coupling of the support mechanisms which is the issue. We are out of any support measures in CPRS and we are therefore out of any support measures under renewable energy targets.

ACTING CHAIR—But your RETs are going to be higher, aren't they, while the coupling exists?

Senator BOSWELL—No, they will be the same.

Mr Poole—They will be the same, but there is no support under either structure.

Senator BOSWELL—They do not get any exemptions.

ACTING CHAIR—All right. Thank you very much, Mr Poole.

Mr Poole—Thank you for the opportunity to address you this morning.

Senator BOSWELL—You can thank Senator Cameron, who was very magnanimous in allowing you to come in.

Mr Poole—I really do appreciate it, and I hope the dialogue can continue.

ACTING CHAIR—Thank you very much.

[10.47 am]

BROOKS, Mr Warren, Environment and Sustainability Manager, Tomago Aluminium

COOMBE, Mr Trevor Kenneth, Head, Global Alumina and Smelter Growth, Oceania, Hydro Aluminium

CRANSBERG, Mr Alan John, Managing Director, Alcoa of Australia

GELLWEILER, Mr Roy Gordon, Chief Financial Officer, Tomago Aluminium

JOHNSON, Ms Marghanita Christelle, Manager, Climate Change, Rio Tinto Alcan

LIU, Dr Xiaoling, President, Primary Metals, Pacific, Rio Tinto Alcan

McAULIFFE, Mr Tim, General Manager, Corporate Affairs and Carbon Strategy, Alcoa of Australia

PROSSER, Mr Miles, Executive Director, Australian Aluminium Council

ACTING CHAIR—I welcome the aluminium industry roundtable. Thank you very much for appearing. We are running a little bit behind time, by 15 minutes, so we will extend your time by 15 minutes. Is there a spokesperson who will make an opening statement? Thank you, Mr Cransberg; please proceed.

Mr Cransberg—Thank you for the opportunity, Senator. As well as being Managing Director of Alcoa in Australia, I am also Deputy Chairman of the Aluminium Council of Australia. We are here in support of the submission presented by the Aluminium Council and also our individual companies. We have representatives with us from Hydro and also Rio Tinto.

Australia is home to six aluminium smelters. We are the key electricity using industry in this debate. We are by far the biggest user of electricity within Australia, and the department's own analysis shows that aluminium smelting is an order of magnitude more electricity intensive than any other activity. If you look at the last page of our submission you can see that that is starkly portrayed by the graph there.

Nationwide, our industry employs 17,000 people directly and another 50,000 indirectly. These are jobs in regional Australia. They are not fly-in fly-out jobs; these are jobs that build a community and make a community. The homes of these smelters are in Geelong, Portland, the Hunter Valley, Gladstone and Bell Bay, and the expenditure on employment, contractors and materials in these localities is a significant driver of the local economy. We are also a major export earner for Australia. About 80 per cent of our products are sold into export markets. The total value of those exports of aluminium and alumina is about $11 billion, and 80 per cent of that is invested right back here in Australia.

We are the fifth largest producer of aluminium in the world as a country and the largest producer of upstream feedstocks of alumina and bauxite. The reason we are in this country is because we have distinct competitive advantages: we have the natural resources; we have the integrated supply chain; we have a skilled workforce in operating, trades, leadership and science; and we have competitive energy supplies. We think this is an industry that should be encouraged to grow.

The use of aluminium will be very important as we become more and more carbon constrained. It is an extremely important material for future fuel efficient transport systems and is being increasingly used in cars to lightweight them while maintaining performance through its properties and its safety at low weight, therefore saving fuel. It is equally important in other mass transport systems and aircraft manufacture. I will give you an example. If you replace two kilograms of steel with one kilogram of aluminium in a car, you save about 20 kilograms of CO2 over the life of that car. The realities for all of us is that this is a product that is endlessly recyclable. Seventy-five per cent of the aluminium ever used is still in circulation today and the next time you use it, you use about five per cent of the energy initially used in making that aluminium.

If you look at what the world needs, it needs more aluminium. It is certain that as the economies grow in the BRIC countries, they currently use about a fifth to a tenth of the aluminium that we use in the developed world. What is at stake here is that we need to decide where we want to add value to the abundant bauxite resources and hence the alumina processing facilities, whether that value is added in Australia or whether we choose to be a quarry and ship it overseas and let others do it. Somebody is going to make that aluminium and we would obviously like to make this a very viable industry within our country. Obviously the costs of electricity, particularly the costs imposed by government intervention, are crucial answers to that question.

There are two fundamentals we are looking for. Obviously, we want to see the RET decoupled from the CPRS and, secondly, we want to make sure that we get a full 90 per cent exemption from both the existing RET and the expanded RET. I would now ask my colleague Xiaoling from Rio Tinto Australia to give you some background on the financial implications of RET and the CPRS legislation on our industry's international competitiveness, and then we will talk briefly on what the impact is on each of the companies represented here today.

Dr Liu—Thank you, Senators, for the opportunity to speak with you today about this legislation and the profound impact it will have on the aluminium industry, and the many regional centres it supports. Let me introduce my role. I am the President of Rio Tinto Alcan's Pacific aluminium smelting operations and I have responsibility for our interests in three smelters in Australia—Boyne smelter in Gladstone, Bell Bay smelter in Tamar Valley and Tomago smelter in the Hunter Valley. These three Australian smelters directly employ over 3,000 regional Australians and contribute $300 million in salaries, in addition to more than $1 billion in payments to more than 500 local suppliers. The combined impact of the proposed CPRS and the expanded RET and Rio Tinto Alcan's operations is around $1.3 billion to 2020. The RET legislation represents another 50 per cent on top of CPRS cost. No other industry in Australia will be subject to such extreme cost impost on top of the CPRS. Without amendment to this legislation, it is inevitable that these additional costs will impact on our operations. These

impacts will cascade, harming regional employment opportunities in communities like Gladstone and the Tamar and Hunter valleys that heavily rely on the aluminium industry.

Rio Tinto Alcan operates 23 smelters globally. All these smelters sell on to the global aluminium market, and therefore additional regulatory cost in Australia cannot be passed through. Australian smelters compete within Rio Tinto for access to sustaining capital, funds which in the current environment are particularly hard to secure. Australia's smelters have predominantly been in the second quartile on the cost curve—that means below global average cost—and have been well positioned to attract investment. The total cost of climate policy will push Australian smelters into the third and potentially the fourth quartile, where it would be difficult to attract investment to improve operational efficiency and remain competitive, which will inevitably lead to the path of curtailment and even to closure. Early last year, we were fortunate enough to attract $685 million for significant upgrades at our Boyne smelter in Gladstone. This will not expand production but simply replace some cranes, a carbon baking furnace and provide for some major structural repairs.

This type of investment is required periodically in all smelters to maintain their operational efficiency and asset integrity. In my opinion, unless there are changes to Australia's climate change policy, including this legislation, we will not be able to attract that kind of sustaining capital in the future. The impact will be inevitable, predictable and commercially rational over time. It would be regional communities like Gladstone which will ultimately bear the brunt of this legislation.

Australia is blessed with 25 per cent of the world's bauxite reserves. Alumina refining and aluminium smelting value add to this strategic resource, creating $11 billion in export earnings and thousands of highly skilled, highly paid jobs in regional Australia. I urge this Senate committee to consider the amendments proposed by the aluminium industry so that Australian smelters can attract the ongoing investment they need to operate and to continue to provide jobs and opportunities for regional Australians. I will hand now back to my colleague Alan.

ACTING CHAIR—I remind the witnesses that we have only got one hour for this segment and the senators have a lot of questions.

Mr Cransberg—I will be brief and then I will pass to Trevor from Hydro to talk about the implications for his industry. Alcoa has two smelters in Victoria, three refineries in Western Australia, a couple of mines in Western Australia as well as a power station at each of our refineries plus one in Victoria. We are Victoria's largest exporter. We employ around 7,000 people directly across Australia and typically we inject close to $500 million into the Victorian economy each year. Again, as with Xiaoling, these are vital components of the regional communities where we operate and those communities would look very different without Alcoa in their midst.

By its very nature we know this is an electricity intensive industry. The combination of the RET and the CPRS could have an impact of up to $1 billion over the next 10 years for our industry. Similar to Xiaoling, that would make us think seriously about where we invest. We are a global company—we have refineries on many continents and in many countries—and that sort of cost impact would make us significantly rethink about investing back here in Australia.

While we support the implementation of the carbon price in Australia, we think that the costs imposed by the RET and the CPRS will make it very difficult for our businesses to be sustainable in the long term and with the amendments we are proposing, which Miles will talk about later, we think we can continue to make sure that these are value-adding, competitive industries within Australia. I will now pass to Trevor.

Mr Coombe—I am from Hydro Aluminium Kurri Kurri in the Hunter Valley. Our plant employs around 600 people and it has done so for the last 40 years. It is a small plant by world standards but it is significant in the region of the lower Hunter. In the past three years we have held discussions in New South Wales with the intention of expanding this plant. This involves capital expenditure of about A$5 billion. It would add a further 1,000 permanent employees in the area; however, the CPRS, coupled with the RET and for the time being the global financial crisis—and I would be a fool not to mention that at least—have significant impacts on this decision to expand. I have a commercial-in-confidence document—and I would like it to be kept that way if possible.

ACTING CHAIR—If you have a document that is commercial-in-confidence, I have to advise you that other than in the estimates process if a document is submitted on a confidential basis and the committee agrees to accept it on such a basis it should pass a resolution that the document be treated as evidence taken in camera. Documents submitted and received in an estimates hearing are automatically published, but that does not apply to a committee such as this. We would need to have a private meeting to accept your document as a confidential document. You have distributed it now. Do you wish to withdraw that until we have a private meeting?

Mr Coombe—No, I will leave it stand. I am really more concerned about slide 5, which highlights the true value of the CPRS and RET on our operation. It highlights the fact that the costs by 2020 of the CPRS and RET—

Senator CAMERON—Slide 5? There are no page numbers here.

Mr Coombe—It is entitled 'Impact of CPRS and RET—historical average', page 5.

ACTING CHAIR—I have just been advised by the secretary that if there is no disagreement that we will treat this as confidential, we do not need to have a private meeting. Is there anyone on the committee who is not prepared to have this treated as confidential, including those on the phone?

Senator XENOPHON—I have no problem with it being treated as confidential.

ACTING CHAIR—Thank you. We will treat it as confidential.

Mr Coombe—Thank you. It highlights the fact that the cost for these two environmental legislations is about $55 million. Our operation has an average profit of $65 million. So you can see that the impact is quite dramatic.

Senator BOSWELL—That is in 2030, is it?

Mr Coombe—That is in 2020. In 2020 you are looking at $55 million.

Senator BOSWELL—And what is your profit—$65 million?

Mr Coombe—It is $65 million. That is the average of the last eight years, although it is not going to be the same going forward.

Senator CAMERON—I am just raising the issue that this is being broadcast.

Mr Coombe—I am fully aware of that, Senator. I am just highlighting the effect for our organisation. As to the document itself, I am merely just highlighting that page 5 is the issue for the discussion. I have no problem in saying what I am saying.

ACTING CHAIR—As long as you are aware of this.

Mr Coombe—Yes. We as an organisation would urge that senators be aware of the Australian Aluminium Council's submission and its recommendations. We would hope that the Senate makes amendments to ensure that the growth, stability and viability of employment in the industry are maintained. I will now pass to Roy Gellweiler.

Mr Gellweiler—Good morning. I am the Chief Financial Officer at Tomago Aluminium Company. Tomago Aluminium's smelter is located in the Hunter Valley and directly employs around 1,200 people. It is a world-class asset. It currently around the 11th largest smelter in the world—out of around 200 smelters. Currently it sits in the lowest quartile of costs on the world cost curve. Historically, it has growth at about three per cent per year. It has been operating 25 years, and in that time it has more than doubled its production. It is still growing today and has more potential in the future. It is a well-maintained, well-positioned asset. As I said, it is 25 years old. In the absence of external threats, like the CPRS and RET, it should have a life of another 25 to 50 years.

In our submission we outlined our main concern, which is the combined effects of both the CPRS and the RET for our company—$125 million per year by 2020. It is easy to throw numbers around, but I will put that in context. That is equivalent to our current wages bill, which is around $110 million per year. The cost to us would be the same as if we were actually having to double our 1,200-strong workforce. The current proposal for both the CPRS and RET, as proposed today, would push us up on the world cost curve by a full quartile. Currently we are sitting in the upper end of the first quartile and it would push us to the mid-point.

It would jeopardise future investment in the plant. We are not talking about starting to jeopardise investment in 10 years time; we are talking about investment in the coming years, because it is an industry that is very capital intensive with very long-life assets. So the decisions that we make now on capital, we expect to be in place for a long time. Therefore, the current proposals are going to jeopardise that investment. Inevitably, they are going to lead to the premature closure of the smelter and the loss of jobs—probably decades earlier than would otherwise be the case. So it is not an issue for the next two years or five years; it is more an issue for the next 10 years plus. We strongly support the AAC proposal for a true 90 per cent exemption. I will leave it there.

Mr Prosser—In the interests of moving quickly to questions, I would just like to emphasise the specific amendments that we have included in part 1 of our submission. We have had those amendments drafted to achieve two main outcomes. One is for a 90 per cent exemption from the full RET for industries that are both emissions and electricity intensive, and we believe that is consistent with government policy. The second is a decoupling of the RET from the CPRS. At the moment, with them coupled the way they are there is an uncertainty over a future cost of tens of millions of dollars per smelter. In the face of that uncertainty it is not possible to make rational investment decisions, and those investment decisions would be ones that would deliver for both the economy and the environment. In the interest of getting to questions, I will leave it there. Thank you.

ACTING CHAIR—I would like to open the questions by asking you about this decoupling. You have made a case there. If the decoupling of the CPRS and the RET is not achieved, can you detail the impacts on your industry in terms of job losses and its general viability?

Mr Prosser—I can certainly put it in dollar terms. Some of the company representatives might be able to take that further in terms of job losses. We have quoted in our submission that the current proposal under RET would expose us to a cost of about $700 million across the industry over the next 10 years. That assumes that the exemption being proposed in the RET bill survives. If it is linked to the CPRS bill and for whatever reason the CPRS bill does not pass in its current form, that $700 million would more than double in magnitude of cost exposure for the industry. I will throw to the companies to make some comments on what that means for job losses and investment.

ACTING CHAIR—If you would. This decoupling is a very important issue. The coalition is very interested in it.

Mr Cransberg—I think Trevor raised the point using precise numbers. You get to the stage where, if you are not making a return on the capital investment, you choose to harvest a facility and over time that facility will close. Smelters take a lot of capital to continue to run them. You are investing at times to rebuild a bake furnace, which is part of the process. You invest $100 million. You get that return over the next five to 10 years. So we need to make sure that we understand the climate that we will be operating in to make those significant investments early on. If we do not decouple, you add another level uncertainty and companies like mine will choose not to invest in these facilities and will invest in others where we have those options.

ACTING CHAIR—When you talk about ‘others’, are you talking about outside Australia?

Mr Cransberg—Absolutely.

ACTING CHAIR—So, in other words, if there is not decoupling we are going to see future investment occurring not in Australia but selectively in other countries.

Mr Cransberg—Exactly—as any company would. We are 40 per cent owned in Australia by Alumina Limited, which is an Australian company, but they are partners with us in many operations offshore. This is a good industry. We are keen to see this industry not only survive but grow, because it is very competitive by world standards. If we move into the third or fourth

quintile, which a number of us have talked about, then if I am investing money I will choose to invest in a place that is first or second quintile, as any of us in this room would.

ACTING CHAIR—What about the viability of existing smelters? Is that going to be impacted on by not decoupling?

Mr Prosser—I will make a comment about investment. Investment is not just in terms of expansion or in new facilities but also in sustaining investment in the existing facilities. So when we talk about a loss of investment from Australia, that is a loss of investment that would sustain the existing facilities. You would see them on an inevitable path to closure if that investment ceased to occur.

ACTING CHAIR—Over what time span are we talking?

Mr Cransberg—Right now, for example, we are choosing not to make investment decisions until we understand the magnitude of the CPRS and the RET.

Mr McAuliffe—It is not responsible to make those investment decisions.

Mr Cransberg—Yes. Once we understand the rules and we can lay out a pathway that says, 'These are going to be economic facilities and right now they are struggling because of the current global financial crisis, as a lot of other industries are.' We will make those investment decisions when we know we have an economic future.

Mr Prosser—It is the nature of a smelter that you would tend to invest in rebuilding key components on a five-to-10-year cycle. If you stopped that investment, I think you are really buying yourself no more than a five-to-10-year life for that smelter.

ACTING CHAIR—In other words, if the coupling remains you will make one set of decisions which will probably mean less investment and such consequences as job losses and so on. If there is decoupling, which is a position the coalition supports, then that is a different scenario and will lead to further investment.

Mr McAuliffe—It is about the potential financial impact. If the coupling remains and the CPRS bill is uncertain, as Mr Prosser said then that increases the financial exposure. It is part of it. The key factors are the coupling, the total financial exposure and, for that matte, the uncertainty.

Mr Prosser—That financial exposure comes from a number of places. It comes from RET and it comes from different components of the CPRS, and the coupling of those two just increases the uncertainty and the magnitude.

Mr McAuliffe—Correct; that is exactly it.

Mr Cransberg—I am not sure the committee is aware, but we have no ability to change our prices. It is set by the London Metal Exchange. Alumina is sold as a percentage of the London Metal Exchange, so we have no ability to say, 'Hey, our costs have gone up; we'll pass that on,' because it is a globally traded commodity.

ACTING CHAIR—For the record, do you want to advise the committee what, specifically, the 'components of the CPRS' are that you mentioned?

Mr Prosser—Sure. The key sources of costs for us under the CPRS are the requirement to buy proportionate permits. Initially, that will likely be no more than 10 per cent for smelting; it will make that 90 per cent category. It is less clear what category alumina will fall into, so there is a requirement to buy permits for some proportion of alumina's emissions. The decay in those permit allocations over time while other countries do not face those costs will increase the burden of that cost over a period of time. There are issues associated with the calculation of permits that are attached to the electricity supply; does that fully cover the sort of increases in electricity prices we are going to see? They are the three main elements under the CPRS. In addition to that is the RET cost exposure.

ACTING CHAIR—Can you expand on your point about electricity supply and how important it is to the aluminium industry?

Mr McAuliffe—Perhaps I will do that. That is a particular issue that Alcoa has expressed concern on in several committee hearings. There is a part of the calculation in the proposed CPRS that relates to a thing called the electricity allocation factor. What it assumes is that the carbon pass-through from power stations into the marketplace will be based on one tonne of CO2 per megawatt hour. If you like, the EIT permit allocations assume that you can get power at that carbon intensity. The reality for us in Victoria—because, like all Victorians, we rely on brown coal for the majority of our power—is that it comes at a higher carbon intensity. The best we will probably be able to do is 1.25 tonnes of CO2 per megawatt hour. What that means is that the permit allocation will assume 1.0 but, when we come to pay, the carbon price in the power that we use will have to be paid based on 1.25. That would, effectively, take a 90 per cent allocation down into the mid-70s. When you are an aluminium smelter—or, in the case of Alcoa, two aluminium smelters—you are a very large consumer of electricity. That 0.25 represents tens of millions of dollars. It is probably about $40 million per annum as a starting point. That is a very significant concern to our company, and we believe it is a significant disadvantage for Victoria.

ACTING CHAIR—So that cost of $40 million is just for your company.

Mr McAuliffe—Correct. In most of the other states, you are able to get a power mix that would come at a carbon intensity of one or less. That is certainly what the Treasury modelling showed in terms of the spot market. It is a bit different for aluminium smelters because we rely on long-term contracts. Because of the capital intensity, you cannot invest the sorts of numbers that we have been talking about here on short-term contracts; you have to underwrite them on long-term contracts. That means we will pay for high-carbon power in Victoria. On that point, what we have asked is that the electricity allocation factor reflect what the marketplace will actually pass on.

ACTING CHAIR—Which states do you have smelters in?

Mr Prosser—I could run through the smelters around the country if you like. We will start with Rio Tinto.

Dr Liu—Rio Tinto has smelters in Queensland, New South Wales and Tasmania.

Mr Prosser—And Alcoa?

Mr Cransberg—Alcoa has two in Victoria.

Mr Coombe—At Hydro we have a smelter in Kurri Kurri and we own a small percentage of the Tomago smelter.

ACTING CHAIR—In other words, this is going to affect most states.

Mr Prosser—Yes. There are two smelters in Victoria, two in New South Wales, one in Queensland and one in Tasmania.

Mr McAuliffe—And six regional communities, basically.

ACTING CHAIR—That is quite a major impact. And this all, essentially, comes back to this issue of decoupling.

Mr McAuliffe—It is decoupling and the extent of the exemption. We cannot underplay the fact that the current proposal is for an exemption ffrom expanded RET. It would still leave the smelters fully exposed to the existing RET, and there is a large amount of money at stake in that. I should say there is a large amount of international competitiveness at stake. That is the reality.

ACTING CHAIR—Thank you. I will leave it at that. Unless you want to ask a subsequent question, I will go to Senator Cameron.

Senator BOSWELL—Go to Senator Cameron. I will come in later.

Senator CAMERON—Mr Cransberg, you are with Alcoa, are you?

Mr Cransberg—I am.

Senator CAMERON—Okay. I just wanted to clarify that. Dr Xiaoling?

Dr Liu—Rio Tinto Alcan.

Senator CAMERON—I understand, yes. I know where you are from. When was your 2008 annual report published?

Dr Liu—The 2008 annual report was published earlier this year.

Senator CAMERON—When that report was published, you would have been well aware of the government's approach on both RET and the CPRS?

Dr Liu—We are aware but we also understood at the time the committee saying it recognised electricity intensity. The discussion was about both electricity intensity and trade exposure. We

were aware and we were under the impression that the electricity intense nature of the aluminium industry would be taken into consideration in the final RET policy.

Senator CAMERON—What is the biggest impact on aluminium in the short to medium term? Is it the global financial crisis or RET?

Dr Liu—Both will have an impact. In terms of short-term impact, the financial crisis obviously is significant in terms of return to our shareholders. Also, we borrow from banks to sustain our operation. In terms of long-term investments, the short-term financial crisis will be over but policies like the current legislation and RET will have more impact in our decision on whether we can attract sufficient capital to keep our asset continuing to operate. The key issue here is that it is a very capital-intensive industry. It needs continuous investment.

Senator CAMERON—In your annual report, Tom Albanese, your Chief Executive, announced an 11 per cent cutback in aluminium production.

Dr Liu—That was in response to the current financial crisis. Because the market is reducing so is its demand for aluminium, but we believe that is in the short term.

Ms Johnson—Excuse me, Senator Cameron. If I could comment on that 11 per cent cut—

Senator CAMERON—No. I am happy with that response. I do not need any more.

Ms Johnson—You are happy with that? Okay.

Senator CAMERON—It is a reduction of 450,000 tonnes of metal per year. The Chief Executive, Mr Albanese, went on to say:

The fundamentals of the aluminium industry nevertheless remain strong.

Has he got it wrong?

Dr Liu—No, he has not got it wrong.

Senator CAMERON—Is your chief executive wrong?

Dr Liu—No.

Senator CAMERON—Is he telling lies?

Dr Liu—No, he is not telling lies.

Senator CAMERON—What is he doing?

Dr Liu—As Mr Cransberg said, the world will continue to demand aluminium. The consumption in China and India is a very small portion of that of OECD countries. We believe the living standard improving in those countries will continue the demand for more aluminium.

The fundamentals are still there, and the people will use aluminium also because it is actually greenhouse friendly when you use it in the cars and reduce the emissions.

Mr Prosser—Could I just make the point? The point being made here is that—

Senator CAMERON—I am asking Dr Liu. If I want to ask you a question, I will ask you a question. Dr Liu, Mr Albanese goes on to say:

Higher energy costs are raising the aluminium cost curve, particularly in China, to the advantage of lower cost producers like Rio Tinto Alcan.

Am I reading this right that Rio Tinto is actually becoming more cost competitive against China?

Dr Liu—You are right in a sense.

Senator CAMERON—Am I reading this right? Is the chief executive right?

Dr Liu—You need to put it into the context of a Rio Tinto average rather than Rio Tinto Australia.

Senator CAMERON—Why didn't he do that in the report?

Dr Liu—We have significant assets in Canada—Quebec—using hydropower. Overall, as I say, we are competing among the 23 smelters. We are also ranking with the 23 smelters. This is talking about a Rio Tinto average. We are here talking about the Rio Tinto Australian operation.

Senator CAMERON—But you come here and say that it is doom and gloom; it is the end of the world, basically; there is no more investment; and jobs are going down the tube. Your chief executive failed to raise these issues in a recent annual report. In fact, the chief executive said:

I am therefore confident that our aluminium operations—

not one but plural operations—

will continue to play a vital role in helping Rio Tinto meet its commitment to creating value.

Is the chief executive spinning a line to the shareholders, or has the chief executive not spoken to you about these issues? What is going on?

Dr Liu—What is going on should be put into context. This is our chief executive talking about Rio Tinto aluminium globally. Every company is looking for new opportunities to invest. Have we heard of many new smelters in Australia recently? No, we have not. We are here to talk specifically about the potential cost impost in Australia that will make our operations here less competitive. We have always been able to compete internationally.

Senator CAMERON—Why aren't you alerting your shareholders to this issue?

Dr Liu—We are continuing to invest but we are investing where we have more certainty, where we believe we will remain competitive and be able to return high value to our shareholders.

Senator CAMERON—Are you talking about within Australia or about your international operations?

Dr Liu—Internationally, globally.

Senator CAMERON—Why didn't Mr Albanese raise the very same issues that you are raising here? Why aren't your shareholders being told that Rio Tinto faces no further investment in the aluminium industry in Australia? Why aren't they being told that there will be job losses? Why is the chief executive telling them something completely different from what you are telling us here this morning?

Dr Liu—In our report we talk about 2008 results. We talk about certainty. Here we are saying that we would still like to see the Australian government realise that the aluminium industry is a very important industry—a big export earner for Australia. We would like it to have a future and to continue to attract investment.

Senator CAMERON—Do you agree with the chief executive when he says that he is confident that your aluminium operations will continue to play a vital role in helping Rio Tinto meet its commitment to creating value? Do you agree with that?

Dr Liu—I agree with that in a global sense but I have significant concerns for local Australians and regional jobs.

Senator CAMERON—Why weren't investors in Australia told about this concern?

Dr Liu—Again, we are here in the context of talking about the 2008 return overall.

Senator CAMERON—I am talking about investors in Australia being given an opportunity either to stop investing or to invest in your aluminium operations here. On the one hand, the chief executive is saying, 'Everything is looking good, prices are going up and we are competitive', but, on the other hand, you come here and tell us a completely different story. I just do not understand it. I might move on because I have done enough with Rio Tinto. Maybe I will have a look at Alcoa. By the way, I would like you to take some questions on notice. Could you provide us with your annual turnover in Australia and what you see as the cost impost in comparison to that annual turnover?

Dr Liu—Sure. We will take it on notice.

Senator CAMERON—Mr McAuliffe, I have not had a chance to look at your annual report, but does it reflect what you have put to this hearing this morning?

Mr McAuliffe—We have made public in a wide variety of ways the concerns we have over RET and CPRS.

Senator CAMERON—What do you say in your annual report to your shareholders?

Mr McAuliffe—I would have to go back and check the exact wording. The point is: are we being public about this? Absolutely. We have been public about this now for more than 12 months.

Senator CAMERON—That is not the point. I am asking you about what you are telling your shareholders—and that is important. You come here and tell us that it is going to cost you $40 million a year. What is that $40 million to your annual turnover?

Mr McAuliffe—The $40 million relates to the electricity allocation factor. You will find that in every submission that we have made to the various Senate inquiries. You will find it on our website. You will find it in our communications to our staff and in the statements that we have made publicly. I accept what you are saying: we need to be public about our concerns. What I am saying is that we have been—very much so.

Senator CAMERON—You have come here and told us again about this doom and gloom. To be frank, in my view, you are putting the worst case scenario—

Mr McAuliffe—We are putting what we believe is a factual case.

Senator CAMERON—Are you telling your shareholders that position?

Mr McAuliffe—Yes. As I said, we have made that public on numerous occasions. Let me give you—

Senator CAMERON—What did you say in your last report?

Mr McAuliffe—Until I see the exact words, I am not going to get that wrong. For example, every submission that we have made to the various inquiries in relation to the CPRS and the RET have been publicly available. None of that has been confidential. As I said a moment ago, we have put it on our website. We have put it in various reports. And we have spent quite a lot of time trying to make our employees aware of that as well. Have we made it public? Yes, repeatedly.

Senator CAMERON—In terms of the current short-term global financial crisis, what is the biggest cost of the RET?

ACTING CHAIR—I am just watching the time.

Senator CAMERON—Are you going to back to other coalition senators?

ACTING CHAIR—Senator Cameron, all senators have the right to ask questions, regardless of party, and that is the formula we will follow. After you, we are going to Senator Xenophon and then back to Senator Boswell.

Senator CAMERON—Please do not bang your fist at me. I am simply trying to get this—

ACTING CHAIR—I am about to advise you that you have a limited period of time left.

Senator CAMERON—How long have I got?

ACTING CHAIR—You have about three minutes—until half past eleven.

Senator CAMERON—Other senators will have an opportunity then; that is fine. Mr McAuliffe, you are not sure what is in your annual report. Can you provide the inquiry with details of where you specifically indicate the problems in your annual report?

Mr McAuliffe—I am happy to, Senator. There are plenty of examples.

Senator CAMERON—Has anyone else got their annual report?

Mr Gellweiller—We are an unincorporated joint venture so we do not have a published annual report.

Senator CAMERON—Hydro?

Mr Coombe—I do not know what they have said in Norway—

Senator CAMERON—You do not know what they are saying about your operations in Australia? Are you fair dinkum? You do not know what they are saying about your operations? You do not know what your parent company is saying about you?

Mr Coombe—Because we are combined into the thing. I will get the copy of the—

Senator CAMERON—What are you saying about your operations? Do you do an annual report?

Senator BOSWELL—He has just told you what he is saying. He cannot make it public, otherwise he is in trouble—big trouble.

Senator CAMERON—Senator Boswell, just behave yourself. What does it say in your annual report? Do you do an annual report?

Mr Coombe—We do not do an annual report.

Senator CAMERON—Basically, you have all come here to say that it is doom and gloom, yet it is not reflected in your annual reports; it is not what you are telling your shareholders. Why wouldn't I take the view that you are simply rent seeking?

Mr McAuliffe—We just pointed out that we do tell our shareholders that. I thought I mentioned that.

Senator CAMERON—But you cannot tell me exactly where.

Mr McAuliffe—Yes, I can give several examples, including every submission we have made to every Senate inquiry, numerous media statements, the information that is on our website and the communications we have with our employees. That is at least half a dozen.

Mr Prosser—The comment I would like to make is that the council's submission and each company's evidence here today is about the impacts on the Australian aluminium industry. There is no question—in fact, we have made it quite open here—that the world will continue to use large amounts of aluminium. Aluminium is a healthy global industry. What is at play here is: how much of that aluminium will we produce in Australia? There is no question that Rio Tinto will continue to produce aluminium and, if the market holds good, we will make money out of it. Alcoa will continue to produce aluminium and, if the market holds good, we will make money out of it. The question is: will we produce any of that in Australia, or will we produce it in operations in China, the Middle East or Brazil? We have not come here and said that the global aluminium industry is about to fall on its face.

Senator CAMERON—Tom Albanese, the chief executive—

Mr Prosser—Is running a global aluminium company—

Senator CAMERON—is saying that we are competitive and that we are increasingly competitive against China—

Mr Prosser—Because he runs some of the low-cost operations in those other countries.

Senator CAMERON—But that is not what your chief executive is saying.

Dr Liu—There is no contradiction here. What he is saying is correct. We are currently competitive. We are saying that we want to maintain that competitiveness. Also, in a global sense, aluminium will be demanded; it will grow. The issue is whether we will do it in Australia or whether we can get more value from our bauxite elsewhere.

Senator CAMERON—Mr Albanese seems confident, so I am happy with that.

Mr Prosser—He has a number of smelters in Canada that would give him some confidence.

Senator CAMERON—Mr Albanese seems confident so I am happy with that. There was an article in the *Australian Financial Review* on Monday, 15 June 2009 by Charles Berger, the Director of Strategic Ideas at the Australian Conservation Foundation. I am sure that every one of you took an interest and read that article. In that article Mr Berger says:

Analysis by Goldman Sachs JB Were found only four major Australian companies would be exposed to an impact on earnings of greater than 5 per cent, even with no compensation from government.

What is your comment on that?

Mr Cransberg—We have done our own modelling based on the Treasury numbers. We will certainly be impacted by more, and I am not sure if he included us as an Australian company—or

our Australian partners, Alumina Limited—but we will certainly be impacted. It is a business where if a significant chunk of your profitability disappears you choose to invest elsewhere.

Senator CAMERON—How long have you known that there would be a carbon pollution reduction scheme in Australia?

Mr Cransberg—Three to five years.

Senator CAMERON—So you did not listen to John Howard.

Mr Cransberg—We listened to John Howard; we listen to everybody.

Senator CAMERON—So even though the opposition indicated that they would deal with this issue, you have known for only three or four years?

Mr Prosser—Going back to the question about the ACF, which we did not get a chance to answer, if they are assessing it at a company level, it comes back to the point: if you have got a global company, the impact of the Australian scheme at a global level, on global returns, will be quite low. But there will be a major impact on the Australian operations of that global company.

Senator CAMERON—I am happy for you to put that answer on notice. I need to deal with this other issue I have just asked. I am running out of time.

Mr Cransberg—So we have known about this issue and we are making decisions about where we invest right now that will affect our long-term future. We are very keen that those regional jobs and the regional activities we have, and successful operations, remain that way. Frankly, that is going to be very dependent on the shape of the CPRS and the RET.

Senator CAMERON—How much are the aluminium companies investing in research and development on carbon capture and storage?

Mr Cransberg—I cannot speak for the other companies but we run a global R&D centre for aluminium, and we run a global R&D centre for alumina within Perth, Western Australia. We are investing significant amounts. We have found a way of locking up CO2 in our residue areas, and we have currently locked up about 70,000 tonnes of CO2. We have reduced our intensity of greenhouse gas emissions since 1990 by 61 per cent for every tonne of aluminium made. In our rolling industry we have reduced our energy usage by 21 per cent; in our refining aspect we have reduced it by about 12 per cent—

Senator CAMERON—How much have you invested in Australia in research on carbon capture and storage?

Mr Cransberg—We invest in our R&D facility in Western Australia about $40 million per year in the alumina industry.

Senator CAMERON—How much of that is on carbon capture and storage?

Mr Cransberg—I would be guessing. I would have to come back to you.

Senator CAMERON—Can everyone take on notice how much you are investing in carbon capture and storage. You all come here with these horror stories about what—

Senator BOSWELL—They are horror stories.

Senator CAMERON—They are the worst case scenarios, they are horror stories about what is going to happen that are not consistent with what your chief executives are saying. I would like to know what you actually doing on the positive side in relation to carbon capture and storage and the investment you are putting in place.

Mr McAuliffe—Energy efficiency has also been a key research area for us because of this.

Senator CAMERON—I am happy to know what you are doing on that as well.

CHAIR—Thank you, Senator Cameron. We will move on to Senator Xenophon.

Senator XENOPHON—Thank you, Chair. My first question is: what is the difference in terms of energy-intensive production of aluminium here in Australia compared with elsewhere, including China?

Mr Cransberg—If you look at the value chain, I will start with the alumina, which is the first part of it. The greenhouse gas footprint of a tonne of alumina made in our operations in Western Australia is a half to a third of the greenhouse gas footprint of a tonne made in China. So somebody is going to make that alumina and somebody is going to make that aluminium. If you look at the aluminium, the direct intensity of our industry is lower than our competitors around the world. In fact, we run a forum through the Australian Aluminium Council where we are assisting the Chinese to reduce their greenhouse gas intensity for the tonnes of aluminium that they make.

Senator XENOPHON—What is the difference, though, in approximate terms?

Mr Prosser—I will jump in there. We can provide, on notice, some graphs and some figures on that, but for the aluminium smelting industry the electricity intensity of Australia's industry is lower than most other parts of the world, other than Africa, where the smelters are newer technology. On the alumina side of things, again I can provide some exact figures but it is of the order of more like 10 or 20 per cent improvements in efficiency in Australia in terms of energy use.

Senator XENOPHON—Could we get that sooner rather than later, because we need to report on this.

Mr Prosser—Yes. The amendments we proposed were mainly to achieve two outcomes. One was the decoupling to take away that level of uncertainty and the other was to provide the full 90 per cent exemption from the RET burden.

Senator XENOPHON—I understand that. In terms of the interaction between a CPRS and the RET bill, if the electricity price rises under a CPRS were not as great, what would that do to your attitude to RET?

Mr Prosser—We would have to have a look at any alternative proposals. Ultimately, the approach we have taken to all these things is to look at the total magnitude of the cost burden being imposed on Australian producers that is not being imposed elsewhere. To a large extent, the way that is imposed is immaterial. It is the total magnitude of the cost burden that Australian producers bear that is not borne elsewhere.

Senator XENOPHON—Going back to the whole issue of RET, we have the situation in the US and in Europe where they are looking at ambitious RET targets—some would say more ambitious than ours. Why should you be isolated from an ambitious or not so ambitious RET target when other countries are going down that path?

Mr Prosser—I have two points on that.

Ms Johnson—In the same way that it can be difficult to compare different emissions trading schemes, you have to look, when you look at renewable energy targets in different jurisdictions, at the other things within those jurisdictions that make them different. For example, I know that the renewable energy scheme in the United States proposes to allow energy efficiency credits to also be included under the renewable scheme. That is quite different to what you have in Australia. I know that Europe does have more extensive targets in terms of the composition of renewables. They also have an incredibly different grid structure that means that, if the wind is blowing in Denmark and then stops blowing in Denmark, they can import electricity from Germany or France where it is provided from a completely different baseload source. In Australia, we do not have a grid structure that allows that type of transmission across long distances for a relatively sparse population.

Senator XENOPHON—Can you provide some further details on notice. I am interested in terms of those energy efficiency credits and the like. Could you send that through to the committee.

Mr Prosser—Can I just make two comments on that? Firstly, we are not asking for a free ride under the RET. We are talking about taking on some RET costs but not so many that it makes us uncompetitive with other countries. Secondly, the comparison to schemes in other places: Australia's main competitors in these markets are in the Asia-Pacific region and I am not aware of any proposals that would impose costs on aluminium producers elsewhere of the magnitude being proposed here.

Senator XENOPHON—The Chinese are looking at intensity aren't they in terms of reducing their emissions, which would ultimately impose costs on their industries?

Mr Prosser—I am not suggesting that there is no cost in other countries, but the magnitude of costs being imposed here is far and away higher than what is being on imposed directly on producers elsewhere.

Senator XENOPHON—I would still find it useful to look at some of those comparisons and where you say they are different. That would be useful.

Senator BOSWELL—We are supposed to be voting on this bill in the next couple of weeks. Have you received any response from the government either on the decoupling or on your amendments? Are you in negotiations?

Mr Prosser—I would not say that we have received any official response. We have been trying to talk to government as we have been trying to talk to others in the political process about our concerns. We have not received what I would call a response from government about their view other than what we have heard publicly, which is that they are not too interested in further changes.

Senator BOSWELL—If the government were to decouple the ETS from the RET and not proceed with this amendment or goes ahead with what you get now is what is on the table under CPRS, which is a part of 90 per cent, and that was to apply to RET—as you would get that transferred from CPRS to RET—what effect would that have on you?

Mr Prosser—I need to be sure that I understand the question.

Senator BOSWELL—The question is: we have decoupled but we have not given you your amendment. We go ahead as per what is on the table now.

Ms Johnson—If we were to still receive a partial exemption on part of the scheme then the decoupling provides certainty that we will only get 55 per cent, not a true 90 per cent. So you get more certainty but you get certainty that you are still not getting what you are after.

Senator BOSWELL—So you would go from 90 per cent to 55 per cent? Is that what you are saying? If we decoupled, you would go from 90 per cent to only 55 per cent.

Ms Johnson—If we were still to receive only a partial exemption on part of the scheme, then the decoupling provides certainty that we will only get 55 per cent, not a true 90 per cent. So you get more certainty, but you get certainty that you are still not getting what you were after.

Senator BOSWELL—So you would go from 90 per cent to 55 per cent? Is that what you are saying?

Ms Johnson—At the moment, because—

Senator BOSWELL—If we decoupled, you would go from 90 per cent to 55 per cent?

Ms Johnson—At the moment we only get 55 per cent; the decoupling will achieve certainty that we only get 55 per cent. The main point of the Aluminium Council's submission is that the 90 per cent exemption applies only to part of the costs. So 90 per cent of part means that it is actually only a 55 per cent exemption—hence the fact that the aluminium industry is seeking a true 90 per cent, not a partial 90 per cent, which is nowhere near that.

Senator BOSWELL—So what is on the table at the moment is 55 per cent?

Mr Prosser—Correct.

Senator BOSWELL—And what you are asking for is 90 per cent?

Mr Prosser—Correct.

Senator BOSWELL—If we go ahead with the 55 per cent, what is the result for the aluminium industry?

Mr Prosser—At 55 per cent, we estimate that is a burden of $700 million over the next 10 years, in the context of a combined CPRS and RET burden of about $4 billion over that 10-year period.

Senator BOSWELL—So $700 million—

Mr Prosser—It is $700 million out of the total $4 billion of the CPRS and RET combined.

Senator BOSWELL—So you would have a $4 billion liability under the RET, or you would have a $3.3 billion liability under RET and $700 million—

Mr Prosser—Under the current proposals, $700 million under RET and $3.3 billion under the CPRS.

Senator BOSWELL—What would that do to the industry?

Mr Prosser—I will leave it to the companies to describe that.

Senator BOSWELL—Well, that is the question, is it not?

Mr Prosser—At that level, that is a greater annual cost than the companies had been reinvesting right across the industry in Australia on an annual basis.

Senator BOSWELL—But what does it mean? Does it mean closing places down in Gladstone or—

Senator CAMERON—Here we go—typical, closing down! What a load of rubbish!

ACTING CHAIR—Senator Cameron, Senator Boswell is entitled to ask his questions in peace, just as you were.

Senator CAMERON—Senator Boswell and the fear factor!

Senator BOSWELL—Someone has to speak up for the blue-collar workers.

Senator CAMERON—You have never stood up for a blue-collar worker in your life.

Senator BOSWELL—The Labor Party have been missing in action on this.

Senator CAMERON—You are a WorkChoices warrior. You have never stood up for a blue-collar worker. Give us a break!

Mr Cransberg—As we have described, the impact on profitability will change the investment profile in our facilities. If we cannot get the return on capital that we require to ensure that is a good investment, we will invest elsewhere. If you look at the current modelling, I would be very concerned about the aluminium industry within Australia. Based on some of the amendments, we believe that we can still remain competitive.

Ms Johnson—If you look at the industry, we would currently typically invest per site per year about $50 million. That money is spent locally. So, while you would not necessarily see immediate job cuts directly from our operations, what you would see is cut-backs in contractors, because we would not be spending that sustaining capital which is predominantly spent within that local community.

Senator CAMERON—That is not what the chief executive is saying. The chief executive is not saying these things.

ACTING CHAIR—Senator Cameron, you must not interrupt witnesses. You have had your go; now give Senator Boswell a go.

Senator BOSWELL—Senator Eggleston, would you keep Senator Cameron in line, please.

ACTING CHAIR—We would stand him in the corner!

Senator BOSWELL—In two weeks time this legislation is going to come before the Senate and we are going to have to make a decision on it.

Senator CAMERON—Malcolm will help!

Senator BOSWELL—The situation we have at the moment is that you will get a 55 per cent exemption and a $4 billion liability. What is that going to do in the short term and in the long term?

Dr Liu—In the short term it will reduce the attractiveness of our Australian asset in terms of attracting investment. As I said, it is a very capital intensive industry. It needs continuing investment to make it viable. We are not saying that it is going to cause closure in the next year; we are saying that it will inevitably lead to that position. It is commercially rational. When you know you are not going to get a return and you know you can get a larger return from another country, that is where the decision will be made. So, ultimately, our assets will become less attractive and no longer worth more investment and that will lead to curtailment and eventual closure.

Mr Prosser—So, in the short term, it stops that investment and, in the longer term, stopping that investment closes those facilities.

Senator BOSWELL—What is the 'longer term'? When do you start shedding jobs—five years, three years?

Senator CAMERON—This is a big call for you guys.

Mr Cransberg—You then become very dependent on the aluminium price and the exchange rate. But, over time, it is not a viable industry with that sort of cost impost.

Mr Prosser—You put your facility in the highest quartile of the international cost curve and the next time the market goes down, global companies look across their portfolio and they work out which facilities they are going to shut down in response. If you are in the highest quartile of the cost curve, you are in the gun sights.

Senator CAMERON—Why is it that only the Australian operations are seeing this and the global operations are seeing something completely different?

ACTING CHAIR—Senator Cameron, Senator Boswell has the call. Allow Senator Boswell to finish his line of questioning.

Mr Prosser—Sorry; if that was a question, I did not hear it.

Senator BOSWELL—Do not encourage him by answering; I have got the call.

Mr McAuliffe—Our European operations have raised the same concerns about the impact of the European scheme.

Senator CAMERON—So that will level up the playing field, will it?

Mr McAuliffe—That is Europe. That is one example.

Senator BOSWELL—One of the claims that you have made is that the aluminium industry thrives in Australia because we have got natural advantages of alumina and labour power costs. Senator Cameron would say that the world is going to go into a renewable energy phase and so you have got to be part of that renewable energy phase and you have got to be able to compete with the renewable energy sector. I do not think that is particularly realistic—that you can develop an aluminium industry on renewable energy. I believe you would lose your competitiveness. I think we have also got to think about where Australia derives its trade advantages from—and it is low-cost power. Can you give us a view on running an aluminium refinery or smelter using substantial amounts of renewable energy?

Dr Liu—If I look at Rio Tinto Alcan overall, 64 per cent of our power globally is from hydro-electricity. Locally, the Bell Bay Tasmanian smelter is actually running on hydropower. So, if we are talking about a 20 per cent target, as far as Rio Tinto Alcan is concerned, 20 per cent of our smelting is under renewable energy. But, unfortunately, it is not being recognised that Bell Bay is using a renewable energy and it still has to pay for a renewable energy certificate. So, to an extent, it is not truly about renewable energy here; it is about policy legislation. In terms of renewable energy in Australia—

Senator CAMERON—Your boss says that Bell Bay is well placed. That is what he says in the article: that Bell Bay is well placed.

Dr Liu—It is hydropower but unfortunately it has not been recognised by the government's legislation as a renewable energy power.

Senator CAMERON—Who is telling the truth here? Is it you or is your chief executive?

ACTING CHAIR—Order! Senator Boswell still has the floor. Do you have any other questions, Senator Boswell? If not, we will go to Senator Farrell.

Senator BOSWELL—Senator Farrell has a question.

Senator FARRELL—You have obviously painted a fairly pessimistic picture for us today. But Mr Kleinfeld, from your company, in his report talks about Australia. In the most recent report he talks about Australia and he mentioned some other countries and says 'all of which present opportunities for substantial growth. The position is in fact more optimistic than what you are saying, is it not? He does refer to a number of problems, and I will read further so that we get the full picture He says, 'Government policies and other economic factors, including inflation and fluctuations in foreign currently exchange rates and interest rates affect the results of the operations in these countries.' So he does explain some of the problems, but the company is in fact quite optimistic about its opportunities in Australia.

Mr Cransberg—We have terrific assets here and we want to continue to grow these assets. If you go to the south-west of Western Australia, without Alcoa there, they would look significantly different. Just as Senator Cameron was doing, there is a comment here on 16 June from crikey.com that:

> ... Alcoa of Australia's repeated advice to investors via annual reports, ASX advices and prospecta about the uncertainty arising from the impact of the ETS and its specific concerns about each iteration of the Government's ETS, with the failure of other companies to do the same.

So we are recognised as being transparent in this area.

Yes, with the right government legislation this is an industry, not only within Alcoa but within Rio Tinto and Hydro and Tomago, that we should be able to grow. We have got a quarter of the world's bauxite resources. We have the option of picking it up, making it into alumina and shipping it overseas or we can send it to these six regional centres where we are a large presence and we can value-add within Australia.

Senator FARRELL—That is not a threat, is it, Mr Cransberg?

Senator BOSWELL—It is the reality.

Mr Cransberg—It is reality. You understand business as well as I do. It is a reality.

Senator CAMERON—Not according to your chief executive.

Senator BOSWELL—I have one final question.

Mr Cransberg—We have been very transparent. People have commented on our transparency.

Senator CAMERON—It is a bit rich coming here and doing this spin but telling the shareholders something completely different.

Senator BOSWELL—Stop bullying the witnesses. Bullying is the last refuge of a person who cannot get his argument across.

Senator CAMERON—So that is why you have been so loud.

Senator BOSWELL—If the RET exemptions were to be decoupled from the CPRS legislation, the activity definitions and all technical details regarding EITE activities would need to be put into either the RET legislation or the regulations. Have the EITE activity definitions being finalised so they can be put into the RET legislation?

Mr Prosser—There is an activity definition for alumina refining and an activity definition for aluminium smelting that have been discussed between the industry and the department and have been agreed for the purposes of data collection, and data collection is occurring. That does not cover the entire industry. There are rolled products as well. But the two main activity definitions are at the point at which they can be put into legislation and used for data collection.

Senator BOSWELL—Have you got an agreement on them with the government?

Mr Prosser—Both the government and the industry have been careful about whether they have said they are agreed. They are agreed for the purposes of data collection.

Senator BOSWELL—I want to know whether they have agreed for the purpose of legislation.

Mr Prosser—One of the uncertainties we have as an industry is that you do not know what level of permit allocation you get until something passes through the parliament. At the moment we do not have that level of certainty. So we have a document that is an agreed activity definition but we have no guarantee that that may not get changed by parliamentary processes.

Senator BOSWELL—Is this the same with all the other industries, that their activity statements are locked in?

Ms Johnson—There are, I believe, eight activity statements that are listed in the draft EITE regulations under the CPRS. Alumina and aluminium are not on that list because we have not yet finished the data collection. Due to the onerous level of that data collection required, it has taken many months and we are still continuing.

Mr Prosser—So there are eight at the very end of the process in the draft regulations but they are only draft regulations. All other activities are further back from that.

Senator BOSWELL—What happens if they do not give into the regulations?

Ms Johnson—Then there is no exemption.

Senator FARRELL—When will the information be available?

Mr Prosser—The data verification side of it? It will happen over the next weeks to months.

Senator MARK BISHOP—Weeks or months?

Mr McAuliffe—From our company, we hope to have it completed soon after the end of this month. We have been working on it and we have had auditors running on for several months now. So about a month.

Mr Prosser—It involves auditors auditing against a standard that is evolving at the time, so it is difficult.

Senator MARK BISHOP—When that data is finally signed off by the respective companies, you provide it to the department and then presumably the government make a decision to include this industry or not. Is that correct?

Mr McAuliffe—Presumably, yes.

Senator MARK BISHOP—So it is an absolute priority.

Mr McAuliffe—It is certainly a priority for us, yes.

Senator BOSWELL—So you have not got that activity statement down as yet.

Mr Prosser—There is an agreed definition of the activity. It does not appear in any draft regulations at this stage.

Senator MARK BISHOP—Why has it taken you so long when the other eight industries have been able to get the information?

Mr Prosser—It is about the complexity of the activity. None of the eight there involve multi-sites, multi-company, multi-activities to the extent that it does here.

Mr McAuliffe—This is an industry that has been reporting its greenhouse data for many years and the standards of the verification processes is so onerous that even with that base it has taken many months and many hundreds of thousands of dollars as well.

Senator MARK BISHOP—But cement and steel are all finished.

Mr Prosser—They are not any of the eight that have come through. They are in a similar situation to us.

Senator BOSWELL—If eight have come through, how many have not come through? I know this is a general question.

Mr Prosser—There is some thought that all up there will be more than 50 or 60 activities, perhaps more than 100.

Senator BOSWELL—We are expected to pass legislation when there are 60 activity statements that are not in regulations. That is asking people to take the Labor Party on absolute good faith.

Mr McAuliffe—That is partly why we have asked for the decoupling.

ACTING CHAIR—I think that is a problem overall with the CPRS, that the details are in the regulations and we have not seen that. If Senator Joyce there? No. Senator Milne, are you there? No. Senator Xenophon?

Senator XENOPHON—Yes, chair.

Senator CAMERON—You will have to get to me sooner or later. You can try them all but you will have to come back to me.

ACTING CHAIR—I must admit I am trawling. Senator Cameron, you now have the opportunity.

Senator CAMERON—I am just going through the 2008 Alcoa annual report. I have looked at all the risk factors that the chief executive laid out, and way down the bottom of the risk factors is climate change regulations and greenhouse effects. It is a highly generalised point of view that is put forward. There is no mention of closures in Australia. There is no mention of job losses or potential job losses in Australia. There is none of the rhetoric and scaremongering that you have put forward here this morning from your chief executive. In fact, the big angle that your chief executive puts forward on climate change is a risk of changing temperature levels, sea levels, rainfall patterns, storm patterns and intensities. It does not go to the issues you have raised here today. Who has got it right: is it the chief executive or is it the spin doctors in Australia?

Mr McAuliffe—I thought you I heard you say that it did mention regulation as an issue.

Senator CAMERON—Only at the bottom.

Mr McAuliffe—It mentions it as an issue for a very good reason, and that is because it has the potential to have great impact.

Senator CAMERON—That is not what your chief executive says.

Mr McAuliffe—What we have presented to you today is consistent with what we have presented to government and parliament for that matter and the public and our workforce and our shareholders over many months, that there is an opportunity to get this right. We hope there will be a vibrant future for our industry in our sites here in Australia, but the reality, not spin, is that if this government policy is wrong then it will have significant impacts on us.

Senator CAMERON—But that is not what your chief executive is telling the shareholders. Why are we getting a different spin from the rent-seekers that here this morning compared to the chief executives? I just do not understand this. I think the Australian public are entitled to know what is going on here.

Mr McAuliffe—I do not know how many times we say this, but we have said to the public over and over what we believe these impacts are. They are based on calculations of the costs. It is as simple as that. When we come out and we quote a figure, we quote it based on calculations that are in many cases fundamentally underpinned by Treasury estimates, such as the price of carbon, such as the expected escalation, such as the figures that we put into the public arena around our greenhouse gas emissions. So, Senator, they are factually based and we try to be as consistent as we can and we have been over many months in the public arena.

Senator CAMERON—There are three pages of business risks in your chief executive's report. The climate change risk is way down the bottom. It is not even seen to be an issue that should be dealt with separately.

Mr McAuliffe—Jump on the Alcoa Australia website and have a look at what it says in there about risks and about regulation.

Senator CAMERON—But who is telling the truth, you or the chief executive?

Mr McAuliffe—Let me say again, if you jump on our website and have a look and have a look at what it says on there around this as a risk. There is even a video on there.

Senator CAMERON—I am not interested in your spin. I am interested in what you are telling the market and I am interested in what you are telling shareholders. That is your obligation. What you are telling the market and the shareholders is completely different from the spin that you have put here.

Mr McAuliffe—Senator, that is not correct.

ACTING CHAIR—I think Mr McAuliffe has made his point and explained that point.

Senator CAMERON—I hope I have made mine as well.

ACTING CHAIR—That remains to be seen. It is now time for us to conclude this segment. I thank the witnesses for appearing. We could have a five-minute tea-break and then we will have to eat into the lunchtime break to make up this 15 minutes we have gone over with these witnesses. Thank you.

[12.03 pm]

LONGDEN, Mr Gary Frederick, Director, Australian Sugar Milling Council

MORIARTY, Mr Mark, Member Representative, Australian Sugar Milling Council

NOLAN, Mr Dominic, Chief Executive Officer, Australian Sugar Milling Council

POWER, Mr John William, Director, Australian Sugar Milling Council

WESTCOTT, Mr Charles (Eddie), Chairman of the Board, Mackay Sugar Ltd

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

Mr Nolan—Thanks very much, Mr Chairman. The Australian Sugar Milling Council is the peak body representing sugar mills in Australia. I have with me this afternoon Mr Gary Longden. Gary is from Bundaberg Sugar, based in Far North Queensland. Bundaberg have three mills there and also mills in the southern region in Queensland. Gary is the general manager of North Queensland operations. John Power is here from Proserpine Mill, in the central region. John is chief executive of the Proserpine business. Eddie Westcott is from Mackay Sugar, again in the central region. It has a number of mills and a major regional project currently on the books that we will hear about shortly. Eddie is the chairman there. Mr Mark Moriarty is from CSR Sugar, with mills in the Herbert, the Burdekin and the central region. Mark is a manager of business development.

Unfortunately, Mr Chris Connors from the New South Wales Sugar Milling Cooperative, covering the three New South Wales sugar mills, is unable to be with us here today. He fell ill and was unable to travel. He has asked me to advise that the New South Wales sugar industry completely supports the ASMC position. He is more than happy to discuss any of the issues that we raise if any of the senators wish to contact him directly.

I am trying to emphasise here that every sugar region across Australia is represented at the hearing today, and we are here because of the importance of the RET legislation to our industry. I will make a couple of very quick points on the sugar industry. We are looking at over $2 billion in raw sugar revenue, around $1½ billion in revenue for raw sugar exports, and employment well in excess of 16,000 people directly in the sugar industry and a multiplication factor against that of about four or five. So we are talking about a significant industry for employment across regional New South Wales, northern New South Wales and Queensland.

The really important information that I would like to present today is two live case studies from milling companies that demonstrate the business impacts from the delay of the RET legislation and the implications for the sugar industry in Australia if the RET legislation does not proceed. I do not intend to speak for very long. I will make some very brief opening comments. We will run through the two case studies and then leave it open for questions for the majority of the time.

The Australian sugar sector position on the RET amendment legislation is pretty clear from our submission, and I will not go through that again point by point. It is pretty straightforward. We support the national renewable energy legislation framework as it is proposed. We support the proposed penalty price and we want to see the overall scheme design and structure remain as it is. We do not want to see it revisited. The two things that we will add today, which I will go through very briefly, are the potential for new electricity cogeneration from the sugar industry in Australia and a few brief comments on some of the potential price impacts that we have heard about from our perspective.

I turn now to the potential of the sugar industry, and I have some maps here that I will hand around to the senators that demonstrate this information pretty clearly. We currently have a capacity to generate around 430 megawatts across the six broad regions in Queensland and northern New South Wales, and from this we currently export around 240 megawatts of electricity or have that capacity. Conservatively, with the existing technology we have the capacity, looking at current bagasse supply, to treble our current export potential. So we are talking about an additional export capacity of some 500 megawatts, taking our total export capacity to 740 megawatts.

We are looking here at the potential to service about 290,000 households in regional Queensland and New South Wales, and this is a pretty conservative estimate. To put that into some perspective, in Far North Queensland we are looking at supplying about 70 per cent of households in 2016, and in the north around the Burdekin, Herbert and Townsville in 2016 we are talking about supplying greater capacity than required for household consumption. We are looking at supplying about 80 per cent of estimated households around the Whitsunday hinterland area and Mackay, so in the central region. In the Wide Bay-Burnett area we are looking at an opportunity to provide for almost 50 per cent of households through sugar industry generation and some 40,000 households in northern New South Wales. That is the export potential that we are looking at for the sugar industry.

I want to emphasise that this is based on potential projects and the figures are conservative. They are mainly looking at generation only during the crush season. All of the new projects that look as if they will come online are year-round generation. We are also talking about new projects based on existing supply of bagasse and existing cogeneration and milling technology. So there is a lot of scope for diversification, for increased cane supply, for alternative biomass sources and for technology innovation if the RET legislation is passed. But today we are talking about what we can actually touch and feel—what is available in today's market environment.

The benefits of cogeneration expansion are broader than just for the sugar industry. We are talking about regional energy security and generating electricity close to the regional communities that are using that power. We are talking about regional employment security for the existing jobs in the sugar industry and generating new employment during project construction, many jobs that are currently under pressure from some of the resources downturn in recent times.

More money in the sugar industry has flow-on for regional communities dependent on the local sugar industry, from millers, growers, harvesters, suppliers and contractors all putting money back into regional economies. In a carbon constrained future of some form, renewable energy makes sense as a risk mitigation strategy. We need investment in energy supply and

currently there is no investment of any nature in this uncertain policy environment that we have got. The cogeneration opportunities and benefits that exist for the sugar industry are not exclusive to us. There are other regional processors and manufacturers that may have the potential to find value for their waste under the legislation. This legislation promotes innovation and investment in new technology that I have not captured in the sort of information that I have been putting forward.

From a price perspective, there have been concerns raised about electricity price increases as a result of the RET legislation. The government modelling that we have seen indicates about a three per cent retail price increase over a 10- or 15-year period. To put that into perspective, we have had a 36 per cent increase in prices in Queensland electricity over the past three years. So we are talking about three per cent at a retail level for consumers over a 10- or 15-year period as opposed to 36 per cent in the previous three years. The modelling that has been conducted is pretty complex. It looks at the impact on pool prices. The results from that modelling range from a zero impact up to a few per cent increase at a retail level and less at a wholesale level.

I would now like to hand over to others to give you a couple of live case studies before we finalise our comments. I want you to get a perspective of a couple of projects. One is about a project in northern New South Wales that is actually on the ground—it exists; it has already happened—and the impact of the RET legislation delay on what is happening on that project. The second one is the Mackay situation, where there is a project on the books, ready to go, ready to hit the button, that has been delayed and cannot move forward unless this RET legislation is passed. I will hand over first to Gary Longden from Bundaberg Sugar who is going to be the proxy for the New South Wales industry. Chris Connors has indicated that he is happy for Gary to cover off some of the points of the New South Wales project.

Mr Longden—Thank you. As Dominic said, Chris Connors is unable to be here this morning and I have agreed to assist in outlining the New South Wales cogeneration project as a case study in this exercise. The New South Wales Sugar Milling Co-operative comprises three raw sugar mills and operates a sugar refinery jointly owned between the cooperative and Manildra. The three New South Wales mills crush approximately 2½ million tonnes of cane supplied by the approximately 600 growers who are the shareholders of the cooperative.

In 2005 the cooperative embarked on a diversification risk management strategy to restructure the business around sustainability and renewable energy. In December 2005 the cooperative, in conjunction with Delta Electricity of New South Wales, commenced construction of two 30-megawatt baseload power stations attached to its Condong and Broadwater mills. The total capital invested in the project was $220 million. During peak construction approximately 530 people were employed directly on the project.

Some innovative characteristics of the project include utilising the complete cane resource by whole-of-cane harvesting to incorporate the additional cane trash biomass normally discarded during harvest or burnt prior to harvest, burning being a traditional practice as a pre-harvest treatment of the crop. The available biomass fuel is also extended by using wood waste and woody weeds, in particular camphor laurel, which is a pest species in the northern New South Wales area. This is aggregated for supplying the cogeneration facilities during the non-crushing period to provide that year-round operation.

The decision about a third cogeneration plant is currently delayed, postponed or may never happen. Some of the consequences of the anticipated opportunities that were to be provided under the continuing RET program were features within the investment that was made by New South Wales. During the process of deciding on the investment they kept very close contact with the mechanisms that were being discussed politically that inevitably affect the way that the investment was to continue. The fact that RECs have depleted in value as a consequence of the current uncertainties is affecting the viability of the investment that they have made which they believe at the moment, without the foreseen changes to the RET legislation, would make that a marginal operation for them. So the potential for a third project to proceed which would be focused on the Harwood Mill, which is the third mill that they have, is now very much in doubt while the current circumstances exist. REC values are of course important in any of these decisions and are characteristic of what this inquiry is proceeding with.

Mr Nolan—I might just quickly run through the second of the case studies. This is the one that is about ready to go and dependent on the RET legislation. I will hand it over to the chairman at Mackay Sugar.

Mr Westcott—Thank you and thank you to the Senate for giving us this opportunity. I would just like to take you through our story. When the coalition introduced the two per cent RET legislation we became interested in cogeneration but, as you are aware, that was very quickly filled up and I am not going to go through the reasons for that. Before the 2007 election we had the coalition saying that we needed to increase RETs to five per cent, the Greens were saying that they had to be increased and the now government was saying they should be at least 20 per cent. We believed that when everybody was in agreement we had a fair chance of the legislation being passed.

Since that time we have spent $7 million to get ourselves to the point we are at now. The design is complete, the construction contract for 80 per cent of it has been agreed with the contractor and it needs just to be signed. All regulatory approvals are there—EPA zoning and all those sorts of things have been done. The finance is basically in place but it is dependent upon a power purchase agreement being agreed to. We are talking to retailers about a power purchase agreement but they will not sign off on it until such time as the legislation is in place. They are talking ballpark figures with us so that we can do estimated budgets and all those sorts of things, but they will not sign off on a power purchase agreement until the legislation is in place. In fact, the board has said that unless we get a power purchase agreement in place we will not proceed.

I would like to take you briefly through what this project means for us. Mackay Sugar produces two million tonnes of bagasse a year which is equivalent of 700,000 tonnes of coal. We initially planned to produce 36 megawatts of power which is 30 per cent of Mackay's power needs. Mackay has a population of 90,000 people. The project will produce 198,000 RECs and reduce CO2 emissions by 70,000 tonnes per annum. We are proposing a baseload power station—that is, it will produce power for 50 weeks of the year. We currently do that now for the refinery that is based at the Racecourse Mill and so for that we have a coal facility in place. We do believe that we need a coal facility in place as a backup because we do plan to store bagasse but as we found this year when we had a long wet season the calorific value of the bagasse decreased and we needed to supply coal to produce power for about 10 weeks. So we have in place all the facilities for a baseload power station. The cost will be $112 million and it will increase the gross revenue for Mackay Sugar by about 12 per cent. That is based on the ballpark

figures we are currently talking about with retailers taking into account that the RET legislation will pass.

One reason for us doing this is that it not only is an opportunity but takes us away from being reliant on world sugar markets, which are corrupt, and from currency fluctuations. Ninety-four per cent of our shareholders are our farmers, and in Mackay Sugar's case they will benefit in two ways: one, through a dividend stream and, two, through a payment system we have in place for our farmers where they will be paid for the fibre that comes from the cane, which we then use for the gas. It also provides stability for our workforce. However, I do point out to the Senate that the board is very firmly of the view that we will not proceed until the legislation is in place because of the uncertainty that we face without it.

ACTING CHAIR—Thank you very much.

Mr Nolan—Chairman, I think the three points that we really want to make at this point, before we go to questions, are these. One, we want to see the legislation decoupled.

ACTING CHAIR—Do you support decoupling?

Mr Nolan—Yes, we do, absolutely. CPRS is a pretty complicated and pretty involved piece of legislation, piece of policy work. From our industry's perspective, we are still doing the work to look at what the actual implications are. We are running a fairly major modelling exercise. The RET legislation, from our perspective, is a separate piece of legislation and should be considered separately. What we do not want to see is RET held up as a result of concerns or further debate around the CPRS legislation. The second point is that we do not want any dilution of the 45,000-gigawatt hour target under the RET legislation. Thirdly, we want to see that RET legislation amendment bill passed as an absolute priority. Any delay in the passing of this legislation will not impact the project that is happening in Mackay by just a couple of months; it could potentially delay it by up to a year at a time because the window of opportunity to move is so short—because it is built around the non-crushing season and the impacts on their other business operations. A delay of a few months could put things back by at least 12 months at a time.

ACTING CHAIR—Thank you very much. That is very interesting. You do want to see decoupling, and your reason for that is that you want the RET legislation passed as soon as possible.

Mr Nolan—Absolutely.

ACTING CHAIR—Are there any other issues there regarding costs and things like that with CPRS and RET?

Mr Nolan—Our focus today and predominantly is around the RET legislation. All that we are focused on is getting the RET legislation through as a matter of absolute urgency.

ACTING CHAIR—So you support decoupling? That is the major point. Senator Boswell?

Senator BOSWELL—I certainly can understand the commitment and the investments that you have made on the understanding that both sides of politics have given you. It is in the

forefront of my mind that you have been given a commitment by both sides of politics and you have made that investment on that. I have to balance that with the cost on other industries. But I know it is very difficult to make a policy commitment or an electoral commitment and to reverse that. You know my concerns. I have discussed them with you on other occasions. I am in an absolute fix on this one.

Senator CAMERON—You are gobsmacked.

Senator BOSWELL—I am not gobsmacked—

Senator CAMERON—You are gobsmacked.

Senator BOSWELL—because they have a legitimate claim. They went out and invested money—

Senator CAMERON—You told me the sugar industry was going to fall apart because of this.

Senator MARK BISHOP—Three years ago that is what he was saying.

Senator CAMERON—Yes.

Senator BOSWELL—It was.

ACTING CHAIR—They were in trouble. The Howard government went out of its way to put in a sugar support package.

Senator CAMERON—Why don't you support the country? Support regional Australia.

Senator BOSWELL—I have always supported the industry, and that is why I have—

Senator CAMERON—Bullshit.

Senator MARK BISHOP—You were up there holding meetings and saying, 'Pay them out,' and 'Buy them off.'

ACTING CHAIR—'Bullshit' is an unparliamentary expression, Senator Cameron. We would prefer you not to use those kinds of words.

Senator BOSWELL—I have always supported the sugar industry, and everyone is aware of that. I am caught in a real bind with this one.

Senator CAMERON—I could not think of a better expression.

Mr Nolan—Chairman, could I suggest that the industry today is in a better position. Our entire focus is on the future of the sugar industry around sustainability, and we see that the RET legislation offers an opportunity for diversification of our enterprises to make sure that we can ride the fluctuation that does exist on the global sugar market. This piece of legislation, this

opportunity around cogeneration, is all about the future of the sugar industry and other renewable energy providers. We are in a better position today than we have been in for probably the last two decades, and we are ready to invest and we are ready to move forward.

Senator MARK BISHOP—If things go as you expect, how much of the annual sugarcane crop will be diverted into cogeneration?

Mr Nolan—We are still extracting all of the sugar from the cane product. The product that is then combusted is the bagasse, so it is a separate product. All of the crop will go into cogeneration, but that does not have any impact on the production of sugar.

Mr Power—It is actually an improvement in factory efficiency to reduce the waste.

Senator MARK BISHOP—What currently happens with the by-product?

Mr Power—It is incinerated.

Senator MARK BISHOP—It is wasted.

Mr Nolan—We currently use it for generation, but most of that is inefficient and in many instances it is just to get rid of the product.

Mr Moriarty—Historically, our processing equipment is deliberately inefficient in order to incinerate all the waste fibre stream that we have. So a cogeneration project for the sugar industry is about replacing some inefficient process equipment with the most efficient equipment we can afford in order to maximise the energy we get out of that waste fibre stream. We do not burn any more fibre. It is already burnt so we would just burn it in a more efficient fashion to generate electricity.

Senator MARK BISHOP—You capture a separate stream of additional value from the burning process.

Mr Moriarty—Yes.

Mr Longden—The industry generates about 12 million tonnes of bagasse per year and that is all consumed in processing the crop that originally entered the factories. Because it is renewable, we get that 12 million tonnes of bagasse back again the following year. This is a more efficient use of that fuel.

Senator MARK BISHOP—If this process goes ahead, the value of the farms will significantly increase because they will get the additional revenue stream from a now productive burning process as opposed to a wasteful burning process—is that correct?

Mr Longden—Pretty much. The net result is that there is more value in the industry.

Mr Moriarty—The sugar industry is looking at a number of value adding opportunities but certainly cogeneration uses established technology and it is the most immediately available value creating opportunity we have.

Mr Westcott—This will allow us in Mackay to take the next step with an ethanol plant and get more value out of what is waste product.

Senator MARK BISHOP—My memory of the debates around the sugar industry over the last 10 or 15 years is of a succession of government plans and programs to buy out small producers or inefficient producers and get them to leave the industry, and either have the whole area given over to a new industry or get some sort of rationalisation so you have more scale in the producer outfits. I am hearing from you that there is now a change from the past.

Mr Westcott—You are right, that has been the focus and Mackay has done it. We just closed a factory last year to make the other three more effective and more efficient. We have done the rationalisation and that has now given us the strength to do the diversification to give the industry more strength. But we do require a government framework such as is being put forward now to help us do it. It is not just the sugar industry that will benefit, particularly in Queensland; it has major benefits for the whole community.

Senator MARK BISHOP—Going from wasteful burn to value adding burn, if I can put it in those terms, do you anticipate that there will need to be increased cropping or more land surface going to the production of sugarcane in the first instance because of this cogeneration?

Mr Westcott—We would obviously like to see more cropping, but it is constrained I guess by a number of issues. Cogeneration in itself will not produce the extra income for growers to want to grow more cane. We will always be dependent on sugar as our major source of income, but this will just add a little more to the pie, as it were, but it will not in effect be the catalyst to grow more cane. It will add stability.

Senator MARK BISHOP—It will increase the asset value and the revenue streams on a marginal basis on existing units of production—is that what you are saying?

Mr Nolan—The numbers we have put forward are all based on existing production and existing bagasse. We are not talking about expansion. Expansion of sugarcane areas would be a wonderful thing and with the current prices that we are experiencing there is probably going to be a slight increase anyway in the next couple of years.

Senator MARK BISHOP—Prices are good at the moment.

Mr Nolan—They are very good.

Senator MARK BISHOP—This scheme, if it comes to pass, is going to provide significant net additional benefit to you and your producer members on a range of levels, isn't it?

Mr Nolan—Without question.

Mr Moriarty—It will also provide a significant benefit to the regions we are in because, as you have heard, it is quite a substantial proportion of the generation. North Queensland, particularly, has higher transmission losses and higher electricity costs because of those transmission losses, so increased generation in North Queensland would reduce those transmission losses.

Senator MARK BISHOP—Why will increased generation in North Queensland have a flow-on effect on reducing losses?

Mr Moriarty—Because in Queensland generation is centred in South-East Queensland and Central Queensland. There is comparatively little generation in North Queensland but there is a significant load. There are transmission losses in getting the energy up to North Queensland.

Mr Longden—There is a 10 to 15 per cent loss from one end to the other.

Senator MARK BISHOP—Of that scale, 10 to 15 per cent?

Mr Moriarty—Yes and because the sugar industry is centred in North Queensland, we would lower the transmission losses to North Queensland and therefore lower the cost to the significant consumers that are up there, the smelters and potential consumers.

Senator MARK BISHOP—In terms of the government's overall policy approach here, there are significant gains in terms of revenue flow to your members, asset values to their properties and gains in terms of regional development and employment. Is that the net of your evidence?

Mr Nolan—The net of our evidence is that we need the policy certainty around the RET legislation to move forward in order for our industry to secure the existing jobs and to generate new jobs. It will be of enormous benefit to the sugar industry for existing cogeneration and for new cogeneration projects.

Mr Westcott—You are right. It does have a flow-on effect to the other parts of the community.

Senator MARK BISHOP—Yes it does. With the extent of cogeneration at the figures you have outlined here in these major towns and areas instead of cogeneration—if it should come to pass—is that going to have any impact on electricity generation costs in competitive markets in those areas?

Mr Moriarty—There has been some modelling done for the government on the impact on costs. There is also some independent modelling that has been done. The RET provides about half the growth that is required by the electricity market over the next decade. Renewables providing that will provide into the electricity market, effectively, in a cost-reducing fashion. It would be expected that the pool prices would fall slightly. It is difficult to model because of the different patterns of generation and what have you. The modelling that is being done by MMA for the Department of Climate Change indicates a net three to four per cent increase in electricity cost after the actual cost of compliance with the RET is taken into account.

Mr Nolan—That is over a decade.

Senator MARK BISHOP—It is fairly minimal over a decade then isn't it?

Mr Nolan—As compared to the 36 per cent retail electricity cost price increases we have had over the last three years in Queensland.

Senator MARK BISHOP—I will not go there.

Senator BOSWELL—What is this going to do to your refining? Does it make any difference to that?

Mr Moriarty—The MRET has very little impact on the refining business. Refining does not use much electricity. We certainly would not qualify for any assistance. Electricity prices going up net three to four per cent will not really change refining business substantially.

Mr Westcott—The refining business, of course, uses thermal energy as well as electrical energy, so the mix is different in refining.

Senator BOSWELL—Thermal energy?

Mr Westcott—For processing the sugar, it has to be re-crystallised and evaporated.

Mr Moriarty—Our greatest use of energy is the use of bagasse or natural gas or coal in the refining business.

Senator BOSWELL—Okay.

Senator CAMERON—Thanks very much for the submission. It is a refreshing submission. I am interested in your analysis on page 5 of your submission where you talk about job creation. You say:

Regional scale projects (like the Mackay project) would be expected to generate in excess of 150 jobs through direct employment and an additional 100 indirect jobs during the three year project construction;

Mr Westcott—It will be 270 for construction. It will create 270 jobs during construction.

Senator CAMERON—That is even higher. What about the ongoing multiplier effect of the 150 direct jobs? That is not mentioned. If you have an extra 150 jobs, the normal multiplier is around three to four.

Mr Westcott—Yes. We have not put those into our numbers.

Senator CAMERON—But that would be a reality?

Mr Westcott—Yes.

Senator CAMERON—So it is not just 150 jobs you are looking; it is the multiplier effect on that as well. If it was four, it could be 750 jobs—

Mr Westcott—Yes.

Senator CAMERON—ongoing out of this project. Could you take that on notice?

Mr Westcott—Yes. We will get back to you on that.

Senator CAMERON—Could you do that for each of the projects, Mr Nolan, in terms of the ongoing multiplier effect? We have heard from some politicians that it is all doom and gloom. I have been told on several occasions that workers in the sugar industry do not want a CPRS or a RET because it will cost them their jobs, and you are telling me a completely different story.

Mr Nolan—What we are saying is that, in terms of the CPRS, there will be some impacts and we are still working through the detailed modelling around what that would be for the sugar industry. For the RET, there is no question that, in the sugar industry, it will be of benefit. It will help create a more sustainable future for our industry. I do not think there can be any question about that. If you added up the job potential in terms of construction across just the projects that we have got listed on that map in front of you, it is in excess of 2,000 in construction jobs. There are also some ongoing jobs in terms of operation. But there are also some other factors to consider. For example, in the Maryborough region, the projects that they are looking at would utilise some of the wood waste from their timber operations locally. That also generates jobs in terms of collection and management of that wood waste. So it certainly does have a flow-on, multiplier effect.

Senator CAMERON—Could these jobs be colloquially described as green jobs?

Mr Nolan—We are a green industry, so I would be happy for you to describe them as green jobs.

Senator CAMERON—Thanks very much. Does that mean that I am going to have to pay a fortune for my sugarcane mulch or I will not get any?

Mr Nolan—If you have a word to some of these gentlemen around me, they might be able to sort something out for you, Senator.

Senator CAMERON—Really? I reckon you make a squillion on that.

Mr Moriarty—The other comment about jobs is adding to the value creation from the product creates some additional jobs but it makes the core jobs in the industry much more secure in having a diversified income stream. In CSR's case in our regions, we directly employ about 1,800 people and the industry in those regions—the farmers, the harvesters—takes that number to about 4,200 people directly employed in our primary regions. So you create some additional jobs but you are also improving the job security on that larger mass.

Senator CAMERON—Does the sugar industry accept the science in terms of climate change?

Mr Nolan—I think what is clear is that we have a carbon-constrained future, one way or another. Whatever form that takes, as an industry we would be remiss if we were not preparing ourselves to deal with that. Whatever policy framework that may be, we need the certainty around the RET legislation to move forward in terms of our investment opportunities. In terms of the CPRS, and whatever form of carbon constraint that may look like, carbon is going to be more expensive.

Mr Moriarty—The energy to run our industry comes from a renewable source in our crop. We have co-product opportunities in renewable fuels and renewable electricity. I would say that, overall, we see that a carbon-constrained future is offering opportunities for the industry.

Senator CAMERON—Can you tell me what aluminium smelter you were alluding to that could be benefited by this?

ACTING CHAIR—That sounds like a long bow to me, Senator Cameron.

Senator CAMERON—It is not me that is putting it.

Mr Moriarty—Sorry, that was my comment. It was a comment about reducing transmission losses and therefore reducing electricity costs in North Queensland. The Sun Metals smelter is located in Townsville.

ACTING CHAIR—Are there any further questions?

Mr Westcott—I have some more details about a project. I could leave them if senators want to read them at their leisure.

ACTING CHAIR—We would be very grateful. Do you wish to table them?

Mr Westcott—Yes. I will table them.

Senator CAMERON—I would just indicate that we will be reporting fairly quickly. So it would be appreciated if you could give us some idea regarding those downstream jobs very quickly if possible.

ACTING CHAIR—We have to report on 12 August, which is next week. So there is a real urgency about getting information in. As there are no further questions, I thank the witnesses for appearing.

Proceedings suspended from 12.40 pm to 1.17 pm

GAFFNEY, Ms Andrea, Government Relations Manager, BP Solar

McALPINE, Mr Ken, Government Relations Manager, Asia Pacific Region, Vestas Wind Systems

NELSON, Mr Tim, Head of Carbon and Sustainability, AGL Energy

RICHARDS, Mr Andrew, Executive Manager, Government and Corporate Affairs, Pacific Hydro

STOCKEN, Mr Tony, Regional Manager, BP Solar

THORNTON, Mr Kane, Senior Adviser Renewable Energy Policy, Hydro Tasmania

TROMAN, Mr Simon, Managing Director, IT Power (Australia) Pty Ltd

UPSON, Mr Jonathan, Development Manager, Infigen Energy

WATT, Dr Muriel, Project Manager, IT Power (Australia)

ACTING CHAIR—We are hearing from the renewable energy producers and we have a roundtable. We have Senator Milne and Senator Xenophon appearing by teleconference. We welcome you to these hearings. Would you like to make brief opening statements?

Mr Richards—Thank you for allowing us to present to the committee today. We have a number of renewable energy producers here and suppliers to that industry. Obviously, the 20 per cent renewable energy target is critical to everyone on this side of the desk. Pacific Hydro have been an active participant in the Australian energy market for over 15 years investing in renewable energy, most recently in wind power, but we are also looking at large-scale solar thermal and wave power and also geothermal power.

In the last five years we have invested over $1.7 billion in Latin America, building hydro and wind farms there. With the implementation of the renewable energy target, we would like to make a similar kind of investment in Australia. That is absolutely crucial to us. I think it is also absolutely crucial to the transition of the stationary energy sector at a time when the prices under the CPRS are not robust enough to deliver that transformational change. I am sure there are other people on this side of the room who would like to make a comment in relation to that.

ACTING CHAIR—Yes. Please proceed in whatever order you have decided amongst yourselves.

Mr Nelson—AGL Energy are slightly different from most of the people who are appearing before you today in that we are principally an energy retailer but we also have interests in coal, gas and renewables. We are a strong supporter of the RET legislation. We have already commenced putting in place systems and processes for complying with both the RET and the CPRS. We believe that it is important for us to begin to put those systems and processes in place

because an expanded renewable energy target was a policy commitment of both parties prior to the last election. There are already significant costs being imposed upon the community because of the delay in implementing the RET, principally to do with investment certainty. Companies like AGL that are looking to build new plant are unable to look to which plant to build because of the lack of certainty. Thank you.

Mr Troman—Unlike the organisations of my two colleagues who just spoke, IT Power are neither a retailer nor a supplier of equipment. We are a consulting firm. We have a number of clients around Australia, like the fellow from Pacific Hydro said, that are willing to make investment but they are looking for surety and consistency. Expanded renewable energy target legislation is fairly critical to them to achieve that.

Ms Gaffney—I will make a couple of opening remarks. BP Solar fully supports the adoption of the renewable energy target legislation. We believe it is a necessary step, a necessary transitional mechanism, ahead of the adoption of a gross national feed-in tariff. We believe the passage of the renewable energy target legislation is urgently required to enable the large-scale investment in renewable energies to occur and, in tandem, to fill the policy vacuum that exists for the solar PV industry following the demise of the two primary deployment programs for solar PV, the Solar Homes and Communities Plan and our RPGP program in June 2009. Since the termination of both those programs, sales in both the grid and the off-grid market have dramatically reduced and many of our customers have indicated that they will be forced to lay off workers if the renewable energy target legislation is not introduced before October. If this occurs, investment triggered in the last 18 months to meet the significant upsurge in demand will be placed at significant risk.

BP Solar has recommended five amendments in its submission to the committee. These recommendations are key to ensuring the solar PV industry in both the grid and the off-grid market can continue to grow and ultimately play a role in delivering a secure energy future for Australia.

Mr Thornton—Hydro Tasmania is the largest generator of renewable energy in Australia. We own and operate 29 power stations, worth $4.8 billion, throughout Tasmania. We are also a significant developer of new renewable energy projects, both through our existing hydro power and also the wind developer Roaring 40s, which is a joint venture company between Hydro Tasmania and China Light and Power. There is currently a massive amount of pent-up investment in the renewable energy industry which continues to await the safe passage of the RET legislation. While Australia's renewable energy projects are on hold, countries like China and the United States and those in Europe are charging ahead with clear incentives and long-term policy certainty for their renewable energy sectors.

Significant Hydro Tasmania development opportunities were stimulated by the original MRET. This included accelerated maintenance, refurbishment and modernisation of our hydro assets, as well as the development of Woolnorth and Cathedral Rocks wind farms, totalling 206 megawatts, through Roaring 40s. But there is much more work to do because the future development program is quite precarious. I will just outline briefly what this means for us. Our development pipeline is entirely on hold, awaiting legislative certainty from the renewable energy target. This includes both further modernisation, upgrades and enhancements to existing hydro power stations. It also includes new wind projects through Roaring 40s, which includes a

current potential construction pipeline of 1,000 to 1,500 megawatts, potentially worth over $1.5 billion.

Our specific comments with respect to the expanded renewable energy target legislation are these. Firstly, the RET is a proven and effective market measure. It has demonstrated beyond doubt its effectiveness as a policy instrument to encourage the deployment of proven and least cost renewable energy generation. This includes the upgrade and refurbishment of existing renewable energy assets. Fundamentally, the expanded RET design is right. The design elements outlined in the draft legislation are broadly consistent with the existing MRET design, consistent with the 2003 Tambling review and consistent with 18 months of consultation and COAG agreement reached in early 2009. Two simple changes should be considered before it is legislated. Firstly, any delay in legislating the CPRS should result in the immediate decoupling of the RET to unlock immediate and pent-up investment in renewable energy. Secondly, the creation of phantom RECs as a result of the proposed solar PV multiplier should correspond with an increased target in the following year to ensure that the integrity of the target is ultimately retained. Any further changes to the RET design, such as banding, would only further undermine the veracity of the RET and compound the current challenges facing project developers in securing project finance.

RET is a key part of a comprehensive renewable energy policy framework, in itself driving the deployment of proven and least cost renewable energy technologies. Alongside a range of other complementary policies—such as R&D grants and technology demonstration programs—RET can support the ongoing development and deployment of a range of renewable energy options that are at various stages in the technology development cycle. For this reason, we believe RET should be legislated immediately. RET only requires a simple legislative amendment and can be introduced quickly and easily to ensure a seamless transition from the original measure. Any further changes to the RET legislation will simply undermine investment certainty and the very objective of the RET. Any further delay in RET legislation will correspond to a delay in jobs, a delay in investment and ultimately a delay in climate change action. Thank you.

Mr McAlpine—Vestas is the world's largest manufacturer of wind turbines. That is our business. We design, manufacture, supply, install and maintain wind turbines in more than 60 countries across the world. In Australia, Melbourne is the home of our Pacific regional headquarters and we employ 200 people across the rest of the country. We have projects in just about all states around Australia and we have a pipeline of development—which we would like to be part of in Australia—that is just ready to go now. As Mr Thornton from Hydro Tasmania set out, we are also big supporters of the RET legislation that sits before the House of Representatives. There are some changes that we would like to see but the main one, as we outlined in the submission, is that it be changed from a bill to an act as soon as possible.

It is hard to overstate the amount of development in Australia that could result from the RET legislation. The pipeline of projects in not just wind but all renewable energy technologies is almost unlimited. For the last two years, almost since the election took place—with this as a key election promise of the government—companies like Vestas have been working away to meet the demand that will result from this target being legislated. Without further ado—and I am happy to take questions—I just underline the comments made by my colleagues earlier and urge the committee to recommend that this bill be passed as soon as possible.

Mr Upson—Infigen Energy are the largest owner of wind farms in Australia and have our headquarters in Sydney. We have over 230 wind turbines operating or under construction in Australia, representing 500 million watts (megawatts) of generation capacity. The actual generation from these wind farms is enough to power over 300,000 Australian homes. Our submission focused on the economic impact of the RET legislation on the electricity market. We highlighted three independent expert studies of the impact of the RET scheme, which forecast a significant reduction in wholesale electricity prices as a result of the RET scheme in excess of the impost that would be borne by the retailers. These three studies forecast that the net result of the RET scheme would actually be downward pressure on electricity prices.

The most interesting part of these three studies is that they were not commissioned by the industry. They were in fact commissioned or written by organisations that do not support the renewable energy target legislation. These studies cannot be considered as cash for comment; they are independent studies by organisations that do not actually favour the scheme.

Our company's view is that the renewable energy target is an environmentally friendly, economic stimulus package that does not cost the Treasury or the taxpayers one cent. In addition, on the basis of these three studies, independent expert studies that were not sympathetic to the industry say the most likely economic impact will be downward pressure on electricity prices. I would be happy to clarify and expand on this with your questions. Thank you.

Dr Watt—I would like to start by saying that we definitely need a renewable energy target, regardless of whether the CPRS legislation is passed because the renewable energy target is the only way we know for certain that clean green electricity will be provided in Australia. There is no evidence from emissions trading schemes implemented elsewhere that there have been any real appreciable reductions in emissions and there have been windfall profits to the polluters. In Australia, the renewable energy industry currently employs about 10½ thousand people directly. If the target is brought into place with the extension as planned, we expect to have 25,000 to 30,000 jobs by 2020, and even more after that. We feel that the target should be looked at long term. We think we need to go to 30 per cent and 40 per cent and so on with time and that we should not see the 20 per cent target as a ceiling. In the long term, we need to have sustainable energy in Australia and most of that will be renewables.

In terms of the legislation as proposed, we support the solar credit proposal, although we think the 1.5 kilowatt limit is way too low for realistic systems. We think three kilowatts for small systems is a more appropriate size. We think there should be lower credits for systems in the three- to 100-kilowatt size range and then slightly lower multipliers again for the 100 to one-megawatt size range. We think phantom RECs are created by the multiplier and solar credits should be returned every year so that the target is not diluted. We think that heat pumps should not be included under this target, and that consideration should be given to removing solar water heaters as well. They are currently taking up around 30 per cent of RECs.

We think there should be a 15-year time limit on any power plant that generates RECs because that opens the scheme up to new generation, which is the purpose of the target in the first place and 15 years is typically more than enough for power stations to have paid off their investments. We think that the proposal of compensation for trade-exposed industries should be considered very carefully because we see that most of our trading partners have equivalent or higher renewable energy targets in any case, so our industries should not be disadvantaged against our

trading partners. We note for instance that large aluminium producing countries such as the US, China and Canada have targets equivalent or higher than Australia. China and the US are looking at 15 per cent. Canada is already much higher with its hydro resource. Russia, the other main producer, is 4½ per cent and possibly will go higher.

ACTING CHAIR—A few of you have mentioned decoupling. Where do each of you stand on the issue of decoupling the RECs from the CPRS?

Mr Troman—I believe that they are two different pieces of legislation. My concern and my expertise allows me to comment only on the RET, and I believe it is imperative that it is passed and moved with a few amendments as soon as possible. I do not think it should be reliant on another piece of legislation which may take much longer to get passed.

Mr Nelson—AGL Energy would echo those comments. We see them as separate pieces of legislation. Admittedly, the issues are very similar for both schemes in the sense that, as a supplier of energy to major commercial and industrial users, we do believe that transitionary assistance is necessary. But we do not see the need for the two pieces of legislation to be coupled in that way, although the issues are similar.

Ms Gaffney—BP Solar maintains support for both the renewable energy target legislation and the CPRS legislation, but we would like to see both legislations delinked. We would hate to see the renewable energy target legislation held up based on the CPRS legislation timetable.

Mr Thornton—Hydro Tasmania also support the implementation of an emissions trading scheme but believe that any delay in legislating that scheme should result in immediate decoupling to allow for immediate legislation of the RET.

Mr Richards—Pacific Hydro strongly support delinking. We would like to see both pieces of legislation passed; but, clearly, if that is not possible then you need to delink it. We understand that the Clean Energy Council has already put forward the appropriate legislative amendments for consideration that would achieve that goal, and we would encourage you to implement that.

Mr McAlpine—Like our colleagues, Vestas Wind Systems also support both bills—the CPRS and the RET. But I do make the point that the RET bill which the committee is currently considering is actually an amendment to an existing act—an act that was passed in 2001 in a scheme that has been in place since then. So I do not think there is any direct relation between the CPRS legislation and the RET. To the point that there has been provision inserted in there linking the two, I think for the sake of getting the RET passed as soon as possible that that link be removed.

Mr Upson—Infigen Energy also support the delinking of the schemes in order to get the RET legislation passed as soon as possible.

Dr Watt—IT Power also think there is no need to link the two. We have a proven renewable energy target mechanism that has worked very well in Australia; it is one of the best in the world. There is really no need to do much to it to extend it. We should have done that very soon after the election because it was a key election promise. The CPRS is another thing altogether. It is a new and untried approach to carbon reduction. It has not necessarily worked very well

internationally, and we are yet to see how it will work in Australia. We do not need to be waiting around for that in terms of getting more renewable energy into the Australian electricity system.

Senator CAMERON—I have a few issues. Dr Watt, I understood the roundtable was for renewable energy producers. You are not a producer, are you? You are a consultant?

Dr Watt—Yes, we are a renewable energy consultant company.

Senator CAMERON—Do you consult for the Gas Industry Alliance? Have you done any work for any of their members?

Dr Watt—No.

Senator CAMERON—I am interested in the issue of heat pumps and why it has suddenly popped out in this situation. Rheem have a submission in place. They argue that heat pumps are recognised as a renewable in Europe. They argue that 65 per cent of the energy produced is from renewables, and they have put in the technical details on that. We had a huge debate about this the other day. The Gas Industry Alliance actually used the bulk of their time hammering heat pumps. I do not want to go into that again because I have other important issues to raise. Why is there this issue about heat pumps?

Dr Watt—This is not necessarily my area of expertise. The AGL people may have more to say about it. What we are seeing happening now—

Senator CAMERON—Please, no!

Dr Watt—is that heat pumps are displacing gas, and so we are seeing an increased uptake of electricity when we should be seeing a decrease in electricity use. If it is a renewable energy target and gas is being replaced by solar, that is one thing; but, if the gas is being replaced by more electricity use, that is a perverse outcome.

Senator CAMERON—But gas is not a renewable.

Dr Watt—Yes. But it is a lower greenhouse option to electricity, and so to replace gas with electricity is a perverse outcome.

Senator CAMERON—Maybe I can move on.

Senator XENOPHON—Chair, can I ask a supplementary, further to what Senator Cameron has just asked—

ACTING CHAIR—Yes, sure.

Senator XENOPHON—if Senator Cameron does not mind?

Senator CAMERON—Yes, go for it.

Senator XENOPHON—Dr Watt, you said that you were critical of the RET including not only heat pumps but also solar hot water heaters. Did I misunderstand you on that? If I did not, why lump solar hot water heaters into the same category as heat pumps?

Dr Watt—I said that it was less of an issue with solar water heaters than with heat pumps. Also, solar water heaters are not an electricity source. They are a heating source and so they are in only as a special consideration. There are now so many other support mechanisms for solar water heaters, including the compulsory turnover of storage electric heaters and significant grants at Commonwealth, state and local government level. So the solar water heater industry does not necessarily need to be supported through this legislation, and we could get more renewable electricity into our networks if they were removed. I am more concerned with the heat pumps, which are increasing electricity use, than with the solar water heaters.

Senator XENOPHON—Finally, by way of a supplementary, can you take on notice and get back to the committee on where—to put it bluntly—you get the best bang for your buck in terms of either abatement or relying on the grid with coal power with respect to solar hot water heaters compared to other renewables? Could you provide some details on that, given your role as a consultant?

Dr Watt—Yes, we could.

Senator XENOPHON—Thank you. Thank you, Senator Cameron.

Mr Nelson—Within the gas industry and I guess the industry more broadly, the issue around heat pumps and solar hot water is really about the level of assistance that they are receiving through capital grants and those types of things. There is a situation where to some extent the industry is experiencing growth beyond what I think people expected previously, and that has had an impact on the front end of the REC curve. It is very hard to distinguish the uncertainty with the RET versus the heat pump issue what the actual impact is. But, with the proposed phase-out of electric hot water in areas where reticulated gas is available from 2010, I think there is some concern in industry that what would ordinarily be happening is receiving additional assistance.

Senator XENOPHON—Thank you.

ACTING CHAIR—Senators and everyone generally, I think it is probably better to let one person continue their line of questioning, because we will come to each of you in turn during this roundtable.

Senator CAMERON—I propose to put a number of propositions to you, so you might want to jot them down, if you can. This is from a submission to this inquiry by the Institute of Public Affairs. I usually go to the Institute of Public Affairs if I am looking for some light relief and some comic approaches! Let us deal with them. Others think they are more important than they are. The IPA says in relation to renewable electricity that it imposes a direct cost on the economy of $1.8 billion annually; it increases consumers' costs and reduces competitiveness; and it causes far more jobs to be lost than subsidised jobs created. It then goes on to say:

By contrast, the mandatory renewable requirements impose a hidden tax on the consumer, the revenues from which are given to the suppliers of intrinsically uncompetitive renewable energy sources

I suppose they are talking about what you guys are doing. It then cites an analysis of Spain, which says that for every subsidised job created, 2.2 jobs are lost.

It then describes people with interests in wind farms and other high-cost renewables as 'bootleggers' and says:

… wind farms and other renewable technologies can make no credible claims of being nurseries for infant industries that will mature into productive activities.

The IPA go on to say that these types of technologies fail to make use of the power of markets to discover the lowest cost way of meeting a goal and 'Support for an infant industry is often the refuge of the politico-economic scoundrel.' I do not think that is a very good description of the industries that you represent. I would be interested in any comments. That is on the public record. We even had senators waving about this analysis that has come out of Spain about the disaster there. Basically, this report from the IPA says that the introduction of renewable energy is the reason the Spanish economy is in a crisis. Take it from there.

Mr Richards—Is there anything else they have blamed us for? Cancer?

Senator CAMERON—I think it is a serious issue that you have to deal with in terms of the submissions that are before us.

Mr McAlpine—I tend to hold IPA submissions in the same regard as you do. You may have missed the bit where they went on to compare the RET policy in Australia with the downfall of the Ottoman Empire.

Senator CAMERON—I did not want to go there; I thought that was just a step too far!

Mr McAlpine—I think that puts the rest of it in context. That sort of language—that sort of shabby analysis—really does not help anyone take this debate forward.

Mr Richards—I will not be able to handle all of those, but I will have a crack at the ones I could write down. The Spanish report in particular has since been discredited through the Spanish government and other Spanish—

Senator CAMERON—You can rip it up now, Acting Chair!

ACTING CHAIR—It is simply providing you with a broader base of information, Senator Cameron.

Mr McAlpine—Perhaps we can provide that critique to this committee to provide some perspective.

Senator CAMERON—That would be helpful if you could do that. It would have to be done fairly quickly.

Mr Richards—Of course. Certainly there is a cost on consumers because of the renewable energy target. Remember, though, that, while renewable energy is more expensive, the increased cost is only applied to a very small part of the total energy mix. In the first year of the scheme, the increased costs will be applied to just one per cent of electricity generated in the marketplace, going up to 10 per cent by 2020. Perhaps our colleagues from AGL, who deal with the front line of customer costs, could delve into that a bit deeper than I later on. The Clean Energy Council has done a jobs report looking specifically at what the renewable energy target and other policies would do within the stationary energy industry. The net result of that was that there would be 28,000 more jobs. That is taking into consideration some of the job losses in other sectors as a result of this, particularly because if you build a wind farm you do not need to build, for example, a new coal fired power station. So there was a net gain of 28,000 jobs over the next decade.

Senator CAMERON—You say that considers job losses in other areas, but those will not necessarily happen. If you do not build a new power station, it is jobs not created, not jobs lost.

Mr Richards—It is the avoided jobs; that is right. I think that is a similar approach to what others have taken. Clearly, job growth in those industries, be they minerals or whatever, will continue to grow; it just may not be as strong as they first thought based on a business case that they had thought of 10 years ago. Overall, jobs will certainly grow. The thing about the way the renewable energy target has been set is that it actually deals with growth in demand of energy. You would probably see a lot of coal fired power stations, if it were just the RET alone, continue to operate. We avoid building new ones, which I think is something that we need to do. Progressively, as the CPRS comes in, you will start to see some of the coal fired power stations potentially turn off as we move to natural gas and other things which will naturally supplement increasing renewable energy.

Mr Nelson—To talk a little bit more about renewables versus alternatives to renewables, one of the things that is missed in the current energy debate is where costs of underlying fuels like coal and gas are going to go. We are already seeing coal contracts for existing power stations being renegotiated at significantly higher prices than they have been in the past. The one key advantage of renewables over, say, coal or gas is that, once the asset is built, the fuel cost is zero. There is sun, there is wind: the fuel cost to the operator is zero. So it is a certain cost in the sense that when you build it you know what energy you are likely to get out of it and you know that the fuel cost is effectively zero. It is very different for proponents of new gas and coal fired generators, where for those fuel costs they are increasingly going to be looking towards international export market parity. So it is just worth keeping in the back of the mind that with renewables you are getting certainty of fuel costs.

Mr Thornton—Just to pick up on the comments criticising the renewable energy target specifically as being anticompetitive and not based on market principles, the very merits of the RET are in fact that it is market driven. It places a liability on electricity retailers and allows them to then find the least cost way to meet that liability. When the MRET was first introduced there was a lot of analysis and forecasts about which technologies were least cost at that point in time and which may be over the coming years. In reality, that has turned out to be quite different because the market forces have changed, the dynamics and costs of various technologies have changed. But all the while it allows the market to determine which technology is least cost, and it is that technology that is ultimately deployed.

Dr Watt—I have a few pointers. The number of jobs in Europe now as a result of some of the stimulation of the renewable energy industry is higher than the fossil fuel jobs. That is where we need to be in Australia as well.

The incubator support for technology like photovoltaics has seen the costs drop by, on average, eight per cent a year over the last 30 years, to the point where that technology is now cost effective in diesel grids almost everywhere and in main grids in large chunks of the world and is expected to be cost-effective in Australia within a decade. So it is not as if incubating these technologies does not result in the endgame that you want to achieve.

In Spain, they were faced with significant cost increases by their heavy reliance on imported fuels for their power supply. Their renewable energy industry has allowed them to be much more self-supportive and to create a whole new set of jobs for their industries.

In terms of support for renewables, I note that industries such as coal continue to get significant taxpayer support in this country. Even the last budget in New South Wales had $20 million to subsidise coal transport from the mines because, even after 100 years, they cannot support themselves. So talking about supporting new industries in the short term compared to continuing support for fossil fuels is actually the issue.

Senator CAMERON—Thank you for that. Senator Joyce yesterday made the comment in the context of one of the debates that was going on that we do not have the capacity to run the manufacturing industry on wind power. I was not aware that we were going to rely on wind power to be our baseload situation. I do not think anybody is arguing that wind power will run the manufacturing industry, but that is one of his glib comments designed for the front page of the *Australian*, I suppose. How do you deal with this argument of baseload and how do we get a proper mix between our existing coal fired industry and the emerging renewables? What is your view on that?

Mr Richards—It is a good question, and it is raised in front of our industry quite often. I think the renewable energy target is a necessary part of that transition. One of the beauties of a renewable energy target such as what we are contemplating is that it will throw up a whole lot of new technologies, new ideas and new ways of doing things with old technologies such as wind farms, which would then allow that to become more prevalent as a baseload or to have a greater impact on the marketplace. If you were painting a picture of what the future market could look like, it may be 10 or 15 per cent wind power, there should be more geothermal and a combination of a large-scale solar thermal, gas and existing coal, potentially with carbon capture and storage attached to it. They would all be part of a mix.

Australia has probably one of the most robust national electricity markets that we have seen and it is very capable of managing variability in supply simply because it manages variability in demand from consumers on a daily basis. It is a matter of the people who have been running the market getting a better understanding of the new supply-side dynamic that is coming into place and for us as generators and operators to be cognisant of what is going on in the marketplace ourselves and also adjusting our technologies. There are some exciting things happening in Europe and the United States around gas-wind hybrid plants, for example, which allow a wind farm and a gas plant to operate harmoniously in a market environment. So one of the beauties of

a renewable energy target like this is that it will throw up some very welcome but maybe unintended consequences which are beneficial to the nation.

Mr Troman—I would like to add to the answers on that question. Ten years ago, it was considered by people who were anti-renewables that you could not have more than a few per cent in isolated diesel grids. We have blown that out of the water by a long shot. We are achieving 70 per cent penetration of renewables. All it took was a change in thinking. My belief is that a change in thinking with the main grid will see similar results. The problem is not so much whether it is wind; it is more to do with an intermittent supply rather than a continuous supply. With a little bit of lateral thinking, modelling is already indicating that we will easily hit 50 per cent of intermittent resources built into the grid to help that problem. The manufacturing sector does not care where the electricity comes from; it cares that it is reliable.

Senator CAMERON—You do not have to go there. That is Senator Joyce. That is his little grab for the media. It is not serious really.

Mr Troman—Certainly, with a little bit of rethinking about how we actually run our grids, there are no problems at all with having high levels of penetration of wind or whatever else into it.

Mr Thornton—I might just talk about the benefits of an increasingly diverse and distributed portfolio of technologies, complemented by the hydro energy that is currently in Australia—and that is obviously highly reactive and can complement other technologies, as can gas and the other existing technologies. So I think a portfolio of technologies goes a long way to ensuring a secure energy supply in Australia.

Mr McAlpine—I want to add to that by saying that we should not pretend that this is some sort of dangerous experiment that Australia is preparing to embark upon. In the last calendar year, 2008, there was more renewable energy capacity added worldwide than there was thermal energy capacity for the first time. This is a global trend. This is not something that Australia is testing out while the rest of the world sits back and waits. This is big business overseas and it is about time Australia got a slice of that investment.

Senator MILNE—The first question I would like to ask is in relation to this issue that keeps bobbing up. Senator Boswell was going into it at length yesterday, providing spreadsheets and so on about the fact that the renewable energy target will increase costs and therefore this exemption to other industries was justified. I have heard from you, Mr Upson, that three of the reports that came out show that there will be downward pressure on the pool price to the extent that the impost will not make that difference and therefore there is no justification for the exemption for EITE and we should get rid of it altogether. I am interested in your comment on that.

Mr Upson—It is an important thing. The media tends to focus on the long-range marginal costs of building electricity-generating plants. Today, the cost of renewable energy and wind energy is roughly twice that of a coal fired power station assuming you do not have to pay the external cost including carbon pollution. But that is not how the electricity market works. The electricity price changes every five minutes in the wholesale market. Generators tend to bid to

their short-run marginal costs, their incremental costs of generating the next kilowatt hour of electricity.

This is the real advantage of renewable energies: the short-run marginal costs are near zero because basically you are just paying for the maintenance of the wind turbine, for example, and the fuel is free. So when you build this new renewable energy-generating plant—and the renewable energy target will facilitate building a lot of electricity-generating facilities—the result is that you have these low-cost, incremental-cost generators bidding very low into the market. Every market is a supply and demand market and if you add to the supply and you keep the demand the same between the two cases, the inevitable outcome is that you are going to reduce the cost.

In the case of the wholesale electricity market where you have peak price events, these renewable generators will shave the peak off these peak events and that is why it even magnifies the reduction in pool pricing. At least that is what these three studies have shown—three of the four studies that we are aware of. I think that is important. Yes, there is an impost on the retailers. Those are the figures that are quoted all the time: this is the impost and this is the cost to the industry—and that is true. That is one facet of the renewable energy target. However, there is a whole other side of the coin which is what the impact on the wholesale pool price is going to be, and three out of four of these studies say that the net result is going to be a downward pressure on wholesale prices which could very well be in excess of the impost on the retailers.

Senator MILNE—One of those reports has not been made public, has it?

Mr Upson—One of them was commissioned by the National Generators Forum and I do not believe that one is public.

Senator MILNE—Chair, would you be able to ask the National Generators Forum for that report? I would be really interested in seeing what it had to say—to see if it confirmed what the others have been saying about this downward pressure on the pool price.

ACTING CHAIR—Yes, we can do that.

Senator MILNE—My next questions are about a gross feed-in tariff and banding. As you would all be aware, the Greens have legislation for a gross feed-in tariff and the Senate inquiry we had into that was overwhelmingly of the view that you could have a renewable energy target which was designed for the technologies which are now rolled out or existing technologies that are currently relatively price competitive. It could work with a RET, but a gross feed-in tariff is the way to bring on technologies like solar thermal, geothermal, wave et cetera. I would like your comment on that vis-a-vis banding, because it seems to me the only real advocate of banding has been the Australian Geothermal Energy Association. I have not heard support for it from anyone else, so I am just interested in people's views as to whether the gross feed-in tariff is still the preferred option to bring on the technologies which would not benefit immediately from the RET.

Mr Nelson—AGL is one of the few companies that has projects right across the spectrum of renewables and gas-fired generation. One of the things which we like about the RET is that it is market based and the lowest cost technologies get up. It does not mean that we are not looking at

other technologies. In fact, we are looking at a geothermal site very close to our Torrens Island power station that already exists in South Australia. We see that the RET drives R&D towards demonstration with a view that if you can reduce your costs over time then you will be able to compete, so we would not support banding. We would support the amalgamation of state based feed-in tariffs into a national feed-in tariff though.

Mr Richards—Particularly when you are talking about future technology that is yet to be proven, putting banding into the RET would be like holding out a section of the national electricity market for carbon capture and storage and having it quarantined. It is almost impossible to manage. Like AGL, Pacific Hydro has interests in a whole range of other renewable energy technologies, including conventional geothermal, of which there is over 10,000 megawatts installed around the world. In our view, that technology does not need a band; it needs a power line built to it, which is another discussion.

We are against banding. If you have specific issues you need to tackle for specific technologies then certainly do it in the way in which you are describing, Senator Milne. It is something that the current federal government is doing with Solar Flagships and the like. The previous government also did it with other special programs for the specific technologies they wanted to bring through. That is the right way to go about it.

Ms Gaffney—Senator, to answer your first question, with regards to carve outs, we cannot support technology carve outs as proposed by some organisations for emerging technologies. Our view is that the commercialisation path for those technologies, geothermal, solar thermal et cetera should be advanced through appropriate and targeted policy mechanisms so that in time they can operate under a renewable energy target framework or indeed a CPRS in the longer term.

With regards to gross feed in tariffs, BP Solar certainly has been advocating and lobbying hard for the adoption of a gross feed in tariff across all of Australia's jurisdictions with the inclusion of the commercial and industrial sectors. We are currently in a policy vacuum in the solar PV industry and the only level of support that we have at this time is the state based net feed in tariffs. The state based net feed in tariffs, as we have long advocated, provide an insufficient financial signal to deliver solar PV into the marketplace. The fact that solar PV systems are not being rolled out today clearly demonstrates that point. Gross feed in tariffs have now been adopted in more than 45 countries and over 18 states and provinces around the world. Indeed eight states in the US are considering feed in tariffs. Feed in tariffs have been proven as the cheapest and the fastest way of deploying solar PV into the marketplace and we would certainly want to see a gross national feed in tariff in place before the solar credit scheme winds up by the year 2015.

Dr Watt—The carve outs have been used internationally in a number of schemes, for instance in the UK, and they have not really worked very well. So in theory you would think that they might be useful but the evidence is that they do not work nearly as well as feed in tariffs have done which is why the transition internationally towards feed in tariffs. Secondly, in Australia we have had no support for the intermediate scale of renewable energy systems. We have had support at the residential side and we have support through MRET for large systems connecting into the transmission network, but we have not had support for the intermediate commercial size of system which is where you get the economies of volume for renewables that has been so

important internationally. Looking at the commercial market alone, it produces something like 22 per cent of Australia's electricity now and that is expected to be 32 per cent in the next 10 or so years. That market is not catered for by the RET or by any of other bits and pieces of legislation that we have seen and yet you can see it is such a critically important area. For that sector a feed in tariff would be very useful.

Senator MILNE—Thank you very much.

Senator XENOPHON—One of the criticisms made by the Australian Geothermal Energy Association yesterday was that unlike wind energy, which is intermittent, geothermal power had the potential to provide baseload electricity so that it could eventually displace coal fired generation. The criticism of that association was that by taking a short-term, low-cost approach Australia would be incurring a long-term, high-cost penalty. Could I get some comments from the panel in relation to that and should you try to distinguish in the construction or the design of the RET between that renewable energy that can provide baseload power as distinct from wind which has an important role but is not a baseload source?

Mr Nelson—As the retailer in the room I think it is probably best for me to explain that the way we look at contracting energy is to look to physical generation but we will also look to swap contracts and cap contracts for peak demand. When it comes to the renewable technologies our portfolio is diverse enough to allow us to include a range of technologies. We do see that geothermal longer term does provide a firmer source for things like swap contracts but, that said, wind is the cheapest technology available today that we see for major commercial scale deployment. We think that the existing capital grant programs like the REDP and the Solar Flagships program are the best way of bringing forward technologies at that stage.

Senator XENOPHON—Are we putting enough into that so you can bring forward solar and geothermal for large-scale baseload power?

Mr Nelson—I would say that the capital programs that the Commonwealth has are fair. There are several billion dollars for clean coal, for Solar Flagships and for renewable energy. We would say that geothermal will develop longer term through investments made by companies like AGL and Torrens Energy, but at the moment we think that the lowest cost solution for deploying renewables is to let the RET pick those lowest cost technologies.

Senator XENOPHON—Yesterday, the Australian Industry Greenhouse Network were critical and said that gas was being sidelined. I know it is not a renewable but it is much cleaner than coal. What do you say about that? Do you think that gas has been sidelined? Do you have a particular view on the role of gas? Do you think that we should be putting a greater emphasis on gas as a transitional fuel while we get extra capacity from renewables?

Mr Nelson—To give you an example, we have several thousand megawatts of both renewable and gas fired generation under development. Do we see gas being crowded out? We see gas energy being crowded out relative to no RET being in place. Do we see gas capacity? No, because gas provides a great way for dealing with those peak demand periods.

Senator XENOPHON—Thank you.

Senator BOSWELL—Listening to the debate, it seems to me that on supply and demand you cannot mount any argument against that. There will be increased amounts of electricity going into the pool and that will lower the cost. But it seems a little unfair that by subsidising renewable energy to the tune of the RET value at the time, you are going to get a decided advantage to take on the gas companies and coal generated electricity and gas generated electricity. You are going to attack them by the virtual subsidy that is given to you. Would anyone like to comment on that? Am I on the wrong track? I might ask Tim that because he has a bit of everything.

Mr Nelson—Yes, we are unique in that way. I think the role of renewables will change over time to the point I think Andrew made before. The one thing that has not been spoken about today is the impact of renewables on volatility in the market. We are likely to see the market become more volatile due to the intermittent nature of renewables as they exist today. That will mitigate to some extent the price impacts that were spoken about before in terms of a depressing impact on wholesale prices. AGL believe it is very important that we are upfront about the fact that costs will rise. There may be some impacts in a depressing way on the wholesale price, but without a doubt electricity prices are going up. If we want to contrast the impact of RET with, say, the CPRS, the impact on the final consumer's bill will be about half by 2020 relative to a $20 carbon price. You are looking at something in the order of around $10 a megawatt hour for RET and something like $20—

Senator BOSWELL—Can you give me that as a percentage price increase?

Mr Nelson—Currently a residential customer would be paying something in the order of $150 a megawatt hour, which is a very rough average across the states. So you are looking at $10 on top of $150, so 15 per cent—no, sorry, less than that.

Mr Richards—Not forgetting too that energy is only half of the customer's final bill. Half the bill is currently about paying for the transmission and distribution network. So it is a $10 increase on half the bill—

Mr Nelson—On $150—sorry my maths was right out before.

Senator BOSWELL—It is about 7 ½ per cent, is it?

Mr Nelson—Yes.

Senator BOSWELL—Tim, it just seems unfair that you are attacking a gas-fired power station—or, for that matter, a coal-fired power station—and you are going to reduce their profits by putting in wind power, a photovoltaic cell or whatever, but you are doing that by virtue of you getting a fairly hefty subsidy. Would you agree with that?

Mr Nelson—Not necessarily, because of that volatility. AGL would take a different view from that mentioned before around prices going down significantly in the wholesale market. We think that at times when the wind is blowing very strongly and you have quite a lot of renewables being dispatched there will be a downward pressure on prices, but at times when the wind does not blow and you have to bring gas-fired capacity into the market, particularly at times when

there is quite a rapid change in that mix, you are going to see increased volatility. So we do not see the impact on underlying prices as going too far down or too—

Senator BOSWELL—So you would disagree with Senator Milne, who says we are going to get a great price reduction by having these renewables powering into the market.

Mr Nelson—I think it is fair to say that there will not be a significant downward impact on wholesale prices due to the RET, yes.

Mr Upson—Just to clarify, Senator Boswell, I think it is very important that you keep in mind that the renewable energy target scheme is going to be just one impact on electricity prices. There will be a lot of other impacts on electricity prices. Certainly the CPRS scheme is going to have a major impact on electricity prices, as will the increase in demand over the next few years, the weather patterns and, as Tim was saying, the peak demands on the system. I am not saying—and these studies, by the way, are not saying—that electricity prices are going to go down if you pass the RET scheme; what the industry studies are saying is that the net impact of the RET scheme is going to have downward pressure. The CPRS is going to take it up, and maybe increased demand is going to take it up. So these studies are not saying that prices are going to go down; they are saying there is going to be downward pressure. They are forecasting that the net impact of the RET scheme could likely be downward pressure on the wholesale pool price.

Senator BOSWELL—Just to give me some idea, take a food-processing factory that is using a fair amount of power. How much will the RET prices go up for food processing? How much will the RET push the prices up above the CPRS?

Mr Thornton—Senator, I am not in a position to answer your full question, but I would refer you to the modelling that was commissioned by the Department of Climate Change.

Senator BOSWELL—Yes, I have looked at that modelling and I am across it. But Mr Nelson said that price to a household will go up by about 7½ per cent because of RET. Is that—

Mr Nelson—In isolation—so if you stripped out all of the other impacts on the energy market at the moment. It is very difficult to say where longer term prices are going to go. If you look through what is driving underlying electricity prices up, for instance, at the moment it is mainly network capital expenditure. The impacts of CPRS and RET are actually very minor relative to the impacts of current capital network expenditure upgrade. In the context of the uncertainty around gas prices in the longer term due to the proposals for LNG export off Gladstone and the fact that some coal contracts for existing power stations are being renegotiated, we would see that the impact of CPRS and RET in the medium term is relatively modest compared to some of those underlying factors.

Senator BOSWELL—Using the government figures, I think it is about 34 per cent by 2015 or something like that. But I am interested in something else. You have given us the price to householders—that 7½ per cent we worked out. Would that be a similar price to factories or food processors?

Mr Nelson—It depends what their demand shape is—whether or not it is fairly constant or variable. Also, it is highly likely that, if they are a significant user of energy, they are going to be

paying a lower overall price, so rather than paying $150 they might be paying $100, just as a hypothetical example. So the actual dollar impact is the same, but the proportion is higher because of the lower base that it is coming from.

Mr Richards—One thing I think we need to make really well understood is that, within the renewable energy market, because it is an open market and highly competitive—we will walk out of this room and start competing against each other once it is legislated—as the underlying energy price goes up for a variety of reasons, we cannot just overlay the penalty price for RET on top of that and get a big margin. I wish we could as investors but the reality of the market will mean that, as the base energy price comes up, the RET component comes down. We are set at the market ceiling—what the market will bear; what the market will pay—for our product. So Hydro Tasmania will be competing with me for a lower cost and we will be competing with AGL for the lowest cost renewable energy to be put into the marketplace. So the RET price gets squeezed at the top as energy prices come up underneath it.

Senator BOSWELL—But you will produce a certificate and—

Mr Richards—Yes, we will get a premium on top.

Senator BOSWELL—Do you write it out or does the government?

Mr Richards—It is the renewable energy regulator who regulates the market.

Senator BOSWELL—And he will give you a certificate?

Mr Richards—Yes.

Senator BOSWELL—And what will that certificate be worth? I think it is worth 52 bucks now.

Mr Richards—It is $37 at the moment. It will be worth anywhere between zero and $65.

Senator BOSWELL—But it cannot go above $65?

Mr Richards—Tax effective, I think it can go above $65. The history of the renewable energy market has not seen the price go above about $52. It is currently about $37.

Senator BOSWELL—So that $52 becomes a subsidy for your industry?

Mr Richards—It is a premium, yes.

Senator BOSWELL—A premium subsidy.

Ms Gaffney—In the case of solar PV, we would actually contend that mechanisms such as gross feed-in tariffs actually correct a market failure. So if the market actually worked today, we would contend that solar PV would be economic. That is to do with the fact that solar PV is a peak energy technology. It produces most energy in the middle of the afternoon when in fact the wholesale prices and the trades done in the national electricity market are also at their highest.

Today's solar PV investor actually gets rewarded with a flat, averaged retail tariff. So the price signal that they get back for investing in solar PV systems is actually mooted. In fact, the marketplace itself is not working perfectly. So in the solar PV instance it is all about correcting a market failure; it is not necessarily a subsidy as such.

Senator BOSWELL—Your power hits its peak at four o'clock or something like that?

Ms Gaffney—Yes, at three.

Senator BOSWELL—And you are not getting the return on that power as at four o'clock?

Ms Gaffney—That is right.

Senator BOSWELL—What is your return based on—a day, a week or a month?

Ms Gaffney—It depends on the retailer and the contractual arrangements that you as an investor have with that retailer. But, typically, today, in most markets of Australia you are actually getting a flat, averaged retail tariff, which does not reflect the trades that are done in the national electricity market which are significantly higher. In fact, the peak price is somewhere in the order of billions of dollars higher over the course of an entire year right across the marketplace.

Senator BOSWELL—And a feed-in tariff would correct that?

Ms Gaffney—Absolutely. It corrects that failure and it also corrects the failure of the fact that we avoid transmission losses, because you actually have the mini-power system sited right where the energy is actually needed. So in industrial estates, you are actually providing power right when it is needed, in the middle of the afternoon typically in those locations. There are network augmentation benefits by actually providing additional power and augmenting the network. And the industry development component of course is extremely important, and we have seen this kick-started in the last two years through the very generous Solar Homes and Communities Plan rebate program.

Mr Thornton—I guess the same principle applies to larger-scale least-cost renewable technologies. To date, the market failure that has impeded the electricity market is such that the competing technologies—fossil fuel generation—do not currently pay for the pollution associated with that generation. At some point in the future, when a price of carbon is introduced and an emissions trading scheme internalises that price on carbon, in our view, there will no longer be the necessity for a renewable energy target because it will be more competitive and effective to invest in renewable energy with zero emissions than fossil fuel generation, taking into account the cost of that carbon.

Senator BOSWELL—Thank you.

Mr Troman—Senator, if I am following your line of questioning, it seems to be moving towards asking what is the justification for a subsidy or a premium for the RE industry and then the non-RE industry misses out. I do not know of any thermal power station that did not get subsidies to be built.

Senator BOSWELL—That was not my question. My question was that it seems to be unfair that you guys can go in on a market and get the benefit of going into that market, because you do not pay for the cost of energy. You are getting into that market because you are getting the benefit of a renewable energy certificate, which is worth about 50 bucks. It seems that people are subsidising renewable energy to undermine the gas-fired generators.

Senator CAMERON—If you do not believe in global warming, you cannot get to the basis of this. That is the problem.

Senator BOSWELL—Senator Cameron has just joined the Greens.

Mr Nelson—Where AGL come from in this debate is that we need investment certainty. We have got as much in the way of gas-fired generation as renewable generation ready to go. Without the certainty of this legislation, we cannot build either. Longer term, that really does compromise the security of energy supply. As a retailer, our primary goal is to make sure that our customers have a reliable and globally competitively priced energy supply.

Mr Richards—Some people may see it as unfair. So be it. I guess that is just the price that is to be paid to ensure we can commence the transition of the stationary energy sector. We do need to change the way we do things. We do need to clean up coal. We do need to get more gas and more renewable energy. It is not going to be for free, but it is that transition period that you need to pay for, in the way that you have paid for every other transition period that has been required through history.

Mr McAlpine—Senator, the word you keep using is 'unfair'. A lot of us would see it as unfair for thermal power stations to be able to compete in the market without having to pay for the cost of their pollution. Carbon pollution is real and it is proven. It is about time that Australia adopted a carbon price that reflects the cost of that pollution.

Senator BOSWELL—The Parliament of Australia will make that decision in time. That decision will be made by the representatives of the people. Whether they follow your line or not will be—

Senator CAMERON—Where is Malcolm on it today? Is he okay today?

ACTING CHAIR—You will have to wait and see.

Senator BOSWELL—He is not my leader.

ACTING CHAIR—I have a general question. One of the issues that has been raised with me is the treatment of waste coalmine gas. You are renewable energy people. Under these proposals there is no incentive for coalmines to use their waste gas for renewable energy rather than simply flaring or burning it off and creating more greenhouse gas. Would you be in favour of regarding waste coalmine gas as a renewable?

Mr Richards—Our primary approach to that at the moment is that that would require a technology review before the legislation is put in place, which we fear would only slow down the legislative process. So we are not in favour of it. We understand that COAG has announced a

technology review at a later time. We would encourage it. That would be the time to review that type of technology. Also, looking at coalmine methane, if it were just about building new stuff then so be it, but I understand that some of the people who are agitating for this change want all of their existing assets, some of which were built before the original MRET was in place, to be included in the scheme. That would be a single-purpose change to legislation that everybody else would have to comply with, which I think would open up a can of worms for every other participant in the marketplace.

Senator BOSWELL—I do not think these people were ever covered by the MRET. They were covered by a New South Wales form of—

Mr Richards—The NGAC scheme.

Senator BOSWELL—Yes.

Mr Richards—Some of these projects were built before the NGAC scheme was even in place.

Dr Watt—Senator Eggleston, I would be very much against adding any fossil fuel power into a renewable energy target. I think the fossil fuel industry gets a huge amount of support in Australia. I would also point out to Senator Boswell that the fossil fuel industry in Australia gets far more subsidies than the renewable energy industry gets, in a whole lot of direct and indirect ways. The coal and central generating capacity that is installed in Australia to date has been hugely cross-subsidised by taxpayers in the past and that is why it is so difficult for new renewable generators to compete with that established industry. The signals from carbon prices will start to impact on coalmine methane and make it a viable option, and I think it is being used already in an increasing way. But if there is a need for support that should be looked at separately from the renewable energy target, because it is not a renewable energy source.

Mr McAlpine—Senator Eggleston, I do not think even the proponents of that technology or the owners of those facilities would claim that it is renewable. This is the renewable energy target. It is not the clean energy target. It is not the cleaner energy target. If it is not renewable it should not be in as an eligible technology.

ACTING CHAIR—Okay. There is the proposal from COAG to have a technology review. Suppose that came out in favour—where would you stand then? I understand where you would stand, Mr McAlpine, but what about others: would you accept methane?

Mr McAlpine—A hypothetical question.

ACTING CHAIR—It is hypothetical, but it is an interesting question.

Mr Thornton—Fundamentally, we would have a concern with any dilution of the renewable energy target as it stands at present, be that further dilution of the target itself or additional technologies becoming eligible. Fundamentally, wherever that occurs it further undermines the investment certainty that we need to deliver the projects that Australia needs.

Mr Upson—As has been pointed out, the waste coalmine methane is covered by the New South Wales greenhouse gas scheme. I think it is a fair argument to say that it is more appropriately dealt with in the CPRS than in the renewable energy target scheme.

ACTING CHAIR—Okay. Thank you very much. Senator Boswell, we are going to have to wrap up soon because we have reached our concluding time.

Senator BOSWELL—Can I ask for an opinion on the recycling done by people putting out their bins every week. They are being excluded from the CPRS. What is your view on that recycling of cardboard et cetera? Do you think that should be included in the RET?

Mr Nelson—AGL does have landfill gas assets. We supported the inclusion of landfill as a covered sector. There are some real issues there, albeit much smaller in magnitude than the ones we are talking about today with regard to the RET, that we would like to talk further about in relation to how those assets transition out of the GGAS into the CPRS. But, yes, broadly we think it is a sector which should be covered under the CPRS.

Mr Richards—We do not have a view, Senator—but it looks like the technology review is going to be a lot of fun!

Senator BOSWELL—I do not know when that will be.

Mr McAlpine—Senator, the point I would make is that you could make a case for all kinds of new technologies but, as you do that, that takes time and delays this bill even further—and as you delay the bill you just reduce the business case for all of the other investments that could take place under the bill. This bill goes to the House of Representatives for debate and vote next week and, hopefully, will come up to the Senate fairly soon. Hopefully, it will be passed in the Senate as soon as possible so that we can get on with creating the jobs, building the projects and providing the clean renewable energy that Australia needs.

Senator MILNE—I am afraid I have to go. Could I put a question on notice for the renewable energy roundtable?

ACTING CHAIR—Yes, of course, and then we will have to conclude.

Senator MILNE—Okay. I want to know the likely impact of the RET on remote renewables? We have had a blow to that with the end of the existing program. I wonder if there are any particular comments the roundtable would like to make in relation to that?

Mr Troman—I am happy to take that one on with the help of my colleagues, if we are in agreement.

Senator MILNE—Thank you.

ACTING CHAIR—We have a reporting date of the 12th, so you will have to get the answers back to the secretariat very quickly—by tomorrow night or Monday at the latest. Thank you very much for appearing.

[2.37 pm]

VINCENT, Mr Julian, Climate and Energy Campaigner, Greenpeace

Evidence was taken via teleconference—

ACTING CHAIR—Welcome to these proceedings. Would you like to make an opening statement, after which the senators will ask questions?

Mr Vincent—Thank you. I will make an opening statement. Firstly, I would like to express my thanks for your efforts in looking into this policy and obviously for the opportunity to present today, and my apologies for not being there in person. I do not know if you have caught wind of the news that Greenpeace have been pretty busy in Queensland with the Pacific Islands Forum over the past two days. I will make a quick point about who we are. Essentially, Greenpeace are an environmental campaigning organisation. The most important thing for you to know is that we are independent and only accept donations from individuals, which I hope you find very important in how you receive my testimony.

Our interest in this issue is obvious. Australia and the rest of the world urgently need to reduce greenhouse gas emissions. We are only going to cut those emissions sufficiently if we make a large-scale transformation in how we use and produce energy. I am sure we will delve into the economic detail of renewable energy policy in this hearing, but it is worth grounding this discussion with the fact that with climate change we are facing the most monumental environmental, social, political, cultural and economic disaster. In regard to energy policymaking, we generally advocate adopting the principle of shifting to an entirely renewable energy based energy supply as soon as is possible—as soon as technically and humanly possible—and letting that principle decide policy making. The most important impact this would have would be to ensure decisions and actions in the next critical few years really lay the groundwork for such a transformation to take place. Obviously, we are talking about a massive upscaling of employment and manufacturing capacity and so on in this field.

You can probably tell from having read our submission that we are becoming quite frustrated with the process of introducing renewable energy policy as well as the state in which it remains, which I am sure we can unpack further in this session. Since the last election we have seen the process of implementing this policy largely held up in bureaucracy. We are still yet to see the target come into play and in that time Australia has ceased to manufacture solar panels. We have had several renewable energy support mechanisms suddenly removed ahead of time which has reportedly cost the industry millions, gigawatts worth of projects are banked up waiting for the policy signal green light and jobs have been lost in solar and wind. Just last week the Adelaide based company Solar Shop said it was looking at possibly cutting another 100 jobs and put that down to the vacuum in renewable energy support.

The bottom line here is that we need this policy to come through. We do need to implement this policy because there are so many renewable energy projects waiting in the wings. We do not think it is the perfect policy by any means. We do have a series of recommendations as to how it can be amended. We have alternatives to suggest that would much more effectively bring

renewable energy online at a large scale. But the reality is that, right now, the renewable energy industry is desperate for this policy. I will leave it there. I am sure there is plenty to kick off with.

ACTING CHAIR (Senator Cameron)—Senator Eggleston has just had to leave for a few minutes. Senator Boswell do you have any questions?

Senator BOSWELL—I have no questions at the moment.

ACTING CHAIR—Senator Bishop?

Senator MARK BISHOP—No.

ACTING CHAIR—Basically, as I read your submission there are issues that you have with RET—

Senator JOYCE—If you run out, just give us a yell, Senator Cameron.

ACTING CHAIR—Sorry, do you want to go now?

Senator JOYCE—Okay. What is the ultimate goal of Greenpeace in regard to what you would like carbon emissions to be reduced by?

Mr Vincent—I guess it is a matter of reducing them as fast as is humanly and technically possible. We are talking in the public debate about what sort of increase in temperature is avoidable and should be avoided. I am sure you are familiar with wanting to prevent passing tipping points and that sort of thing. You have a situation at the moment where with 0.8 of a degree of warming I think it is fair to say that the impacts that we are seeing right now are unacceptable. The World Health Organization for example has reported that we already have hundreds of thousands of people additionally per year dying around the world because of climate change impacts.

Senator JOYCE—How much do you want to reduce carbon emissions by?

Mr Vincent—The target that we are putting out there for Australia is around halving our emissions in the next decade.

Senator JOYCE—So 50 per cent.

Mr Vincent—A 50 per cent reduction from 1990 levels I should say.

Senator JOYCE—That is more than halving them on where we are now.

Mr Vincent—That is correct.

Senator JOYCE—A 50 per cent reduction on 1990 levels would be about a 60 or 70 per cent reduction on where we are now.

Mr Vincent—Not quite, probably around 55 per cent I would say.

Senator JOYCE—A 55 per cent reduction on where we are now.

Mr Vincent—Yes.

Senator JOYCE—What do you perceive the industry of Australia will look like when that happens?

Mr Vincent—Obviously, we are talking about a very large reduction in greenhouse gas emissions, there are no illusions about that. What would need to happen is that you would have to spend especially the first couple of years making that change, laying the groundwork and ensuring that our manufacturing bases build up, the amount of business and industries are built up and ensuring that the idea of basically moving to a low-carbon society is built into policy making across a variety of portfolios. In terms of the where industry is at we would need to see an incredibly aggressive and vibrant renewable energy industry for a start because as we are all aware—

Senator JOYCE—I am being completely practical. Obviously, that would bring about the demise of the coal industry because you are not going to get carbon sequestration in that period of time. The price of electricity would go through the roof so that is the end of your manufacturing industry. I imagine you want agriculture in?

Mr Vincent—Can I just go back because I am not sure what you mean by the price of electricity having to go through the roof?

Senator JOYCE—Could you just answer me, do you want agriculture in or not?

Mr Vincent—Agriculture will need to come in. We will need to make reductions in agriculture.

Senator JOYCE—Agriculture is in. Okay. Where exactly are we going to generate this power from when we no longer have coal-fired power stations?

Mr Vincent—Essentially, you build up the renewable energy capacity and, as you do so, you build up the capacity to replace—

Senator JOYCE—Give me examples, numbers and where these things are going to be that replace coal-fired power stations.

Mr Vincent—We produced a report last year called the *Energy [r]evolution*. That tells you how you can shift—it is a moderate one—to 40 per cent renewable energy by—

Senator JOYCE—Just precis it for us. Where exactly is this electricity going to come from? Do not say renewable sources. Say from whatever mechanisms are involved, where these things will be positioned and how many of them there will be.

Mr Vincent—You do not need to be that prescriptive.

Senator JOYCE—I am not.

Mr Vincent—You can be that prescriptive, but I certainly do not need to be. The fact is that we have an incredible amount of choice. We have renewable energy resources coming out of our ears. We have technologists working across eight different renewable energy technologies that could do the job.

Senator JOYCE—You have been very prescriptive about how much we need to reduce it by. I just want you to tell me where the replacement is going to come from.

Mr Vincent—If we are going to worry about being prescriptive about the targets that are set and not necessarily about how they are met, that is something that the government could be criticised for with the CPRS.

Senator JOYCE—So you do not think it is important to say how the targets are going to be met?

Mr Vincent—If you are talking about where the renewable energy comes from, you do have an incredible amount of choice. For me to actually say where you have to have a particular solar power base—

Senator JOYCE—You are far more across it than any of us. Just tell me where it is going to come from.

Mr Vincent—It is going to come from wherever we choose it to come from.

Senator JOYCE—Where?

Mr Vincent—You could build, for example, a few gigawatts of solar thermal in Queensland and feed that into the northern end of the Queensland electricity grid, which is obviously connected to the rest. You could put gigawatt after gigawatt along the southern coast.

Senator JOYCE—A few gigawatts of solar energy in Queensland. Is that what you said?

Mr Vincent—Yes. But if you want me to explain this out to the extent to which you would have a complete renewable energy based economy, I would probably spend the rest of my testimony here explaining it.

Senator JOYCE—I just want you to give me a rough idea. What does a few gigawatts involve? We have been talking about 17,000 gigawatt hours required of wind power, and no-one seems to be able to explain how on earth we are going to do that. You have told me about a few gigawatts of solar energy coming from Queensland. Where do you have in mind to do that? Whereabouts is that going to be?

Mr Vincent—It is really where you choose it to go. You just asked me about where it should go, and one example that I have given you of where you could install renewable energy is solar thermal, in Queensland. It is a very good opportunity. It is a very good strong resource out there.

Senator JOYCE—Whereabouts is that?

Mr Vincent—Like I said, Senator Joyce, I could spend the rest of this testimony giving you examples—

Senator JOYCE—I am asking for a very brief analysis of just one.

ACTING CHAIR—Senator Joyce, just one moment please. This is becoming a bit like machine gun fire between you and Mr Vincent. It must be very difficult to get this transcribed, so I ask that people slow down a little bit.

Senator JOYCE—Let us move on to agriculture. What is your view on methane emitting bovine ruminants, such as cattle, and ovine ruminants, such as sheep? Do you believe that they should be mechanisms of agricultural production or not?

Mr Vincent—Is this a question in relation to the renewable energy target legislation?

Senator JOYCE—It is a question in regard to Greenpeace's position.

Mr Vincent—I am sorry. Obviously, there are many aspects that are relevant to the issue of climate change, but I am here to talk about the renewable target.

Senator JOYCE—This is an inquiry. I am allowed to ask questions that involve the body that you represent. I just want to know what your position is on that, unless you do not wish to give that position.

Mr Vincent—We do see agriculture as an area in which we need to make reductions in emissions. That would most likely need to include a shift to more sustainable or organic farming and probably a reduction or a moving away from a meat based diet towards a more vegetarian based diet and also, wherever possible, more sustainable farming practices. Obviously, there are a lot of complications with the agricultural sector right now, which is why its introduction to the CPRS as proposed has been delayed.

Senator BOSWELL—No more cows.

Senator JOYCE—You look forward to it being introduced in 2015?

Mr Vincent—We are actually opposed to the introduction of this particular CPRS because we think it is an unworkable scheme. Within the context of that, it is a bit moot. Certainly we do need to include reductions in agricultural emissions.

Senator JOYCE—Because we will not have the capacity to meet the power requirements on a 55 per cent reduction, what do you envisage for capital cities—a rationing of power? How would that work?

Mr Vincent—Why are you assuming that we will not have the power production?

Senator JOYCE—Because you cannot explain to me where it is going to be.

Mr Vincent—As I think Senator Cameron said before, this element of the discussion really is not going that far. I could spend the rest of this hearing telling you where various projects of renewable energy could go.

Senator JOYCE—I just asked you where three gigawatts of solar power in Queensland would go and you could not tell me that. I have not asked you for chapter and verse; I just asked you for one to try to show competency or otherwise in your understanding of the facts.

Mr Vincent—The way that is coming across sounds a tad unfair because you could go to some of the materials that we have already produced. We have had some modelling done by external agents that says you can easily get 82,000 gigawatt hours per year of renewable energy, and that was quite a conservative scenario. We did not prescribe where that needed to go because, as I said before, you have a wealth of resources in this country and you can pick and choose where you put them. There are a huge amount of factors to consider when deciding where you might put a solar thermal plant, a wind farm or an ocean energy farm.

Senator JOYCE—Without this though it is just plucking figures out of the air. If you cannot say where it is going to be, it is going to be irrelevant. You cannot, and me saying you cannot is as relevant as you saying you can if you cannot describe exactly where it is going to be.

Mr Vincent—If we were to build another coal or gas fired power station, where would it be?

Senator JOYCE—It would be in the Galilee Basin or in the Hunter, where there is capacity.

ACTING CHAIR—I am getting a bit confused because this is a bit like the Godwin Grech stuff. Who is coaching whom and where are we going with this?

Senator JOYCE—I have to put on the record that I have, to the best of my knowledge, no knowledge of Mr Julien Vincent. My first encounter with Mr Julien Vincent is happening right before your ears.

Mr Vincent—I am happy to confirm that. The point you are making is that you build the fossil fuel power station close to where the resource is and that is exactly the point I was trying to make.

Senator JOYCE—That is why I cannot understand why you do not know.

Mr Vincent—You were giving a load of options; you were not saying where it would go.

Senator JOYCE—You are here representing Greenpeace saying we can reduce it and when we ask for the details you cannot actually provide them. The main game is you want to reduce carbon emissions. That is basically it, isn't it?

Mr Vincent—That is the reason we exist.

Senator JOYCE—You acknowledge that nuclear power would reduce carbon emissions, or do you think that is not the case?

Mr Vincent—The Switkowski report that came out in I think late 2006 said that 25 nuclear power stations around the country would reduce emissions by between six and 18 per cent. Obviously they would take a long time to build as well. As far as we are concerned that would be too little too late. That money could be invested right now in solutions in renewables that can be rolled out in the next couple of years.

Senator JOYCE—So you are not fervently against nuclear power?

Mr Vincent—Yes, we are.

Senator JOYCE—Why?

Mr Vincent—It would be too little too late.

Senator JOYCE—That is the premise of why you do not like nuclear power?

Mr Vincent—That is one of the reasons, but, certainly for climate change, that is the overriding one.

Senator JOYCE—So something that produces too little or takes too long to bring online should be ruled out?

Mr Vincent—If it is not going to make a meaningful contribution to reduce emissions in the time frame we have then we should invest our efforts elsewhere.

Senator JOYCE—In your program for meaningful reduction what is priority No. 1? Where are you going to get the power from?

Mr Vincent—You would get it from a range of renewable technologies. I can run through the list if you like.

Senator JOYCE—You just ruled out one because it would be too little too late. I want to know what is your No. 1 for renewable power.

Mr Vincent—This is good fun.

ACTING CHAIR—Not if you are sitting here. I propose another couple of questions. I can tell you that the fun is not shared down here.

Senator JOYCE—What is No. 1 on your renewable power shopping list?

Mr Vincent—The technology with the most potential to provide baseload energy in Australia given the resources we have is solar thermal, but that of course is in the context of it being one in the array of many renewable energy technologies that we have available.

Senator JOYCE—When you are talking about thermal, are you talking about hot rocks?

Mr Vincent—No. I will clarify that. It is concentrating solar power. It is reflecting solar energy with mirrors onto a point source and creating superheated water, which creates steam and drives a turbine. It is essentially a way of generating steam for a turbine using solar energy.

Senator JOYCE—Where is there a plant that does that in that manner?

Mr Vincent—There is a very good example in Spain. The Andasol power station is over 200 megawatts. The thing to look out for with that is that it has about 7½ hours worth of thermal storage installed, which means it can produce electricity day and night.

Senator JOYCE—What is the actual cost of power per megawatt in Spain?

Mr Vincent—I do not have that figure to hand, I am afraid.

Senator JOYCE—How long did it take to build that solar power plant?

Mr Vincent—They are looking to build about 3,000 megawatts and have them online—

Senator JOYCE—Are you referring to one that is running now or one that is on the drawing board?

Mr Vincent—I can only answer your question about time frames for construction about the ones that are in the pipeline. There are about three gigawatts worth in the pipeline for the next few years.

Senator JOYCE—Are any of these built at the moment?

Mr Vincent—The ones that are in the pipeline, by definition of being in the pipeline, are not built.

Senator JOYCE—Tell me about one that is actually built. Is there one actually built there?

Mr Vincent—Yes, the first one I referred to.

Senator JOYCE—How long did it take to build it?

Mr Vincent—I cannot tell you how long it took to build that power station. I do not have that figure to hand.

Senator JOYCE—What would be too long a time to build these things in? We need to know whether we should be ruling them out. How quickly do you need to build these?

Mr Vincent—That is a good question. The thing you want to look out for is basically if it can make a substantial reduction in emissions in the next, say, 10 or 15 years. Of course, that is the time frame that I quoted earlier—

Senator JOYCE—More than 10 or 15 years is too long.

Mr Vincent—Pardon me?

Senator JOYCE—If you can build it in the next 10 or 15 years, that is what you are looking for?

Mr Vincent—If you can roll out significant quantities of it in the next 10 or 15 years then it is worth looking at and investing in.

Senator JOYCE—We can certainly build nuclear power plants in 10 or 15 years.

Mr Vincent—It is a question of how many and at what cost.

Senator JOYCE—For 10 or 15 years that is going to be the same question for everything. It will have capacity to get a high amount of carbon efficient power onto the grid. We can certainly do that within 10 or 15 years.

Mr Vincent—You are partly addressing the point I raised before about it being too late. I see where you are coming from. I would still contest that you can roll out a large amount. The too little is also quite substantial there. You are talking about billions of dollars being invested in nuclear power stations. For the $5 billion it costs to build a nuclear power station—and I am just plucking a number here—you could easily get two or three times worth of renewable energy generated.

Senator JOYCE—So what was the cost of the plant in Spain?

Mr Vincent—I do not know the costs of that power plant. I just know how big it is and how much energy it is putting out.

Senator JOYCE—How can you say it is not comparable to nuclear if you do not have the costs of it?

Mr Vincent—Comparing one power station is probably not a suitable comparison to make.

Senator JOYCE—Which one do you want to compare that thermal power plant to?

Mr Vincent—I just said that comparing one power station on its own to a particular industry is probably not a suitable comparison to make.

Senator JOYCE—You said a nuclear power plant cost $5 billion to build. Where did you get that figure from?

Mr Vincent—As I said that I did say I was just plucking a figure for an example.

Senator JOYCE—If we can build nuclear power plants quickly, efficiently and get them online, would you support them?

Mr Vincent—The too little too late issue is one of the many issues that we have with nuclear power.

Senator JOYCE—But we have just proved that there is far more than too little too late. You cannot provide any examples of the alternatives you are presenting that have the capacity to come online in a manner that meets your target of a 55 per cent reduction of carbon emissions.

Mr Vincent—That is certainly not what I have said or what I have supported.

Senator JOYCE—The Australian people need to know your vision of what you are going to build—something more than just an idealistic notion.

Mr Vincent—Do we want to go back and get a bigger picture of what the energy makeup will look like in 10 years?

Senator JOYCE—A basic run-down just for the purpose of this inquiry. You have ruled out nuclear because it does not produce enough. You have given one example of a thermal solar power plant in Spain, but you do not actually know how much it cost.

Mr Vincent—I have also said that they are building three gigawatt of it. You could build about nine gigawatts of that particular technology in this country by 2020 if you wanted to.

Senator JOYCE—And you are saying that we could not do that with nuclear?

Mr Vincent—I would very much doubt that you could do that with nuclear. And there are a whole load of other social—

Senator JOYCE—If I can prove that we could, would you be happy with that if we did it?

Mr Vincent—You would need to cover a lot of criteria to be able to get support from Greenpeace on nuclear-power.

Senator JOYCE—But you would consider it?

Mr Vincent—You would need to cover a lot of criteria. There are social, sociopolitical, geopolitical and environmental issues that we have not touched upon here.

Senator JOYCE—But you would consider it?

Mr Vincent—You would need to cover off on a lot of these other issues as well.

Senator JOYCE—Would you consider it or not?

Senator CAMERON—Do you want to take that on notice!

Senator JOYCE—You guys complain about politicians not answering questions. Goodness gracious me, you can give a straight answer can’t you, Mr Vincent?

Mr Vincent—I am quite happy to tell you that we are happy to rule out nuclear power as an option.

Senator JOYCE—You are going to rule out nuclear power now as an option?

Mr Vincent—I am very happy to do that. I did that a while ago.

Senator JOYCE—You are happy to rule it out?

Mr Vincent—Yes.

Senator CAMERON—Good on you, Mr Vincent, I am with you on that.

Senator JOYCE—We have gone to a lot of options—to ruling it out, to a thermal nuclear plant that we do not know the cost of, to a 55 per cent reduction in carbon emissions levels, but we do not know how we are going to do it. We have a three gigawatt idea in Queensland, but we cannot tell you where it is. This is not very convincing, Mr Vincent.

Mr Vincent—The words that you have just used solar thermal nuclear power station and three gigawatts in Queensland, I cannot wait to go and look at the *Hansard*.

Senator JOYCE—I will let someone else have some fun with you.

Senator CAMERON—I really do not think this is about fun. I think the issues are serious and I do support the proposition from Mr Vincent that nuclear power should not be an option for us. Mr Vincent, can I draw your attention to a report by the Institute of Public Affairs? Did you by any chance read the submission to this inquiry from the Institute of Public Affairs?

Mr Vincent—No, I am sorry, I did not.

Senator CAMERON—Can I take you to some of the propositions that are put there and get your view?

Mr Vincent—Certainly.

Senator CAMERON—The IPA indicate that the cost of renewable energy would impose a direct cost on the economy of $1.8 billion annually. They then go on to say that this would increase consumer costs and reduce industries' competitiveness and it would cause far more jobs to be lost than there would be subsidised jobs created. Do you have any views on those three propositions?

Mr Vincent—I just want to clarify their first proposition which was that there would be an increase of $1.8 billion annually—the cost of energy in total, is that what they are saying?

Senator CAMERON—The cost of RET

Mr Vincent—There is a price impost of course with RET because of the renewable energy certificates that are produced. I think that what is often forgotten is that what RET does is

produce a lot of electricity at a very low cost once it has been installed. I have seen modelling done from the National Generators Forum and the Business Council of Australia, for example, that suggests that the reduction in pool price in wholesale electricity more than compensates for that and the actual cost of producing electricity falls as a result of the RET, so I find that curious to start with.

Senator CAMERON—The author of the report, Dr Alan Moran, also talks about the imposition of a hidden tax on the consumer, the revenues from which are given to the suppliers of what he describes as 'intrinsically uncompetitive renewable energy sources'. What is your response to that?

Mr Vincent—I guess that any new energy source trying to find a place in the marketplace and become part of our energy supply is not going to be competitive until it is given the support mechanisms that currently favour our current mode of energy production. The idea that supporting other modes is uncompetitive or economically marginal, for example, is often the case because we are not giving them the appropriate policy support.

Senator CAMERON—In this submission the IPA draws the committee's attention to what they call the 'Spanish experiment with renewables' and basically say that the crisis in the Spanish economy is due to their increased use of renewables. That is a report by a researcher called Alvarez. You aware of that report?

Mr Vincent—Yes, I have seen some analysis of that report but I have not seen the report itself. If you are happy for me to take it on notice, I can provide you with some of the critique of that report.

Senator CAMERON—That would be good. The other critique concerns jobs. The IPA do say that any jobs created will be swamped by jobs lost. What is your estimate of the creation of green jobs if we adopt an ETS and the CPRS?

Mr Vincent—Are you talking about the renewable energy target or the carbon emissions—

Senator CAMERON—The renewable energy target, which is what we are dealing with now: has it got the potential to create jobs?

Mr Vincent—Yes, of course, because the plants are not going to build themselves and they are not going to run themselves. One thing that is worth mentioning is that the renewable energy target does not actually threaten any additional power generation from fossil fuels, which is obviously something that I am not happy with. But if you look at the ABARE figures for projected electricity growth, there is still more room in the amount of electricity that they are forecasting for 2020 to continue to build more fossil fuel-fired plants. So I would be quite amazed to think that they expected net losses in the fossil fuel sector as a result of the renewable energy target. And of course there are many more jobs to be had in producing renewable energy than in fossil fuels.

ACTING CHAIR—As there are no further questions, thank you very much for your evidence today.

Proceedings suspended from 3.08 pm to 3.40 pm

MacGILL, Dr Iain, Joint Director (Engineering), Centre for Energy and Environmental Markets

ACTING CHAIR—We will resume. Would you like to make an opening statement, Dr MacGill?

Dr MacGill—Yes, I would. Many thanks for the opportunity to appear before you today. I am one of the Joint Directors of the University of New South Wales Centre for Energy and Environmental Markets, an interdisciplinary research centre which, as its name suggests, works on questions of energy and environmental market design and the policy frameworks within which those markets reside. We work in collaboration. We bring together researchers not only from engineering—which is my background—and power systems but also from the Australian School of Business, the faculty of law, the faculty of science and the faculty of arts and social sciences.

The first thing I would like to say is that the government is to be congratulated on its commitment to bringing in a significantly expanded renewable energy target. These types of deployment policies have a really important role to play in transitioning our energy systems. They are a critical step in getting ideas out of the research lab and good ideas from the research lab from being demonstrated into commercial markets, which is a very important role to play. They are, of course, a choice and no doubt a part of the discussion you have been hearing over the last two days has been the question of whether they are an appropriate choice or whether there are other better choices for policy.

I will focus on emissions trading in the context of the Carbon Pollution Reduction Scheme. There is a body of theory around emissions trading that says it is the first best policy and anything else is taking a backwards step. Perhaps there are a few market failures somewhere that need to be addressed. But what you tend to find in practice is that energy markets, which are a critical sector targeted by these policies, seem to exhibit every form of market failure possible.

Renewable policies and renewable deployment policies can correct market failures, particularly in terms of investment and building up industry capacity for, let us say, future emissions reductions. But the other thing they do is provide policy insurance, because if we look at emissions trading, it is probably still best described as an experimental policy approach. We have a few examples around the world and, to date, none of them have worked particularly well. If you do want to see progress on sustainable energy, we have a set of policies which have significant demonstrated success in renewable deployment policies. The idea of giving those up on the basis of what is still an experimental policy approach is a very high-risk strategy. What if emissions trading does not work or does not work as we expect it will? So they have got a very important insurance role. They do have their limitations as well. They are just part of what a comprehensive and coherent policy framework has to look like.

No doubt you have had people coming before you and talking about solar hot water, PV multipliers, the role of this target for emerging technologies which are still in the development phase and so on. Part of what we are really seeing there is the absence of a coherent and comprehensive policy framework for renewables, so in some ways the expanded renewable

energy target looks like the only game in town; of course people want to be part of it. What it does mean is that it is being asked by some parties to do things that it is not a very appropriate design for. We will come back to solar hot water in that regard.

One thing to flag is that the Australian mandatory renewable energy target was the first national scheme of this tradeable certificate type in the world and, I think, in many ways has performed admirably with a modest target but with fairly low costs of achieving it compared to some of the mechanisms out there. However, if you go to Europe the experience with tradeable green certificates or quota systems is pretty mixed. The European discussion on renewable energy policy says that these schemes do not work very well, that they exhibit poor effectiveness in that targets may not be achieved, and that they are inefficient—they cost far more than other approaches. The Australian experience is an exception to that but, given that we are now talking about a much more significant target and, I think it is fair to say, a more stressed electricity industry to deliver this target, we do not want to underestimate the risks involved in this approach.

I want to pick up on the governance challenge. At one level these schemes appear to be quite simple to implement, because you just establish a target and set up a market. Then the market participants go do the hard work of deciding what gets built where, which was the question that Senator Joyce brought up before. Governments do not have to make those decisions. What we tend to find in practice is that these are nothing like natural markets at all. They do not naturally emerge. They are designer markets. You are no doubt now exploring those issues. Poor design choices mean poor outcomes, so we do have to get them right. What we have seen with governance in the mandatory renewable energy target here in Australia is, again, a mixed story. It is still unclear why solar hot water was included. A similar set of issues arose with pre-1997 hydro generation.

It was not that problems that emerged there—windfall profits and all the complexities of trying to put solar hot water into a renewable electricity scheme—were not seen. If you go back to the original working papers in 1998 and the example of old hydro, they saw the problems. What happened, though, was that the governance process was not able to resolve them. Poor design choices made it into the scheme. They did not mean the scheme did not work at all—it still did—but they did impact on its effectiveness.

Since the original, we had the Tambling review a couple of years after the mandatory renewable energy target began. We then had the design process for the Victorian scheme. One of the unfortunate things we see now with the proposed legislation as it stands is that in many ways governance appears to be going backwards. We have not solved very obvious problems that emerged with the scheme before it was even implemented back in 2001. And we appear to be introducing some new problems, whether it be opening up the eligibility for solar hot water or the proposal to allow large, electricity-intensive industries not to contribute to paying for the scheme. I will come back to that point. That is particularly problematic.

One point is with regard to the proposed target. It is a significant target—I do not think there is any doubt about that—but there are good reasons that you could argue for a larger target. One of those is that if you look around the world the emissions intensity—the tonnes of CO2 per megawatt hour for electricity in Australia is almost double the emissions intensity of the electricity industries of developed countries and still significantly more than electricity industries

averaged over the world. So in some ways, if you accept the view that climate change is a problem and is now causing damage and imposing costs around the world, what we are really seeing is an implicit subsidy from the rest of the world to Australian electricity consumers, because our low-cost electricity is based on one of the highest-emitting electricity industries in the world. There is a subsidy there. The way to see the expanded renewable energy target is not as an imposition; it is a partial removal of a subsidy that should be removed.

In terms of treatment of solar hot water heaters, it is unclear what they are doing there. It is a renewable electricity target. That is the stated intention of the scheme's 20 per cent target. They have added a huge amount of complexity, they do not generate renewable electricity and they raise all of these other questions, whether they be the issue of heat pumps—which you have no doubt had discussions about—or, more generally, the question of policy support for other things like other solar-thermal technologies and so on. This is not to say that solar hot water is a poor technology; in some contexts it is an excellent technology. It is just not the right technology to sit within an expanded renewable energy target on the basis of electricity.

Another issue, I think, is unrestricted eligibility of pre-1997 projects that were included or built under the mandatory renewable energy target. They will continue to earn RECs until 2030. As we saw in the Victorian scheme design, that is problematic. It reduces the effectiveness of the scheme and creates the potential for windfall profits. We have ways of addressing that such as the use of sunset clauses so that projects can only earn renewable energy certificates for a period of years. That will also help us address issues of promising but still emerging renewable technologies such as hot rock, which might be coming into play later than some of the early technologies. With the deeming arrangements and the multiplier for small solar PV installations, I think the first point to make is that this multiplier is no substitute for a well-thought-out, coherent and comprehensive policy framework. It is a sort of jimmy fix and it is not going to do as well as a more coherent and thought-through policy approach. That also applies for other distributed technologies.

Finally, on the proposal to exclude favoured large electricity consumers from contributing to the costs of the expanded renewable energy target, the first thing to note—as was noted in the Tambling review of the mandatory renewable energy target, where this was also on the table—is that any such exclusion would also undermine the scheme's basic principle that mandatory renewable energy target liabilities accrue to electricity users in proportion to the quantity of their usage. More generally, it comes back to the other point that low energy and electricity costs here in Australia are coming from an electricity industry with far higher emissions per megawatt hour than almost all other electricity industries in the world. On that basis, it currently represents a subsidy from the rest of the world to those producers here, and that needs to be addressed. I think I took a little more than five minutes, but thank you very much.

ACTING CHAIR—You talk about ETSs around the world not working particularly well. Do you want to say more about that, perhaps regarding the European Union? I cannot think of too many others. There is the New Zealand one.

Senator BOSWELL—There are only two, aren't there? There is the EU one and—

ACTING CHAIR—New Zealand.

Senator BOSWELL—No, New Zealand is not it.

ACTING CHAIR—Yes, New Zealand has a small ETS.

Dr MacGill—It is following a rocky road to implementation in New Zealand. There is also the New South Wales GGAS scheme and the RGGI scheme—the regional greenhouse gas inititative—in the north-eastern United States as well.

ACTING CHAIR—Some local state schemes.

Dr MacGill—Yes. But you are right, the EU is the big scheme. The experience so far has been very mixed. Certainly the first three years were a debacle, it is generally accepted. They set the targets too high. Significant amounts of money changed hands from energy consumers to, in large part, large polluters and it is very unclear how significant emissions reductions were. They are working to fix up that scheme, but it does highlight the fact that these schemes do not inherently work well; we have to make them work well.

As to the reason why things went wrong in Europe, and I would say also some of the other schemes we have seen, one possibility is just that we are learning about how to do it. We will get better at that and we will fix them up as we go. But another possibility is that these schemes, by their inherent nature, are basically impossible to govern well; that the governance processes that we have are basically unable to deliver effective, efficient and equitable schemes; that the processes are inevitably too easy for large stakeholders to distort. Now, that is an open question.

We obviously have hopes that Australia can lead the way in implementing an effective scheme. Again, it comes back to the point: why would you give up a set of policies that have proven success? If you go to Europe, the very successful policy for transforming the electricity industry there towards lower emissions has been renewable energy targets, not the EU emissions trading scheme.

ACTING CHAIR—Okay. The EU system is a fairly small one though, isn't it? It is not as comprehensive as is proposed for Australia?

Dr MacGill—It certainly covers a lot more emissions in aggregate. In terms of sectors it covers a more limited number of sectors. My recollection is that it covers between 40 and 50 per cent of EU emissions. The CPRS here is looking to have a much higher coverage.

ACTING CHAIR—Yes, indeed. You talked about the expanded MRET being the only game in town, but you said the government appears to be going backwards. For the record, why do you say this?

Dr MacGill—Just to clarify, it is obviously not the only game in town; there is demonstration funding and other approaches out there. But in terms of market deployment, I imagine that part of what we are seeing with the number of technologies that wish to get into the expanded renewable energy target—whether it is waste coal methane or solar hot water or others—may well be because they do not see a coherent and comprehensive set of policies that is there for their particular technology. These are a range of very workwhile technologies. The question is

not: are they worth supporting or not? The question is: how might you best support them? But if you do not see those other policies there, obviously you look to get into the game that is going.

In terms of the governance, one of the challenges we always face with these schemes is that you are trying to transfer risk in decision making to market participants, saying: 'Here is the market. Now you go off and make decisions. If you choose a poor technology or you don't implement your project well, you wear the risk.' What happens, of course, when you transfer risk over to market participants is that they quite naturally are focused on investor certainty, on what sort of certainty can be established, and one thing that seems to emerge is that you are not allowed to change the rules of the system. The problem there is that if you make some early mistakes it can be quite hard to fix them up because you have established this market, people are making decisions in this market and now you are proposing to change the rules. The problem is we are making mistakes.

Senator BOSWELL—Just to cut to the chase, what are you suggesting—that we have a stronger RET and no CPRS? Is that your suggestion? That is the cut-through line: you do not want a CPRS and you think you can get there by renewable energy. Am I correct?

Dr MacGill—No. I think that an economy-wide or fairly economy-wide carbon price is a key part of an effective and efficient set of policies for climate and energy. But it does need to be done well. If we do emissions trading poorly, not only will it not take us forward in the way that we would like, it can actually work against the objectives we are seeking to achieve. So it is going to need to be done well. What I would argue is that we certainly need a suite of other policies there, and some are renewable deployment policies such as the expanded renewable energy target. But that is not the only set of renewable policies we need. We also need a very comprehensive set of energy efficiency policies.

ACTING CHAIR—That is fair enough. Are you implying that you perhaps do not need an ETS and that something like a carbon tax might be a more effective way of dealing with putting a price on carbon in an economy like ours?

Dr MacGill—No doubt this committee has been exploring these issues. There is an ongoing debate about carbon taxes versus emissions trading, and they do have their obvious strengths and weaknesses, but I think one key issue that we really need to address there is the question of governance. There is a theoretical set of which might be more efficient, but we need to think about schemes that we can actually get through. We have seen problems with governance on both those, whether it is energy taxes in Europe and the United States, which did not go well, or the emissions trading schemes that have been implemented particularly in the EU. So, in my view, certainly in the longer term you need to price carbon. You can price it in a number of ways. I think there would be potentially very useful outcomes from a well-implemented emissions trading scheme or carbon tax. Unfortunately, there is not too much evidence yet of those sorts of schemes or taxes being put into place. Given that, when we do have a set of policies which do have some demonstrated success in driving change, they are policies that deserve support.

ACTING CHAIR—Do you support decoupling of the RETs from the CPRS?

Dr MacGill—You mean decoupling in terms of the energy-intensive trade-exposed industries?

ACTING CHAIR—That is one dimension of it, but in general terms the renewables, for example, supported decoupling of the renewable energy targets from the CPRS. Some people find it confusing; some people think that more can be achieved just with renewable energy targets.

Dr MacGill—I apologise; I have not had a chance to read the submissions that have been made. I have had a chance to quickly look at some. I have certainly seen and heard some discussion on decoupling in terms of the legislative process with the energy-intensive trade-exposed.

ACTING CHAIR—Such as aluminium.

Dr MacGill—In my view the expanded renewable energy target should not be providing an exclusion for energy-intensive trade-exposed industries to not contribute fully in proportion to their electricity consumption.

Senator CAMERON—We have had a submission from the Institute of Public Affairs. In that submission the author, Dr Moran, points to the Spanish experiment, as he describes it, and he points to work by Gabriel Calzada Alvarez. Are you familiar with that?

Dr MacGill—I have not read the study. I have seen commentary on it.

Senator CAMERON—What Alvarez is claiming—and what, certainly, the IPA is claiming—is that the outcome of the supposed experiment in renewables has meant that Spain has gone from an average unemployment rate to 18.1 per cent and that the renewable sector was a significant factor in pushing unemployment to 18.1 per cent. Do any of the critiques you have read agree with that? I just cannot understand why the renewable industry would turn the Spanish economy into a shambles.

Dr MacGill—They certainly have had very ambitious renewable energy targets, as seen with wind and, in recent years, PV, and there is no doubt that the direct costs involved with these technologies mean that they cost more than some of the other options they may have. There are obviously a range of issues going on in the Spanish electricity industry; there is also the EU emissions trading scheme, which has created the potential for very significant windfall profits in Spain from nuclear and old hydro plant.

Without having read the report and with no particular expertise in the Spanish economy, what we see is that a housing bubble appears to have been a very significant component of the troubles they are facing there. But, yes, there is no doubt that a dollar spent in one particular area is a dollar that is not available to spend in another. On the question of job creation and so on, I would only note that there are other parties in Spain, including some of the provincial governments, who take a very different view and say that these schemes have been excellent for job creation.

Senator CAMERON—Do you expect there would be job creation in Australia from the CPRS and RET?

Dr MacGill—Firstly, do you mean job creation in new, more sustainable aspects of the energy industry?

Senator CAMERON—And maintenance of jobs in existing industries because we are able to reduce the CO2 emissions and keep them feasible, across the economy in general.

Dr MacGill—Obviously there are two issues that come up here. One is direct employment. When you build a lot of renewables there are people involved in building and operating them and so on. There are some studies out there which suggest that many renewable technologies have more jobs in them per megawatt hour delivered than conventional options. In terms of energy efficiency, which we would hope to see very significant progress in, it is very evident that there is good job creation because of the nature of the things involved, such putting in insulation or doing audits and looking at the way we build houses and buildings and so on. Of course, there is expense involved in that and that is money that is not available elsewhere, so it is a complex equation. If you look at the challenge we face to move towards a more sustainable energy future, inherently it has to involve jobs and economic development to make that happen.

Senator CAMERON—The other argument being put forward by the IPA is that the power of the market is the way to discover the lowest way of meeting our goal. Has your analysis demonstrated that the market can deliver this on its own—that is, reducing CO2 emissions?

Dr MacGill—There is the market in theory and then there is the market in practice. Just to go back to the example of how emissions trading has performed in practice, what it has been able to achieve has been fairly questionable. Having said that, competitive pressures within markets can be an extremely valuable source of innovation and drive. We want to create vibrant industries where people are out there finding new ways to make money and helping us save the climate as well. One of the challenges we face, though, is that you can get competitive advantage by doing a very good job within a market, but with the designer markets we see with emissions trading or with the expanded renewable energy target a lot of the competitive advantage can potentially come from getting into the design process and basically having the rules work to your advantage. We are probably at the moment seeing a lot more innovation in folks coming to Canberra and arguing as to why they cannot change and how they cannot survive higher energy prices than we are seeing folks working out how to innovate to actually get their emissions down and make money out of it. In some ways, that is the most perverse outcome that we have seen from the CPRS. It really appears to have distracted us from ‘let’s get emissions down’ and has become ‘let’s go off and claim a victim status in Canberra’.

ACTING CHAIR—Thank you very much, Dr MacGill, for appearing.

Dr MacGill—Thank you very much for the opportunity.

[4.09 pm]

COMLEY, Mr Blair Robert, Deputy Secretary, Department of Climate Change

RAETHER, Mr Robert, Assistant Secretary, Renewables and Reporting Branch, Department of Climate Change

ACTING CHAIR—We welcome the Office of Climate Change back.

Senator BOSWELL—What effect will the RET and the CPRS have on retail electricity prices in each state and territory for each year from 2010 to 2020? I cannot find these numbers in the Treasury modelling report. There is a graph in a report done by NMA for Treasury in December last year but there are no numbers—just a graph. Can you advise us what the retail prices will increase by both in real terms and as a percentage?

Mr Comley—I will have to take it on notice. The numbers that I think have been published are that the expected change in retail prices in the first flexible price year of the scheme is around an 18 per cent increase in electricity prices.

Senator BOSWELL—I cannot find where the figures are. I have found a graph—and, if you are trying to get it off the graph, I have tried to do that, too, with a measuring stick and so forth—but can you give me the accurate figures.

Mr Comley—I said I will take on notice.

Senator BOSWELL—What form of assistance is available to small business in the Climate Change Action Fund? How much money has been allocated to ensure small trade-exposed businesses do not lose competitiveness while ever Australia's major trading partners do not take on emission reduction targets?

Senator CAMERON—That was my question!

Senator BOSWELL—Well, great minds think alike!

Mr Comley—The Climate Change Action Fund, which is primarily targeted at firms not covered by the emissions-intensive trade-exposed sector, is $2.75 billion in total. Of that, there is a $750 million component which is for the coal sector adjustment scheme. I will just grab my copy of the white paper, which sets this out. The remaining funds are subdivided into a number of categories, a number of so-called streams, which vary in their application. The first stream is primarily related to information provision. The second stream is primarily related to providing assistance, including to small businesses, for energy efficiency upgrades that help them adjust to a low-carbon economy.

Chapter 18 of the white paper outlines the four streams of the Climate Change Action Fund, and for the benefit of the committee it is on page 18-11 of the white paper. At white paper stage the first stream had an allocation of $130 million over five years—and this was augmented in

February by $300 million—for information, provision of a single access point, outreach through industry associations and community groups, advice on scheme operation and minimising impacts and assistance identifying energy efficiency improvements and enhancing energy audit and advisory services skills. The second stream, which at the point of the white paper was $1.37 billion over five years, is for small business capital allowance and community organisation capital allowance. That includes funding for schemes to adopt energy efficiency and activities from an eligible product list and competitive grants for low-emission technology processes. The third stream is a structural adjustment provision stream of $200 million. That is to assist workers, regions, and communities where a clear and sizable burden is identified as highly likely to occur. As I said, the fourth stream is the coal sector adjustment stream, which is broken down into two components: $500 million over five years for a coal sector transitional assistance fund, which is essentially money payments; and $250 million for grants associated with reducing the emissions from coal mines.

Senator BOSWELL—All right. We had this morning the Murray Goulburn Cooperative. They do not quite get to EITE industries but they are very trade exposed and export exposed and very high energy users. Would any of this money be allocated to them?

Mr Comley—The guidelines for the grant program have yet to be finalised and so I cannot definitively comment on whether a particular firm or industry would be allocated those funds. But certainly the intention of those streams is to allocate assistance to those that are not primarily emissions-intensive trade-exposed industries and are affected by the scheme because of energy use or other things. So it is precisely those sorts of activities that the Climate Change Action Fund was intended to address.

Senator BOSWELL—If the RET exemptions were to be decoupled from CPRS legislation then the activity definitions and all the technical details regarding the EITE activities would need to be put into either the RET legislation or into regulations. Have the EITE activity definitions been finalised so they can be put into the RET?

Mr Comley—Senator, I will answer the question whether the EITE definitions have been finalised because I think that is the matter of fact. The first point to make is that the EITE regulations obviously cannot formally be made until the CPRS is actually passed. So at the moment the government is—

Senator BOSWELL—You have said that the regulations cannot be finalised before the CPRS legislation is passed?

Mr Comley—The CPRS legislation provides the head of power that creates the regulations for the EITE industries and so the normal process would be that once the primary legislation is passed then you can make the regulations. The government is currently engaged in a process of releasing draft regulations which cannot formally be regulations until the legislation is passed. So I think that you are referring to the draft regulations and draft activity definitions that have been released.

Senator BOSWELL—So those draft regulations are actually regulations. They will be regulations?

Mr Comley—They are drafts which the government is seeking comments on, and people are giving feedback on the nature of those regulations. So it is a consultation process leading to the final regulations.

Senator BOSWELL—How are we going to vote on the RET bill when we do not know what the regulations are going to be or what the definitions are?

Mr Comley—The issue of how much detail of regulation that is provided is not uncommon to a range of legislation and much regulation is provided after the legislation is actually put in place. What the government has released, in the white paper in particular, is a very detailed outline of the policy framework within which those regulations are being formed. In fact they are probably unusually detailed. To date there have been 18 draft activity definitions put out for—

Senator BOSWELL—How many more are there to come in? How many have not been finalised?

Mr Comley—That is not final yet, Senator, because there is still a question of establishing the eligibility of some industries.

Senator BOSWELL—How many industries have not established their eligibility and how many activities are there to come in?

Mr Comley—As a rough ballpark we would expect there to be in the order of 50 to 60 activity definitions within the EITE process. That could change in the light of—

Senator BOSWELL—How many have you got in?

Mr Comley—At the moment 18 activity definitions have been released for comment.

Senator BOSWELL—How are we expected to vote for a bill that has not been defined as yet?

Mr Comley—Without commenting on how people are expected to vote, what detail is currently provided is the full policy framework within those regulations that have been made—

Senator BOSWELL—But how do we know the cement industry, for example, is going to get X, Y or Z? How can we vote with any certainty if we know that X is going to send them broke, Y is going to—

Mr Comley—The level of detail provided at the moment is much larger than in any comparable process that I am aware of.

Senator BOSWELL—I cannot understand that because you have a number of industries out there that are depending on a definition of an EITE activity statement. If the definition has not been finalised, if they have not come to an agreement with that and if they have not got the agreements they want, they might go broke or they might not expand operations, I cannot see how you can vote for a bill when you still have—what did you say?—50 to come in.

Mr Comley—We think there will be a range of 50 to 60 in total. At the moment there has been 18 activity definitions released. There is an intent to release more activity definitions progressively.

Senator BOSWELL—But when is the bill coming up—next week or something?

Mr Comley—If I may finish, many pieces of legislation have regulations not passed in advance—

Senator BOSWELL—I understand that.

Mr Comley—and what effectively has happened is the policy framework is outlined in the white paper, the regulations give effect to those and people can certainly observe the way in which the activity definitions to date have implemented the policy that was outlined in white paper.

Senator BOSWELL—I understand regulations and I know that you have the right to disallow them, but that is a far different proposition that is being offered today where you have a group of companies that are going to be impacted very severely. Let's take the obvious one which is the aluminium industry. They appeared before us today and gave evidence that if things stay as they are, they are going to up for $4 billion. As a group of people that represent people in Gladstone and so forth how can we vote for that when they do not know whether they are going to be up for $4 billion or whether the EITE activity statements are going to get them off the hook?

Mr Comley—In the case of aluminium my understanding—and I will have to check this—is that the draft activity definition for aluminium has been released. The aluminium industry in that instance is actually aware of the draft activity definition. The fact that they are doing those calculations, which I am not necessarily going to endorse, shows that they are actually taking all the detail that has been provided and doing an analysis through their business process because they feel they are in a position to do that. In the case of, certainly, most of the industries that we deal with there is not a great deal of uncertainty about the state of the policy framework. There are a lot of people who would like to change the policy framework and who have argued to change the policy framework but that actually reflects the level of detail that has been provided which they can use to analyse the impact of the scheme on them.

Senator BOSWELL—I find it very difficult to understand how you can vote for something or that you have to vote for something when you do not know what the effect will be on certain companies. Unless those activity statements—

Senator CAMERON—With Work Choices you had no compunction in there.

Senator BOSWELL—The unemployment rate went down with us and you must remember that. We offered more people a job with 20 per cent real increases in real wages. I have committed myself not to be diverted by you; I am going to ignore you.

Senator CAMERON—You have failed again!

Senator BOSWELL—Unless those activity statements are in and people know what they are going to get, I find it very difficult to see how we can support this. What is the policy position regarding decoupling?

Mr Comley—The position as represented in the bill before the House is that the assistance to emissions-intensive trade-exposed industries is contingent upon the passage of the CPRS bill in the context of the RET.

Senator BOSWELL—The government has not given you any indication they want that changed?

Mr Comley—As you know, it is not for me to talk about what the government may or may not have discussed on a particular issue with me.

Senator BOSWELL—I understand that.

ACTING CHAIR—This is a policy issue in fact.

Senator BOSWELL—Yesterday your colleague said that she did not know how many green jobs were created, no-one could find out and there was no way you could interpret those green jobs. That is basically what Meghan said, isn't it?

Mr Comley—That is not my recollection. What she said was a narrower observation: if you are looking to use a computable general equitable modelling tool to form a quantitative estimate of the amount of jobs created at below the state level then the current tools in Australia are not able to produce that modelling but that you can do so qualitative work on a partial basis.

Senator BOSWELL—You took it on yourself that you would take a question I asked about jobs on notice.

Mr Comley—We have provided a set of responses on notice.

Senator BOSWELL—I am sorry, I have not received those as yet. I will no doubt get them now. The green jobs are already out there. It seems that this CPRS policy is about to destroy some of the green jobs and that would include waste coalmine gas power generation. They have invested under the New South Wales scheme and made significant reductions in both destroying fugitive emissions and replacing traditional power generation. When this scheme comes in they will not get on the RET and they are going to be destroyed. I do not know how many jobs are there.

I believe Visy wrote to all members of parliament. They are concerned about their liabilities under the CPRS when collecting waste and recycling that waste into boxes and other materials. They are going to get severely penalised under the CPRS because of the electricity they are going to use to do that. They are saying that the $300 million recycling facility—and I do not know whether it is theirs or not—in New South Wales will not go ahead because of the costs imposed on the reprocessing of recyclable waste from CPRS. I take it that you know that the emissions associated with reprocessing organic recyclables are less than the methane emissions they would produce if they were dumped in landfill. Do you accept that?

Mr Comley—I am not sure I accept that. I would have to check. My understanding is that under the CPRS there is a strong incentive for recycling because of trying to avoid the methane emissions from landfill, because methane has quite a high global warming potential.

Senator BOSWELL—If I own a landfill dump and generate gas from the methane then I am entitled to renewable energy certificates. That is correct, isn't it?

Mr Comley—That is correct.

Senator BOSWELL—But Visy would not get renewable energy certificates for recycling cardboard into boxes and cartons. They are disadvantaged.

Mr Comley—Disadvantaged compared to what? If they do not generate renewable energy then they are not eligible under the renewable energy target. The renewable energy target, as we discussed yesterday, is a scheme to promote renewable energy.

Senator BOSWELL—Can you give your opinion on the proposal to offset the CPRS liability for reprocessing with methane emissions saved from landfill?

Mr Comley—As to a matter of opinion on a change of policy, I will not venture there. But what the CPRS does is that wherever an emission enters the atmosphere in a covered sector—and all these emissions would be in a covered sector—there is a carbon price imposed and, because there is a common carbon price, that will drive people to choose the method of producing that, either from new products or recycling, that has the lowest carbon emissions into the atmosphere. So there is already incentive in the CPRS that picks up either emissions from landfill or—

Senator BOSWELL—Where is the incentive in the CPRS?

Mr Comley—The incentive—

ACTING CHAIR—Excuse me, Mr Comley, could you just hold on for a second. Senator Xenophon, are you back on the line?

Senator XENOPHON—Yes, I am.

ACTING CHAIR—Have you been online for a while?

Senator XENOPHON—I have been online for about 20 minutes. That is fine.

ACTING CHAIR—I did ask earlier but there was no answer. If you have questions we are quite happy for you to proceed to ask them.

Senator XENOPHON—Yes, if I could.

ACTING CHAIR—Senator Boswell is just finishing a question. I apologise if we have had you hanging out in the ether, unknown.

Senator XENOPHON—That is fine.

ACTING CHAIR—Please finish your answer, Mr Comley.

Senator BOSWELL—Let me just rephrase this. The RET is an additional free kick in terms of emission reductions and it is three times more costly. That is what the Treasury modelling says. If you want to reduce your emissions, it is three times more costly to do it by a renewable energy target than it is by the CPRS. Here is a group of people making a very significant contribution to reducing CO2 by recycling rather than putting it in landfill. They are paying the CPRS penalty because with the RET and so forth put on it there is probably a 40 per cent price increase on power, whereas the landfill alternatives are getting a renewable energy certificate, which is worth anywhere between 50 and 60 bucks. So there is a large distortion there. There is also a distortion in relation to removing coal gas, and those people have already got their plant and equipment out there doing the job and employing people. These are green jobs, and we are going to reduce those green jobs by penalising them. It just seems that some accommodation should be given to those people.

Mr Comley—On the last point, in the white paper the government made it clear that it would be negotiating transitional arrangements out of the GGAS scheme related in this area, and those discussions still continue. So there is consideration being given to transitional assistance for those that produce power in that way. It is worth remembering, though, from an environmental point of view that the CPRS has a strong incentive to destroy that methane. It is a question as to whether it either gets flared or turned into electricity generation, but the CPRS drives a strong incentive for that methane to be eliminated.

Senator BOSWELL—Senator Xenophon, I know you have received the call but I have one more question. Would you allow me to ask that?

Senator XENOPHON—No problem.

Senator BOSWELL—Mr Comley, yesterday you said to me that the modelling done by government on the cost of RET included the cost of new transmission lines that would be needed to connect geothermal sites to the existing network. In the last round of estimates, back in May, I put a question on notice to your department, and just this week I received a response back from the Department of Resources, Energy and Tourism. I specifically asked for the total cost and also the unit cost of this additional infrastructure and was told in the response, not by you but by Resources, Energy and Tourism, that there are no estimates of this kind. If no estimates exist, as I have been told, how could the modelling include these costs?

Mr Comley—My understanding is the additional transmission cost to the line is included in the MMA modelling. I am surprised by that response, but I am happy to go and confer with my colleagues and see what was the basis on which they made that comment.

Senator BOSWELL—I would be grateful if you could do that and report back, because our report has to be in. Thank you.

ACTING CHAIR—Senator Xenophon, Senator Cameron has to go very shortly and he has one question. Do you mind deferring to him?

Senator XENOPHON—I do not mind.

Senator CAMERON—I will ask this question on notice. It will not take long. There has been lots of discussion about the Alvarez report from Spain in terms of the job destruction capacity of renewables. Could you have a look at the Alvarez report, provide some analysis of the Alvarez report from the department and also find for us the response from the Spanish government to that report.

Mr Comley—I will take that on notice.

Senator CAMERON—Thanks.

Senator XENOPHON—Mr Comley, yesterday we heard from the Gas Industry Alliance, in particular Mr Neilsen, who was quite critical about the way the RECs would operate for air source heat pump water heaters as distinct from the solar hot water heaters. One of his colleagues even went so far as to say that it was a rort. Could you comment in terms of some of the policy rationales. As I understand it, a solar hot water system accounts for 0.2 tonnes of CO2 while the electric air source heat pumps account for close to two tonnes of CO2 per year from residential use. Can you explain why—this appears to be an anomaly—the air source heat pumps get RECs under the system.

Mr Comley—I will make two comments. Firstly, as you are probably aware, the eligibility for heat pumps has been part of the system from the original MRET so that has been carried over in the expanded bill. Secondly, as part of the COAG agreement on 30 April, there was an agreement to set up a review that would report by the end of the year. One of the issues raised in that review was the treatment of heat pumps. That issue is currently going to be considered as part of that review process.

Senator XENOPHON—But we are dealing with the bill next week. I know you are not responsible for policy but, in terms of getting more bang for your buck in reducing greenhouse gases and in terms of the science, it seems to be anomalous, doesn't it?

Mr Comley—My understanding is that heat pumps do lead to some displacement of other forms of energy and so there is an argument that they reduce emissions over all, but, because of some of the sensitivities that you have raised, that is why the COAG agreement included a review of these items. The feeling that motivated the process of going for review was that it was important to establish certainty for the broader architecture in the long-term framework. There were then a couple of other minor issues raised in the process, but COAG's view was that it did not want to delay the overall process of providing certainty on the targets by going into those issues at this stage.

Senator XENOPHON—So you are saying that, as a result of the review initiated by COAG on April 30, there may be some further amendments to this legislation dependent on the outcome of that review?

Mr Comley—I think that is the intention of the review—that it would raise policy issues and it would see whether there was any requirement to modify the eligibility criteria for what can generate a REC.

Senator XENOPHON—I do not know if you can provide this to the committee but, in terms of the figures I have quoted to you, has any analysis been done by the department of the efficacy of giving a REC for an electric air source heat pump compared to a solar heat pump?

Mr Comley—I will ask Mr Raether to comment. We have looked at the issue and we are intending to feed that into the review process by the end of the year.

Senator XENOPHON—Presumably, you would have some information now in terms of the efficacy of both in the context of RECs.

Mr Raether—We are aware that there is a variety of studies comparing the effectiveness of heat pumps versus other solar hot water heaters. My understanding is that it does vary around the country. In some states they are fairly effective at reducing greenhouse gas emissions, in particular displacing fossil fuel energy, but that does vary across jurisdictions. As Mr Comley mentioned, that is one of the issues that will be brought up as part of the COAG review.

Senator XENOPHON—Insofar as you have any further information on that of a technical nature in terms of efficiencies of both in the context of this scheme, I would appreciate that.

Mr Comley—We will take that on notice.

Senator XENOPHON—I move now to comments made by Susan Jeanes yesterday on behalf of the Australian Geothermal Energy Association. Mr Comley, you may have seen her comments reported in today's *Australian Financial Review* that geothermal power has a potential to provide base electricity as distinct from wind power, which is intermittent in its nature. Her assertion is that, by taking the short-term low cost approach, Australia will be incurring a long-term high-cost penalty. Does the scheme make allowance for the fact that geothermal is a baseload energy source—one that could directly replace coal if it were up and running?

Mr Comley—No. The way the legislation is set up is that, effectively, a megawatt hour of renewable energy source is counted to create a REC and it does not differentiate between whether that is, for example, a wind turbine that operates at some part of the day and a geothermal that operates at other parts of the day. However, the nature of the electricity market will make that distinction in terms of the incentives to set up either type of power, because the fact that you can have a baseload allows you to run at peak pricing periods because you can run it the whole time. So, for example, if you look at wind power, my understanding is that the wind often does not blow at times of peak pricing and because of the variation in electricity prices it is very profitable—

Senator XENOPHON—Are you saying that wind does not actually blow at times of peak pricing?

Mr Comley—It is a curious fact that if you looked at the revenue yield of a wind turbine versus if the wind blew consistently, you would get a lower revenue yield per megawatt hour because in practice the wind does not blow when there is peak electricity demand. For example, on very hot days, it just happens that it typically does not blow as much. So, over time, it means that the revenue yield of wind is lower than you might otherwise expect, whereas a technology such as geothermal that has the capacity to operate at those peak pricing points becomes

relatively more attractive. So there is not an incentive built into the RET because that looks a megawatt hour as a megawatt hour, but the commercial reality of the market does give you a benefit if you have the capacity to deliver on a consistent basis at peak prices.

Senator XENOPHON—As I understand the criticism from the Geothermal Energy Association, there are not the pricing mechanisms to allow merging technologies to get up and running and what will occur is that they will be left behind. We will end up having more and more wind power without the emerging technologies such as geothermal and wave energy, which have the potential to provide that baseload power.

Mr Comley—As I explained yesterday, that is why the RET, which does target the lowest cost form of renewables, is complemented by a range of grants programs, in particular the $465 million fund that is grant assistance for more innovative technologies and the Solar Flagships program of $1.5 billion. They are directly targeted at assisting higher cost technologies that are earlier in their development phase but doing it in a more direct way than by using the RET, which is just for the lowest cost technology that is currently available. Because the RET exists out to 2030 and the carbon price is rising, geothermal producers still have an incentive, because the fact is that they are able to provide baseload capacity over the life of their investment, and there is still the REC potentially available and also the higher carbon price into the future.

Senator XENOPHON—But you can understand why they are quite nervous or pessimistic that they might be locked out of achieving their full potential.

Mr Comley—I certainly understand that. I do not want to put words into the mouth of that particular witnesses, but from many of the discussions that I have had if the MMA modelling came to pass and around a quarter of the target was met by geothermal, that would not worry them; it seems a reasonable share. They are actually concerned about building even more wind than is forecast in the MMA modelling. Part of this is that different people are forming estimates of the likely build—and this is not just in the RETs base—but they are making fairly pessimistic assumptions or very risk averse assumptions about what may happen and being concerned about the scenario of where there is a very rapid build-up of wind and a very rapid establishment of that as large market share. I understand that.

Senator XENOPHON—I will leave that line of questioning then. My final line of questioning is in relation to the submissions we heard yesterday from the Australian Industry Greenhouse Network. My understanding of their evidence is that they are concerned that there will be incentives for renewables. I think it is a good thing that, under the proposed CPRS, there will be compensation for coal, but a perverse outcome will be that gas, which is much cleaner than coal, admittedly, albeit not a renewable, will be crowded out of the new structure. Can you comment on that? There is a concern that gas, which some would say has a very important role, especially for that transition from a high-carbon to a low-carbon economy, will be left out in the cold.

Mr Comley—I understand. Some people have been concerned. They often describe it as: 'You'll skip gas; you'll go from coal and straight through to renewables.' Two factors are probably relevant here. The first is that gas has a lot lower intensity energy source than certainly brown coal but even lower than black coal, and so there is still going to be an incentive to use gas. The second thing related to that is the wind power issue. Because wind is intermittent, then,

almost in a portfolio of power supplies, there is an incentive to have wind generation complemented by gas power stations that can move into peak load and offset when the wind is not blowing. That is another factor where gas is quite useful, because typically a gas-fired power station can be started up much more quickly than a baseload coal power station.

ACTING CHAIR—We have to conclude the hearings at this point. I thank the witnesses for appearing. I thank the staff and also Hansard.

Committee adjourned at 4.47 pm