



# **HOUSE OF REPRESENTATIVES**

**STANDING COMMITTEE ON ENVIRONMENT, RECREATION AND THE ARTS**

**Reference: Trading in greenhouse gas emissions**

**BRISBANE**

**Tuesday, 5 May 1998**

**OFFICIAL HANSARD REPORT**

**CANBERRA**

HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON THE ENVIRONMENT,  
RECREATION AND THE ARTS

Members

Mr Causley (Chair)

Mr Jenkins (Deputy Chair)

Mr Anthony

Mr Billson

Mr Robert Brown

Mr Eoin Cameron

Mr Entsch

Mr Hockey

Miss Jackie Kelly

Mr Kerr

Dr Lawrence

Mr McDougall

Mr Mossfield

Dr Southcott

The committee will inquire into the regulatory arrangements that would need to be put in place to support a market in greenhouse gas emissions including:

mechanisms for measuring, verifying and monitoring emissions and the compliance with contracted arrangements;

mechanisms to integrate emissions trading with the development of carbon sinks (such as timber plantations, gas aquifer reinjection, soil rehabilitation etc), including the science, measurement and security of such arrangements;

the allocation of the right to emit greenhouse gases;

regulatory mechanisms to support a national market and potentially an international market in emissions trading;

possible emission traders, administration and transaction costs;

roles and responsibilities of governments and other stakeholders; and

the impact of emission trading on the environment and industry and the economic and social welfare of the Australian community.

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HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON ENVIRONMENT,  
RECREATION AND THE ARTS

*Trading in greenhouse gas emissions*

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Present

Mr Causley (Chair)

Mr Anthony

Mr Eoin Cameron

Mr Billson

Mr Jenkins

Committee met at 8.45 a.m.

Mr Causley took the chair.

**CHAIR**—I declare the hearing open. The inquiry into the regulatory arrangements for trading in greenhouse gas emissions was referred to this committee at the end of October last year by the Minister for the Environment, Senator Hill. Submissions were called for and 60 have been received to date. The committee is now starting on a program of public hearings, and this is the second. The committee was in Sydney yesterday.

The concept of international trading in greenhouse gas emissions has moved to centre stage since it became a last minute inclusion in the Kyoto Protocol. How it will be implemented remains to be decided. That process will start at a meeting of the parties to the protocol in Buenos Aires in November this year. In the meantime, a number of international pilot projects are coming into existence. Companies and governments are seeking to develop experience with what is likely to be a very complex trading environment. They want to position themselves to exploit the market when fully-fledged international trade is established.

Setting up a domestic trading scheme that can be integrated easily with the international scheme could be to Australia's economic advantage. It would also continue to reduce Australia's emissions in line with its commitment to the Kyoto Protocol. This inquiry is focussing on the arrangements that should be put in place for a domestic trading scheme. At the same time, the committee would be bearing in mind that Australia's trading schemes should be capable of being integrated with a developing international trade.

As the committee collects information about the best sort of scheme to adopt, it will be looking for mechanisms that will ensure that emission trading contributes to emission reduction as equitably, effectively and efficiently as possible. It will be looking for ways of providing maximum certainty at minimum cost for the environment and the emission traders.

The committee's proceedings are recognised as proceedings of the parliament and warrant the same respect that proceedings in the House of Representatives demand. Witnesses are protected by parliamentary privilege in respect of the evidence they give before the committee. They will not be asked to take an oath or to make an affirmation. However, you are reminded that false evidence given to a parliamentary committee may be regarded as a contempt of the parliament. The committee prefers that all evidence be given in public but should you at any stage wish to give evidence in private you may ask to do so and the committee will give consideration to your request.

**GABRIEL, Dr Michael Lloyd, Principal Policy Officer, Energy Policy and Planning, Queensland Department of Mines and Energy, 61 Mary Street, Brisbane, Queensland 4000**

**RICE, Mr Mark Henry, Senior Economist, Economics Division, Queensland Treasury, GPO Box 611, Brisbane, Queensland 4001**

**CHAIR**—We have received a submission from the Queensland government and have authorised its publication. Do you propose any changes to your submission at this stage?

**Mr Rice**—No.

**CHAIR**—Before we ask any questions, would you like to make an opening comment?

**Mr Rice**—Yes, we will make a brief opening comment. The first thing we would like to say is that we recognise that the committee members would only have received our submission last week. We thought it might be useful to go through a few of the key points in the submission in our opening statement before we get to questions from committee members.

We are pleased to be able to discuss the issues raised in our submission with the committee in more detail given that, as the chairman of the committee mentioned in his opening comments, the issue has moved to centre stage. It is especially so since Australia signed the protocol to the Framework Convention on Climate Change last week. We believe that the committee's proceedings are a valuable way of having increased community consultation on the issue given that the Commonwealth government is going to be involved in international negotiations later this year on the development of an international system of trading in greenhouse emissions.

As the Queensland government said in its submission, a major question for all Australian governments is going to be how to attain the targets set at the Kyoto conference of parties to the framework convention, at least economic cost and cost to the community. This means looking at solutions for which there is little precedent. That means that in seeking a solution we are going to be breaking some new ground. Therefore, it does mean there is going to be some researching and testing through pilot programs of solutions before they can be adopted on a widespread scale. As the opening part of our written submission mentioned, the views on behalf of the Queensland government expressed in the submission should be regarded as being a preliminary position of the government.

I might go through briefly what the submission saw as being the desirable features of primarily a domestic trading system in greenhouse emissions, but they would also be

applicable to an international system in trading in greenhouse emissions. The first of those is a comprehensive coverage of greenhouse gases and sinks subject to reliable measurement of emissions; a cap on emissions to be set nationally to ensure compliance with the Kyoto target; a comprehensive coverage of activities that would be sources of greenhouse emissions; the use of a common trading unit, which we have suggested be carbon dioxide equivalent to facilitate trading across gases and among industries; the initial allocation of permits preferably to be achieved by auctioning permits or sales on the market rather than administrative allocation, recognising that there will be an adjustment process involved in the allocation of permits; and there should be regular emissions monitoring and reporting to ensure compliance with the level of emissions covered by permits. After outlining those key features, we would be in a position to take questions from the committee.

**CHAIR**—Thank you. Any other statements?

**Dr Gabriel**—I would like to add two quick things, if I may. Mark referred to the fact that what we have tried to do in the submission is identify the ideal features of a domestic trading regime. We are aware—and in fact all our efforts at the moment are based on, as you pointed out prior to the formal session, identifying the questions and to start sketching out the key parameters—that the international regime negotiations which begin in June, and I think there is a further meeting in September, will have a significant bearing on the domestic regime. So, in effect, by identifying the key features of a domestic regime we are seeking to inform the Commonwealth as to what we believe they ought to be lobbying for in international negotiations.

The other point on the key features I would like to emphasise is that when we say ‘a comprehensive coverage of greenhouse gases and sinks’ we are particularly concerned to ensure that the issue of vegetation enhancement activities, such as anthropogenic changes to land use practices, remain on the table as a mechanism for earning credits with the credits incorporated into the trading regime. That is something that is of particular interest to the Queensland government.

**CHAIR**—Thank you. As we mentioned earlier, we are at a very early stage of this. Nevertheless, we had evidence yesterday to state that other countries around the world are not letting grass grow under their feet and they are moving very quickly to establish connections with other countries as far as positioning themselves, if you like, should this become a reality, and it would seem that it is moving down that track. So we in Australia have to be in a position to understand where we are and what we can achieve.

First of all—and I know I probably should be asking the minister this or even the Premier, but maybe there has been discussion within the Queensland government—one of the principal things is that we have to decide whether the states, as the traditional managers of these areas, should be the ones who put in place a tradeable rights scheme or should it be a national scheme that will be able to easily fit within the framework, as far as we understand it, of an international scheme. Are there any opinions from the

government on that particular area? As I said, I am not going to hold to politics. This is one of these areas where we are just floating ideas, trying to come up with some ideas about where we should be going.

**Mr Rice**—In our submission we have expressed a preference for emissions trading to be a national scheme, and there are several reasons for that. First of all, the development of a trading system arises from an international treaty, and the Commonwealth government has responsibility for international treaties. Secondly, how the greenhouse affect appears to operate is that the location of the activity of producing emissions appears to make very little difference to the impact on climate and therefore it would make sense to have the system operating nationally and internationally rather than set up in smaller local regions.

A very important point from Queensland's perspective is that we would see it as the best prospect of having a system that is going to be equitable and effective if it operates nationally rather than regionally, so that emissions reductions could occur in areas where it would be most economically feasible to do so or where it could be done at the lowest cost, rather than saying that each state or region would need to contribute a certain amount to achieving the national target.

**CHAIR**—Would you see it ultimately as being more beneficial if it was an international agreement?

**Mr Rice**—Yes, because I think that the principle that I just mentioned in relation to domestic trading would also apply internationally. International trading in emissions would permit emissions reductions to occur in countries which can achieve them most readily or at the lowest cost.

**CHAIR**—To get a tradeable rights scheme in place, we need quite a bit of measurement. It would appear that it is relatively easy to measure the emissions in the bigger industries such as fuel generation and cement making. There would be no difficulty getting those types of measurements from those bigger industries in Queensland, but what about the smaller emissions? Do you have an opinion on whether this should be across all emissions and all greenhouse gases?

**Mr Rice**—The features of a trading system outlined in our submission express a preference for having the system being as broad as possible. We would like to see all gases, as well as sinks, and all activities included. We would prefer not to see the coverage restricted, for example, to the energy sector or, say, to the electricity generation or the energy refining sectors. We also recognise that there will be some sectors and some gases which are more readily measurable than others. While the ideal would be to have as broad a coverage as possible, that may not be feasible in the short term, but it is a goal that we believe Australia and other countries should work towards in the medium term.



**Dr Gabriel**—The issue of verification is obviously critical. In terms of measuring gases, obviously some sectors, particularly the large sectors—energy and so forth—are easier to measure than others. If you go to the other end, I do not think we will ever get to the stage where we will need individual permits for motor cars. In fact, one of the issues that we have been grappling with is the issue of liquid fuels. How we incorporate the liquid fuel sector is going to be quite interesting.

As a matter of principle, the broader the coverage, the less chance there is that societies will then go off and spend more money in one sector and less in another, and end up with an inefficient allocation of resources. Whether or not that would be possible is difficult to assess. Some gases, clearly, we do not have such a good handle on. Also, there are some sectors, for example, in the vegetation sector, where there is some debate over levels of sequestration and so forth. There would be mechanisms for dealing with this if sufficient resources were allocated to these sectors for some basic research.

Also, hypothetically, if you said that there was this high level of conference with permits, for example, associated with the energy sector, but less so with credits generated perhaps in vegetation enhancement, one simple rather crude but I think ultimately effective mechanism might be to agree on a baseline value that everybody can agree is definitely sequestered, and just say the permits are worth that value. That would be one way forward.

At this stage of the debate, the government's position is clearly that we should leave all options on the table with the widest possible coverage of sources and sinks, but recognising that ultimately the issues of verification and also whether or not it is appropriate to run a permit system all the way down to the small unit level is going to work when it comes to practical application.

**CHAIR**—Would you support the position that says that we should immediately get involved with the ones that are the easiest, and then gradually, as a dynamic process, bring the rest in?

**Dr Gabriel**—I am not necessarily saying that. What I am saying is that, as a matter of principle, when we are trying to design a system, we ought to be looking for the broadest possible coverage. You have got options such as leaving some sectors out, but other options may be simply to allocate a lower value. Some scientists might hypothetically argue that with a sink enhancement credit you can sequester 14 tons of carbon per hectare per year, but others say no, you can only sequester six. If everybody can agree six is a figure that everybody can live with, maybe that is—

**CHAIR**—That is the forestry sinks you are talking about?

**Dr Gabriel**—Yes, absolutely.

**CHAIR**—So you are saying that we should come to an agreed position on that rather than worry about the science too much at this stage?

**Dr Gabriel**—You have to worry about the science and you have to spend money looking at the science but, at the end of the day, we should not at the moment knock out a sector because we say, ‘Well, we are not sure about the science and the numbers.’ What we ought to do is recognise that we have plenty of time if we are willing to commit the resources into the basic science. And, if a system emerges in the next few years, hopefully by then we will have a better handle.

**CHAIR**—If I could go to another question which is to do with the government itself, really, do you have accurate figures of land clearing in Queensland?

**Mr Rice**—It would be fair to say we are obtaining more accurate figures than previously.

**CHAIR**—You are not Robinson Crusoe.

**Dr Gabriel**—If I may take this question, because this is a question of great sensitivity—

**CHAIR**—It is very much so.

**Dr Gabriel**—It is a question of great sensitivity, and the bottom line is that yes, we do. But, through the SLATS program which uses Landsat data, we have very good figures on land clearing. Now, please do not ask me what they are because I do not carry them around in my head.

**CHAIR**—We could get those figures, could we?

**Dr Gabriel**—Certainly. Those figures are publicly available. There is the SLATS report, and we will make a note and make sure you get them.

Now the issue is separate if you want to know what the emissions are associated with land clearing. In other words, the hectares cleared per year are well-known and there are issues in relation to what is re-growth and so on, but the really hard question is knowing how much by way of emission is generated by land clearing each year, because that is a science question. It requires, as one person once said, guys in Land Cruisers towing backhoes out into the bush and doing some very basic research—and it is something the Queensland government actually does support and has been doing quite a lot of research in.

**CHAIR**—It is a fairly involved area because, if you clear a forest and it has no grass cover on the floor, and then, whilst cleared, grass develops and that grass

subsequently becomes a carbon base or whatever in the soil, you would have to do some calculations on that as well, would you not?

**Dr Gabriel**—Can I say that you are moving to an area where I would not claim expertise—

**CHAIR**—Neither would I.

**Dr Gabriel**—But what I can say, from a discussion I have had with somebody who is well versed in this area, is that it is a highly complex area. You have got to look at your stocking rates; you have got to look, as you said, at tropical grasses and how much carbon they are storing; you have got to look at your fire regime; you have got to look at your soil carbon; you have to look at your decay; what happens to the timber that is knocked over. If it sits in a paddock for 30 years, effectively it oxidises very slowly. There is a range of issues. But it is an area where the Queensland government is funding research.

**CHAIR**—Do you think there should be more research with help from the CSIRO?

**Dr Gabriel**—I certainly think the Commonwealth should spend more money in this area.

**CHAIR**—I did not say that. The other question I would like to ask you is this: have you any figures that have been done from your land management areas, I suppose, as to what area would be available to grow trees in Queensland?

**Dr Gabriel**—Again you are treading on something that is not my area of expertise. However, in discussions with primary industries I believe their general position is that, in terms of active tree planting to do with rainfall and other issues, there is a limited area in Queensland available where you could effectively set up plantation forestry, although I am not covering, as well, on-farm forestry. There is obviously some considerable potential for on-farm forestry in some regions. And indeed that is one of the reasons the government is of the view that we ought to do everything that we can in the international negotiations—effectively the Commonwealth should—to keep the possibility of earning credits on the table.

The issue in Queensland, though, is as much about issues of sequestration through changes in anthropogenic land management practices, which may be just simply changes to the way that the land is managed and stocked with a view to seeing if you can potentially enhance its sink capacity without necessarily actively going out there planting trees.

**CHAIR**—Would you be looking, in that exercise, at the economy and, if that area was planted with trees, what effect it would have on the productive capacity of the land?

**Dr Gabriel**—That is obviously something that would have to be taken into

account. These are highly complex questions, and the bottom line position is that we believe that the issue should be left on the table. We would like to think the Commonwealth will seek to have these issues left on the table to be negotiated over time. It will not be an easy battle for the Commonwealth.

Ultimately, in the meantime, there will be a lot of work that will need to be done, both in Queensland and in conjunction with the Commonwealth and other states, in looking at how you can best incorporate sequestration activities. Given that the topography and geography of Australia are so diverse, there will have to be different solutions in different regions.

**Mr BILLSON**—I would like to talk about some of the earlier points that you raised. With the initial allocation, I can understand why an economist might warm to the idea of an auction, but I am curious, though, as to why you are also advocating an adjustment package at a time when you are proposing an auction which would, theoretically, create the greatest dislocation in the industry. Could you talk about how you reconcile those apparently conflicting thoughts?

**Mr Rice**—Yes. In the submission we canvassed a number of different options for how permits may be allocated among different producers. All systems of allocation have their pluses and minuses from the point of view of achieving the greatest effectiveness in reducing emissions and of controlling emissions and also in accommodating new industries and new sources. Most systems that have been established to date have used primarily a free allocation, generally based on current emissions levels. The disadvantage with that type of approach is that it probably puts new entrants to industry at a disadvantage.

What happens is that the current participants in the market would receive a free allocation of permits which they can then either use to continue to produce a certain level of emissions or, if they can reduce emissions, they are able to gain revenue from selling permits. On the other hand, new entrants would be required to purchase their permits on the market, which is an additional cost that they would meet which current players do not. That is a particular concern to Queensland because our population growth, say, between now and 2010, will probably be among the highest of any of the states and territories in Australia. Also, we are expecting—Michael can provide extra details of this—growth in the power generation resources sector which has a potential to add to our emissions.

On the other hand, though, we are also expecting new projects in alternative and sustainable energy areas. So we are looking at a system that could allow for the maximum scope for new entrants to come in and be placed at the minimum disadvantage. Among the different options for accommodating growth, auctioning permits is the cleanest option in the sense that it involves the least complex decisions by governments about how to accommodate growth in different regions or different sectors.

Having said that, we do recognise that that then creates an adjustment task for

current industries because they are obviously going to face a cost that they did not face previously to produce, say, the same level of emissions as previously, or even a slightly lower level of emissions. In our contacts with industry groups, that has been an issue they have raised with us.

**Mr BILLSON**—Would you accept a view that what you are saying might be quintessentially Queenslandesque, but it might make the concept of a national trading framework impossible to get up?

**Dr Gabriel**—Actually, I would not accept that because I suspect that Western Australia, if they gave a lot of thought to this matter, would have the very same issues.

**Mr BILLSON**—Notwithstanding that point, the parochial argument I can well understand because I would be running it too, but, in terms of bringing industry into this new trading framework, it probably represents the least likely avenue to success. What about an allocation of permits that are discounted over time? Bear in mind the objective is to get our emissions within the Kyoto framework which, in many sectors, requires a reduction in emissions per unit of activity.

An alternative model put to us, which I have some sympathy with, is an initial allocation of permits that are discounted leading up to the accounting period so that there is a positive signal for reduction in emissions knowing that there is a need to purchase permits if you cannot achieve that. Secondly, you would have a store of permits available for auctioning which would facilitate the access of new entrants. Surely that is a win-win outcome that—

**Dr Gabriel**—How would such a system cope with say, after the initial allocation in year one, year two or year three if there is a proposal for, hypothetically a new 800 megawatt power station?

**Mr BILLSON**—You have talked about the US Clean Air Act. I suggest you familiarise yourself with how that operates. It is exactly the same concept where there is an allocation, a discounting, a retention of permit capacity by governments to make them available either by auction or, in some areas, by strategically making them available to encourage investment. That is not going to create the dislocation of an out-and-out auction where you have people with billions of dollars of assets tied up in activity that is all going to be thrown into a Russian roulette of an auction.

**CHAIR**—Just on that point: if you just had a straight auction then you are auctioning a very valuable property and those with the money could buy all the options and then sell them off to those who missed out. Do you see that as being a problem?

**Mr BILLSON**—It would be institutionalised extortion.

**Mr Rice**—I think there are several points to that. One is that the position in our submission is a preliminary one so I do not think we could say necessarily that the Queensland government is 100 per cent committed to the model of auctioning all permits. However, it seems that issue of the people who enter the market first and are able to obtain a large volume of permits which they can on-sell at a profit later on is a possibility with all systems of allocation. Because there is a cost involved in purchasing permits if you were to have either all or a significant proportion of them auctioned, presumably there would be limited scope among industry for them to purchase permits that are significantly in excess of what they will need to cover their operations.

**Mr BILLSON**—What was that?

**CHAIR**—You would not be able to afford it.

**Mr Rice**—I think that established players would have difficulty in spending money to acquire permits which are well in excess of what they require for their operations.

**Mr BILLSON**—But they would also maybe have problems acquiring permits to facilitate their current activity.

**Dr Gabriel**—That would obviously have to be offset, though. If you do auction permits, quite obviously you would need to have a re-allocation of revenue. In other words we would not see this as a tax imposed upon business. We would see this merely as a mechanism where you would obviously have to compensate them in some other way. But the critical issue is, and certainly the primary concern of the Queensland government is, that when you have such robust population growth and very significant growth projected in the resource sector with consequently significant growth in the energy sector, we are concerned to see that Queensland industries and future industries and developments are not in any way at all disadvantaged vis-a-vis existing industries in southern states that may well indeed have older technology and be less efficient.

**Mr BILLSON**—I agree with you. But we have a trading proposition where you are saying, 'Let's facilitate new entrants.' I am 150 per cent in agreement with that but I am suggesting it should not be at the expense of established players. In Queensland's case you have a positive growth—

**Dr Gabriel**—But it would not be at the expense of existing players. We would not ask for a system that favours new entrants over existing. We would ask for equitable treatment for both existing and new industries.

**Mr BILLSON**—And you feel that at an auction all of them achieve that?

**Dr Gabriel**—It is certainly one mechanism that you could look at achieving, but can we say that we note that this is an ideal situation. We are well aware of business's

views and we are not unreasonable. The primary concern is that we would like a system designed that does protect the interests of future players.

**Mr BILLSON**—I agree.

**Dr Gabriel**—If a system can be designed that does so then it will meet the government's primary concern which is more about equitable treatment of all players than it is about a particular system.

**Mr BILLSON**—In terms of the purity of the market, you are talking about third party participants. As the chairman was alluding to, if we simply auction them all, there is quite a possibility that people may warehouse them. Then you would find a reduced amount finding their way into the productive sector. Is that a concern or are you suggesting we should not encourage third party participants in the market?

**Dr Gabriel**—When I was at the CEDA conference—a Committee for Economic Development of Australia—in Sydney, certainly the people from the Sydney futures exchange were very keen to be involved. I am not a market expert but I can certainly see value in open trade. Having said that, there may need to be mechanisms designed to prevent people from deliberately distorting the market. I would assume that rules could be put in place to achieve that.

**Mr BILLSON**—So we are having a shandy auction?

**Dr Gabriel**—No, not necessarily, but ultimately there may need to be some mechanisms designed. One way would be to have permits that are of a fixed duration. People will not warehouse them if the permit only has a short duration.

**Mr BILLSON**—In the sulfur dioxide example, under the US Clean Air Act, conservation groups are buying permits. I think that is fine. They are doing that as a way of taking them out of the system to put more pressure on the energy producers.

**Dr Gabriel**—I do not think they can afford so many permits to really bring about significant pressure. I would suggest that they would not have the resources.

**CHAIR**—While we are on the futures exchange, which I punted a shot to Bruce on a while ago, we were talking about the accurate measurement of sinks, et cetera. If you were going to have tradeable rights and trading on the futures exchange, then surely the accurate measurement of those sinks is going to be a very critical matter because it will affect the value of the futures.

You were saying earlier that we could probably take a bit of an agreed position on it but if it was going to be a tradeable right on the futures exchange, that would not be good enough, would it?

**Dr Gabriel**—I would disagree. As long as you could determine a value that everybody was comfortable with—

**Mr BILLSON**—An international unit of some kind.

**Dr Gabriel**—That is right. It does get complex because you have different rainfalls, you have different soils and so forth.

**CHAIR**—Yes, I understand that.

**Dr Gabriel**—Ultimately this will require a significant amount of scientific input. For example, take a hypothetical: I think everybody could agree that one hectare could sequester hypothetically half a tonne of carbon. In a particular region, you might get to six or might get to four but, at some point, there will start to be a debate. If you just took the lowest common denominator, that is a rock solid guarantee and the margin could be argued. That is hypothetically one way that you could overcome that.

**CHAIR**—It would probably only go up.

**Dr Gabriel**—Yes, provided you picked a value. I think that such an approach would give sufficient confidence that somebody buying that could know they are buying a credit that was legitimate. Again, we do not have any answers here. The main thing we would like to see is that, at the moment, these issues are left open so that, in any discussions on how you design a regime, effort and attention is paid to incorporating these things.

**Mr BILLSON**—Let us incorporate the allocations issue with the futures market. If you had permits with a use-by date on them, are you suggesting that in subsequent years those permits also be auctioned so those new investors in the couple of trillion gigawatt power plants that are going to be built in Queensland have to go out and mix it with everybody else? Is that what you are suggesting?

**Mr Rice**—Yes. As we understand how a tradeable permit would operate, it is a permit to produce a certain volume of emissions over a certain period. Once that period has expired then people who wish to generate emissions would need to acquire that right once again. We would see some benefits in having permits for a longer duration so that businesses have some confidence in their planning and they know that if they have a certain cost of acquiring permits then that will cover them for a certain period but once that period has expired then we would expect that they would need to pay to renew that right.

**Mr BILLSON**—Five years would be an accounting period in the Kyoto agreement but how would confidence for five years give you and me the confidence to front up to shareholders and say, 'Give us \$1 billion of your money to invest in a power generation



project. By the way, we are not sure, at the end of five years, if we are going to get another permit.' How does that generate confidence?

**Dr Gabriel**—You will be able to get another permit.

**Mr BILLSON**—At a price.

**Dr Gabriel**—Absolutely. Ultimately, the issue is how society equitably shares the cost of meeting the Kyoto commitment and, presumably, commitments beyond.

**Mr BILLSON**—Could I put it to you that if there was some rolling value to permits and we did it today—the accounting period does not start until—

**Dr Gabriel**—Until 2008.

**Mr BILLSON**—If we started today at a level and trended down towards those targets and discounted units of emission in line with that trend down, surely you are achieving much the same outcome? You are facilitating a transition and changing the economy and you are not throwing major investments to the wolves to see who can outbid whom for permits.

**Dr Gabriel**—The problem with that approach or scenario is that, in fact, emissions are trending up.

**Mr BILLSON**—Really?

**Dr Gabriel**—The first thing we have to face is that emissions are trending upwards.

**Mr BILLSON**—But the cement industry, to use an example, is very important to Queensland's future and technologically—

**Dr Gabriel**—Absolutely.

**Mr BILLSON**—It has a great deal of problems generating any more emissions reduction because of the calcination effect in creating cement. If we lay on top an uncertainty about whether they will have permits or not, they might end up not being here.

**Dr Gabriel**—You keep saying the uncertainty of whether or not they will have permits.

**Mr BILLSON**—Yes. They are still a product of price.

**Dr Gabriel**—Absolutely. The question is on the activity and the cost of permits.

Ultimately, if we go into an international regime then presumably there will be a price for those. I do not think countries will be giving them away for free.

**Mr BILLSON**—Let us use that example. Countries outside annexure 1 are not troubled by this.

**Dr Gabriel**—Yes.

**Mr BILLSON**—Take the cement industry. Where will all our cement come from?

**Dr Gabriel**—Absolutely. Can I say that—

**Mr BILLSON**—Competitors are outside the loop.

**Dr Gabriel**—That fairly obviously is an issue that will have to be resolved internationally. Clearly, the design of the international regime is going to need to address that very issue. Otherwise, I do not think you are going to be able to develop a credible—

**Mr BILLSON**—I have one other question on the comprehensiveness issue. Do you envisage a threshold of emissions and sequestration credits before—

**Dr Gabriel**—Do you mean at a certain size?

**Mr BILLSON**—Yes.

**Dr Gabriel**—We have not given a thought to that at the moment.

**Mr BILLSON**—It leads to the next question so let us put that to one side. It leads to the question of who holds the permits. For instance, take the cattle industry. Is it the industry that holds the permits? Do we agree that as long as cattle numbers are within certain sizes we will treat that as in effect neutral and they can get on with their lives but if there is a major growth in cattle numbers then we should shop around for permits? Would it be the same with motor vehicles? Should we pursue other policy measures at that micro level to plug into this broader national outcome? Is that the sort of thing that you would envisage?

**Mr Rice**—In our submission we have looked at the issue of the cost of administering a tradeable permit system and monitoring the emissions from different sources. I think the smaller the level of the enterprise or the producer of emissions, then obviously the more costly and more complicated the scheme would be to administer. We do see that there would be a case to choose the level of emissions production that would allow both comprehensive coverage and still not make the system unduly complicated.

An example is, in using the transport sector, we have suggested that possibly some

of the major transport operators such as freight companies, airlines or perhaps people who have large motor vehicle fleets may be in the tradeable permit system but not necessarily private motorists.

**Mr BILLSON**—So long as the private motorist meets the fuel economy outcomes and those sorts of things? On land clearing, the same thing applies. Under the Kyoto agreement, if there is no net change everybody is happy. But if you are going up and down you either win or you lose. In that arrangement, and particularly given our next speakers, on individual vegetation initiatives, how would you see those being rewarded? Would you see them rewarded in the generation of credits that they could trade or would you see them being rewarded collectively? How do you send that positive signal to the landowner, given that their individual efforts might not amount to the threshold for earning credit? How do you get those incentives through to the ground?

**Dr Gabriel**—In our thinking at this stage we are still succeeding in raising more questions than we are finding answers.

**Mr BILLSON**—So are we.

**Dr Gabriel**—However, if I could give an example in the area of land use change. One of the issues is: how do you manage the fire risk because there are some issues there? One approach might be through a cooperative arrangement which would allow you to spread your risk across a region. You might have groups of farmers working together and mechanisms where they actually share both the credits and the losses. I do not know how it will take place.

**Mr BILLSON**—I think you let the protocol give you an out. If there is a fire, it does not count if you harvest it under that permit. You work that out.

**CHAIR**—In many of these areas, it is not going to work as far as the world scene is concerned unless some of the developing countries are able to get something out of this. There would appear to be opportunities for Australia and other developed nations to improve the overall world scene by investing in technology in some of those countries.

You mentioned earlier in your statement that you were looking at sinks and other areas of sequestration of carbon dioxide. What areas were you looking at there? Were you looking at other areas within Australia or were you thinking about something else?

**Dr Gabriel**—I am sure that internationally sink enhancement will need to be incorporated at some point because, ultimately, it is one of the attractions for the developing countries. Indonesia has suffered horrendously from the fires recently. You have land management practices in other countries which open some questions. I could see that one mechanism to entice some of these countries to participate is to offer them the ability to generate credits. For example, Costa Rica has already been doing this quite

successfully.

Quite obviously Australia is in a very different position to most other developed countries because we are very different, although I think I am right in saying that New Zealand also has some considerable potential for sink enhancement activities on the west coast. These are battles we are going to have to fight internationally and it is up to the Commonwealth to do so. The inclusion in the international regime of sequestration activities will depend largely on how successful Australia is in pushing a case. Presumably that outcome will significantly bear upon the domestic regime that may emerge prior to commencement of international trading.

**CHAIR**—We are told that not so much Europe but America and Japan in particular are already looking overseas as to where they can gain some credits and that they are looking at some countries as forest sinks. It is similar to our situation in Australia. If there is not anything in it for the land-holder to have a forest sink, then it is not going to work. How are these people going to get the money out of it? How are they going to get the return out of these carbon dioxide sinks?

**Dr Gabriel**—Presumably the credits will have a value, and it is simply a question of how you allocate that value, and whether or not you do so through the collective cooperative arrangements on an individual land-holder basis.

**CHAIR**—A dividend per year?

**Dr Gabriel**—Potentially, yes.

**Mr Rice**—One of the issues with the development of an international tradeable permit system is that, at least in the lead-up to Kyoto, it seemed that many developing countries did not want to engage in that debate on the issue. To them, it seemed as though international tradeable permits, especially if they included developing countries, were a way of some of the industrialised countries evading their responsibilities.

I believe that developing countries now may see some opportunities. That is going to be an issue for the negotiations later this year about how developing countries could be included in the international trading in greenhouse emissions, especially if they were going to undertake activities such as re-forestation and sink enhancement.

There is a legitimate issue raised by many developing countries that, to some degree, the industrialised countries have reached their current level of income in part because in the past they paid less attention to the environment. Now that the environment is a major global concern, the improvement in living standards in developing countries may be constrained because we are all worried about what the impact of their development is going to be on the environment in the future. I think they do need some incentive to undertake activities which are going to preserve their own environment and contribute

to global objectives.

**CHAIR**—Because they are really outside the loop at the present time, the only way you will bring them in is through the developing countries doing something to try and reduce the emissions. State governments are often a lot closer to business and industry than the federal government. Do you think that industry is aware of the opportunities in this area overseas? We are putting technology into these countries to gain credits.

**Dr Gabriel**—In the power sector I am aware that AUSTA Energy, which is the engineering arm of what was formerly AUSTA Electric—as you know the government split AUSTA into three generators and a separate entity called AUSTA Energy—are aware of the opportunities overseas and are actively engaging in discussions overseas looking at this. I am not sure whether or not industry in Queensland more generally is aware. Certainly I would expect the key players, particularly in the energy sector, to be aware.

**CHAIR**—I do not think it is the role of government to handfeed industry, but should the federal government be involved in alerting people to this?

**Dr Gabriel**—I do believe you have the Office of the Joint Implementation Unit. I presume they have undergone a name change. I presume that they are engaged in spreading the message. I do think there is a role for government in raising the profile. I myself have made a point of contacting AUSTA Energy to make sure they are aware of these opportunities. It is not a question of spoon-feeding. If you come across a piece of useful information, there is no harm in passing it on.

**Mr EOIN CAMERON**—Michael, just a few moments ago you mentioned Costa Rica in passing. I noted that the Queensland Timber Board mentioned Costa Rica, Belize and Mexico. Are you aware of the scale of operations in those countries, or in Costa Rica in particular?

**Dr Gabriel**—With Costa Rica, I was aware that there had been at least one power station in America some time ago that was engaged in a competitive tender. Part of the criteria was the minimal greenhouse gas emissions. In the end, the winning bid was a combined cycle gas plant that also engaged in some other activities, one of which was some sink enhancement in Costa Rica. I believe there have been some others. I have just heard these in passing.

**Mr EOIN CAMERON**—You do not know the details of them?

**Dr Gabriel**—I confess I have not had the time to get in and do as much reading as I would like on some of these issues. We have had a bit on our plate of late.

**Mr JENKINS**—I want to clarify the question about the banking of the emission rights, the emission permit. It has been put to us in other evidence that that might be a

valuable device, especially towards the end of the period which the permit covers. There might be commercial or technical reasons that an emitter might want to store them away or there might be, as Mr Billson keeps putting up, altruistic reasons for banking them away forever. In economic accounting terms, we have moved the way we manage funds to not have these artificial ends of financial years which distort people's activities. No matter how long the period is, wouldn't there be some value in allowing people to 'bank' and then admit in another period, because we still achieve our aims of capping and controlling emissions by the permit amount issued?

**Mr Rice**—On pages 12 and 13 of our submission, we do make a reference to banking of permits. It can be a valuable option, especially if regulations were capping emissions in a way so that the permitted emissions were declining over time. It could be that producers would be able to achieve emissions reductions relatively quickly. Being able to bank emissions in the earlier period would then smooth the task later on if they were going to be complying with the tighter limit on emissions at a subsequent date.

**CHAIR**—Wouldn't that be absolutely imperative? For instance, if environmental groups were going to buy permits or units, then they would have to bank them, wouldn't they?

**Mr Rice**—Yes.

**Dr Gabriel**—I think there is a bit of a furphy, frankly, in relation to environmental groups. Unless I have missed something, last time I looked they were not particularly well resourced, and I do not think—

**CHAIR**—They have bought them. In America they have bought them.

**Dr Gabriel**—Yes, but the question is: do we honestly think they are going to go out and buy a million permits?

**CHAIR**—No, no.

**Dr Gabriel**—What I am saying is that I am sure that they will buy some, but it is a fraction of the total market. My best judgment would be that it is a very small number. And I have no problem with that, if they wish to do that. I think it will be so small as to be not that significant.

**CHAIR**—If they bought one per cent, two per cent, they would still have to be able to bank them.

**Dr Gabriel**—I would not even believe that they could afford one per cent, and I think it would be a fraction of one per cent.

**Mr BILLSON**—Michael, suppose you and I went out there and said, ‘Invest your money with us.’ ‘Why?’ ‘Because we are going buy emissions trading permits.’ ‘Why?’ ‘Because we are going to hold them off the scene to improve the future world for our kids, and at occasions when there is technologically acceptable investment proposals, we will sell.’ They would be sold at a premium and we would become very wealthy people—and the world would be a better place, I would say.

**Dr Gabriel**—There are two things wrong with that scenario. The first thing is that I assume that there will be some use by dates on a permit, so ultimately—

**CHAIR**—There will be reductions.

**Dr Gabriel**—I do not know from the environmental point of view that deferring emissions one or two years makes any difference. The other thing is that when you purchase a permit it may well be that the value will decline over time.

**Mr BILLSON**—Which is the US Clean Air Act experience.

**Dr Gabriel**—Absolutely. Actually, you have to be very careful with sulfur dioxide, because when we did research we found out that most of the success of the program appears to have been to have switched in coal use to a low sulfur coal, and there are various reasons for that. However, there was certainly the experience that permits fell in value because industry found it was easier to reduce sulfur than they had anticipated.

You cannot guarantee that the price will indeed rise. That is going to depend to some extent on the allocation of permits, the number of permits, and what allowance is made for growth and all those sorts of factors.

If we are talking about banking permits and we worried about the environmentalists, I just think that that is frankly not useful to the debate.

**Mr BILLSON**—Let us hang with that just for a minute.

**Dr Gabriel**—Let me finish. Of much greater concern would be having a large entity that was well cashed up that was actually—

**CHAIR**—Yes, that is right, like a super fund.

**Dr Gabriel**—trying to manipulate the market. When I was saying earlier that I thought that there would be mechanisms to do that, obviously large businesses will need to buy some permits to give them certainty to cope with their business plans and so forth. But when you are engaging people who might go out and seek to buy potentially tens or hundreds of millions of dollars worth of permits and engage in an exercise of market manipulation, I am assuming that at that point we can design rules to deal with that.

**CHAIR**—To support their market share or something like that?

**Mr BILLSON**—That is right. May I come back a couple of points. I am not concerned about the environmentalists. I do not think that is a bad outcome, because this is not about creating permit systems for the fun of it; this is about trying to achieve a reduction in greenhouse gas emissions and, if that is achieved by whatever means, then surely the aims are being met.

Your contention that those people with that as the primary objective in mind will not have the resources to continually re-engage in the marketplace exactly backs up the point I was making earlier. Where you have got industries, like the cement industry, that are on a very thin margin, high volume situation now, if they have to keep going back into the marketplace to buy every five years, how are they better able to cope with it than those people with the greenhouse emissions goal as their primary objective? I just do not think you can have it both ways.

**Dr Gabriel**—I am not having it both ways, and I would actually again remind you that I think that the discussion in relation to environmental groups is not useful to the debate.

**Mr BILLSON**—Forget the environmental groups. What if we have someone buying the permits as an aim in its own right, like trading in currencies, for instance?

**Dr Gabriel**—Absolutely, so let us now discuss a particular industry. Quite clearly—

**Mr BILLSON**—No, let us forget the environment. Talk about someone speculating in permits. Forget who they are: someone speculating in permits.

**Dr Gabriel**—Absolutely. At that point, what I am suggesting is that if we are engaging in active market manipulation—

**Mr BILLSON**—Some will call it business.

**Dr Gabriel**—It depends on the market rules. I would like to think that we would be intelligent enough to design a market that could avoid certain forms of speculation.

**Mr ANTHONY**—That is the problem. Having been a trader on the Mercantile Chicago Exchange, whether you get silver or you get any type of commodity, if there is a buck that can be manipulated it will be. I think that is the point that Mr Billson is making, notwithstanding the merits of having permits.

**Dr Gabriel**—But the flip side of that is whether or not by having a market system you have relatively free trade—and I still believe that there might need to be at the margin



some regulation. When I was at the Sydney futures exchange, various speakers were pointing out that they believed that the market's role is to allocate permits efficiently. Okay, there is going to be some market trading and so forth, but they were arguing strongly that that would be more efficient than if you built in an enormous government bureaucracy that was designed to try to regulate the market.

**Mr BILLSON**—Can I help you a bit without debate? We do have an answer to this—the either use it or lose it notion. I am just raising the point that the goal of the whole Kyoto Protocol is to get emissions down. You can achieve that and have quite perverse impacts on the economy which either you are concerned about or you are not.

**Dr Gabriel**—Without singling out the cement industry, we have had other discussions with industries that are engaged in import competition. I will just go back to the early point that I made: in designing any system, one of the critical issues internationally is going to be to ensure that industries in developed countries which are competing with countries outside of the protocol are not disadvantaged. Whether or not you do that through some sorts of mechanisms on imports designed to re-level the playing field, I do not know. But what I know absolutely is that this is an issue of critical concern.

Quite clearly, in Queensland as well as import industries there are a number of export industries. We would be concerned, for example, with how the aluminium industry would compete with aluminium refineries and smelters located in countries that do not have to meet a particular commitment. Again, these are issues that we think the Commonwealth needs to robustly sort out overseas.

**Mr BILLSON**—Where this conversation is leading to is that using cement, aluminium or whatever, given whether we allocate or purchase permits, given that we either buy them or pursue abatement measures, there is theoretically a layer of greenhouse costs that needs to be borne. If you are bringing in a commodity from a non-Kyoto annexure 1 country into the Kyoto world, we would need to equalise the trading balance that not being concerned about emissions provides.

**Dr Gabriel**—Absolutely. What we are looking to do is that whether or not we allocate permits free ultimately at some point they will gain value and businesses are going to need to purchase permits. So what we are effectively doing is asking business to incorporate the externality of greenhouse into their day-to-day decisions. The advantage of permits is that, through incorporating the externality, you then offer incentive to business to find the cost-effective ways to reduce emissions. Those businesses that can do so cheaply will have surplus permits and they will sell permits to companies that are highly efficient and unable to reduce their emissions further. So that is the whole rationale. Critically, in that is the notion of what you do with outside players where the externality has not been incorporated.

**Mr BILLSON**—So you would be looking to, say, importers in annexure 1

countries bringing their products from the developing world up to Kyoto compliant, which may involve them even acquiring permits that they need to park on the material as it comes into the world. Is that the sort of thing—

**Dr Gabriel**—I honestly do not know how that is going to be dealt with. But what I do know is that that is going to be a significant issue internationally because, while obviously in Queensland we are particularly sensitive because we have a number of very significant export industries, we also have to acknowledge that we have industries like cement and liquid fuels and so on that also face very stiff import competition from near neighbours who, at the moment, would not appear to have to comply with greenhouse targets and so forth. But these will have to be dealt with internationally. We note that these are issues of concern and if you cannot resolve them satisfactorily then obviously that is going to be a very difficult obstacle to persuading business domestically.

**Mr BILLSON**—Does that come out of your modelling study? You mention on page 18 of your submission that you have done modelling studies on various industry sectors. Is that what is informing this discussion?

**Mr Rice**—In part, it is. I will say a little about the modelling, because it was actually done by my department. The purpose of the modelling was mainly to give the Queensland cabinet some idea of what the possible economic impacts would be on the state as a whole and on Australia as a whole, and also on particular sectors of Australia being part of the protocol negotiated at Kyoto. In that sense, because none of the scenarios that were modelled exactly matched what was the outcome at Kyoto, the exact numbers that came out of the modelling probably need to be treated with caution—apart from the general caution we should apply to economic modelling exercises because of the necessary simplifying assumptions.

**Mr BILLSON**—Are we going to get to look at any of the broad findings? Are you in a position to see what is available for the committee to review?

**Mr Rice**—I will take that question on notice and inquire about whether we can make the results available to the committee. I think what they did show was that obviously some sectors will be net gainers from measures both by Australia and other countries to reduce emissions and that there are other sectors that could be substantial net losers. For example, the non-ferrous metals sector—and I do not think this is a particularly surprising result—is one where output would be expected to decline as a result of measures to reduce greenhouse emissions.

The point mentioned in our submission was that, however greenhouse emissions are reduced, it is going to involve a significant amount of adjustment among industries. That is something we need to deal with in the context of both tradeable permits and other measures to reduce greenhouse emissions. Although, when I say that they will be net losers, that is against a baseline which might be significant growth.

**Mr ANTHONY**—You mentioned earlier on when we were talking about permits that it is fairly easy to measure how much greenhouse emissions particular industries are pumping out. But of course the big difficulty you mentioned with carbon sinks was reforestation and trying to measure it. You mentioned SLATS, but even in your report you note that there is a certain degree of discussion over how accurate that imagery is. This has come up because of different types of vegetation, perhaps, and how much of a sink they can be. Is any work being done by the Queensland government to look at better measuring techniques?

**Dr Gabriel**—My understanding is that—

**Mr ANTHONY**—Is it back to the backhoe?

**Dr Gabriel**—I am outside my portfolio, but my understanding is that scientists like John Carter and Bill Burrows are actively engaged in processes to refine that modelling. I note, for example, that the actual figures on land filling have been revised downwards, to some degree. But also, as I said, they are aware that there are some quite considerable uncertainties in some elements in relation to emissions right across those sectors, and this causes frustration.

There is a big debate at the moment about vegetation thickness and what bearing that has on our baseline emissions from the sector. That is work that the government is funding—and has been funding for some time—and I would expect that to continue. Because the Queensland government recognises that that is a very important area, it is actively looking at refining those numbers all the time.

**CHAIR**—I know it is difficult to keep accurate records on land clearing, having been the minister in New South Wales for that area, but areas that are cleared sometimes regrow. Do we have records of what regrows?

**Dr Gabriel**—Again, I am outside my portfolio—you are not necessarily asking the best person—but this is all part of the debate. I know that there is an issue of records based on permits and so on, and this is why I think the satellite imagery has its strengths. I have seen the imagery, and it is most impressive. You can actually just about see individual shade trees left standing, so that imagery is really improving all the time. As I said, the handle on clearing has really improved but the issue of the actual soil carbon numbers, et cetera, is more difficult.

**Mr BILLSON**—With regard to tree planting, if the maximum sink life equates to when the tree matures, even with flora genes from genetically manipulated blue gums that is still 11 years or so. If we do not have some concept of rollover in the accounting periods in permits, how is the tree planter going to benefit where there is not some transition of the sink value—even though it is trending up—from one accounting period to

the next? How do you imagine that working if we are going to have quite distinct accounting periods, whether it be for permits or for credits?

**Dr Gabriel**—Presumably, for as long as the sink is growing or is increasing in value and then at some point reaches stabilisation, at that point, presumably, there is no additional value imposed upon it.

**Mr BILLSON**—You would incrementally allocate value over a number of accounting periods?

**Dr Gabriel**—I would not want to lock myself into any position. It is one of those issues that we will have to work through. Our primary concern at the moment is to leave that debate open. The last thing we would like to see coming from a meeting in June in Geneva is the decision that they are just going to knock it all out for five years and come back to it because they say that it is too hard. We think that would be a tragedy.

**Mr BILLSON**—I see there is a link between some capacity to roll arrangements over and to get proper value and recognition out of tree base sequestration measures. It is just a concept. I thought the two went pretty much hand-in-hand.

**CHAIR**—Thank you very much. It has been a very valuable discussion. As we progress we will have a few more discussions.

**Proceedings suspended from 9.51 a.m. to 10.05 a.m.**

[10.05 a.m.]

**BRETT, Mr Bill, Deputy Chairman, Queensland Timber Board, 500 Brunswick St, Fortitude Valley, Queensland 4006**

**TATE, Mr Alan, Adviser, Queensland Timber Board, 500 Brunswick St, Fortitude Valley, Queensland 4006**

**CHAIR**—Welcome. We have received a submission from you and have authorised its publication. Are there any changes or amendments you wish to make at this stage?

**Mr Brett**—No, none at all.

**CHAIR**—Before we begin questions, would you like to make a statement?

**Mr Brett**—Yes. Firstly, our apologies from the gentleman who would normally be presenting our case today. Our general manager, Rod McInnes, had a new kidney implanted about a week ago so he is recovering and cannot be here. Could I read a statement?

**CHAIR**—Certainly.

**Mr Brett**—The Queensland Timber Board believes that the forest industry can play a significant part in helping Australia to meet its obligations under the Kyoto climate change protocol. We welcome the inclusion of emission trading within the protocol and of carbon sequestration because we see these features as perhaps the most cost-effective way of lowering greenhouse gas emissions. The QTB's submission addresses this point.

We believe that carbon sequestration can be a significant advantage in Australia's response to the protocol and the need to lower emissions. We support a system that is market based and that is simple so as to allow the full cost benefits to flow. Unnecessary complexity will bring delay and may substantially increase transaction costs. As well, we see substantial economic benefits in carbon sequestration for the timber industry.

Carbon trading would see a new and substantial revenue stream for plantation and farm forestry. Revenues could be achieved by both hardwood and softwood plantations. Trading would increase the long-term supply of timber resources in Australia. As stated in the federal-states ministerial council paper, *Plantations for Australia: the 2020 vision*, sustainability of Australia's forests could be achieved by adding 80,000 hectares of plantations per year over the next 25 years. This will treble total plantations from the current one million hectares. Funding sources, however, are largely unspecified. A revenue stream based on carbon sequestration could be a significant contributor, helping transform marginal projects into viable ones.

Trading would support regional employment and economic development through the expansion of plantations and subsequent maintenance and harvesting programs. It would help offset any negative economic impact of addressing climate change. Plantation sequestration projects are less costly than many other climate change response measures and can, therefore, help to minimise Australia's cost of meeting its now mandatory emission requirements.

Environmentally, such a trading regime would relieve pressure on native forests by providing an expanded alternative resource stream. Most importantly, it would reduce atmospheric concentration of carbon dioxide.

There is also a competitive need for early sequestration trading in Australia. The Kyoto Protocol recognises emission reducing activities in developing nations from the year 2000 while here in Australia those activities will not be recognised until the year 2008.

Our submission states that we believe that without early domestic recognition of sequestration there may be a threat to the export competitiveness of Australian timber products. But the protocol does not prevent company to company trades occurring immediately and we understand that credits can be reserved in the years leading up to official recognition.

If I can quote from an article from one of Australia's foremost financial journalists, Robert Gottlieb, which was published in the *Age* and the *Sydney Morning Herald* on Saturday:

Around the world, there is still speculation as to whether carbon emissions are changing the climate. It really doesn't matter whether they are because at the environment summit in Kyoto, Japan, the world reached agreement on broad strategies. It is possible the US Senate may reject the treaty and it is true that many of its requirements have already been achieved in Europe. Both Australia and Japan have signed. But what the politicians do is less important than what the large corporates who think ahead are doing.

Some of the biggest companies in the world are already moving to implement trading, and we have mentioned a couple. Royal Dutch Shell plans to spend large sums planting forests in Chile and New Zealand to absorb carbon. Toyota is financing a study into the best ways of reducing carbon by using forests. Tenaska, a Nebraskan based power company, has agreed to give the Costa Rican government \$500,000 and to help raise another \$500,000 to buy 2,000 hectares of rainforest for carbon absorption. The American Forests Group, together with Mobil Corporation, is planting over 250,000 trees to provide a sink for carbon.

Let me restate our position. We believe emission trading and sequestration offer a cost-effective way of lowering carbon concentrations in the atmosphere. We believe such a system offers both economic and environmental advantages for Australia. And we believe that earlier rather than later registration of such a system is needed for competitive reasons.

In conclusion, firstly, the QTB does not believe that carbon emission trading should be used as an excuse to allow ongoing greenhouse gas emissions without real reduction in those emissions. Forest sinks are part of the solution, not the whole solution. Secondly, the planning and development of carbon sinks should be as all encompassing as possible by including input from government, industry and environmental groups. This will ensure that the right trees are planted in the right place at the right time. This will also ensure a coordination with other forest strategies in Queensland. Finally, a number of emitters have already approached the QTB to initiate early dialogue regarding opportunities for working jointly on tree planting programs. Thank you.

**CHAIR**—Mr Tate, do you wish to make a statement?

**Mr Tate**—I will leave it there, thanks.

**CHAIR**—You mentioned that you represent 1,200 businesses in Queensland. What is the spread of those businesses? What are they?

**Mr Brett**—They would range from large millers to two or three person mills in various parts of Queensland to sole loggers.

**CHAIR**—So, they are all sawmillers and loggers, are they?

**Mr Brett**—Sawmillers, loggers, wholesalers, and some are only importers.

**CHAIR**—Do you know of any information, worldwide for that matter, that is available to accurately measure the sequestration of carbon dioxide into timber?

**Mr Tate**—We know that there are a lot of discussion, a lot of disagreement and a lot of estimates being made. We have just recently read—and I have got some notes on this—that in carefully controlled studies of forests in Russia, the standard formulas used by American scientists predicted actual carbon content in trees to within an accuracy of 3 per cent. That seems to be the cleanest study that we have been able to find so far. The accessibility of those studies is readily achievable.

**Mr Brett**—If I could just read a section. It says:

But Stephen P Hamburg, who teaches environmental studies at Brown University and has been closely involved in U.N. research into forestry's role in global warming, said that the difficulties of estimating the amount of sequestration are exaggerated. 'The bottom line is that we have been assessing the growth of forests for a century and we have very well-established methods for doing it,' he said. 'We can measure with confidence the carbon in trees with an uncertainty of plus or minus 10 percent.'

**Mr Tate**—We know also that the Australian greenhouse office is doing a lot of work on this now, as you will know, and is in the middle of producing a final report on a

carbon sinks workbook, which will have those various estimates in the Australian context.

**CHAIR**—I will ask the question I asked the Queensland government: given that we are not going to manipulate nature, or if we do it will be to a small extent, what area would be available in Queensland for plantations, and is that agricultural land at the present time?

**Mr Brett**—Our initial discussions with the Department of Primary Industry are very similar to those held by the gentleman from the Queensland government. A lot of the early work will be on areas where rainfall is satisfactory. The extent of those areas is still being calculated by DPI, but we are pushing them to suggest that there are also areas of degraded land and other lands which have potential for carbon sinks also which have to be explored. It would be premature for us to say there is any level of certainty over the amount of land, but we know there has to be some.

**CHAIR**—There are only certain species of Australian eucalypts that are suitable for plantation. You have some of those in Queensland do you?

**Mr Brett**—We see evidence from Brazil, for example, where research into fast growing eucalypts has meant that there is a turn around, and certainly initially it was in the area of pulp, eucalypt trees, into a cycle of about 20 to 25 years. I think we have got to sit down with the Department of Primary Industries and Energy and various other groups to develop some process of establishment of fast growing species, for example eucalypts that can develop into sawn product faster than the current 60- to 80-year cycle. I do not think that is an impossibility. It has been done.

**CHAIR**—It raises the interesting question, though, which is how do we keep a record of how much of these products actually goes into sawn timber and is probably put into construction which might stay there for 60, 80, 100 or 120 years or whatever, and how much of it is immediately released back into the atmosphere?

**Mr Brett**—I think mills studies now could indicate to you what level of sawn output is achieved in a mill-to-mill case study. I think DPIE and industry could easily produce those figures. I could not, off the top of my head, tell you the level of sawn product achieved out of a log currently, but that would not be difficult to do.

**CHAIR**—After it leaves your wholesaler, though, and goes to the construction industry, it is going to be difficult to calculate how much of that stays in timber form for a long period of time, isn't it?

**Mr Brett**—I would be guessing, but the majority of the product that leaves our stores, for example, is in its final form: it is pine framing; it is plywood or whatever it is. Sure, it will be cut, but the level of diminution into sawdust would be, I would imagine, small. But again—



**CHAIR**—I am not looking at that. For instance, what I am looking at is, say, if it was in a construction building like this, it might last for 40 years or 50 years or whatever, and then the building was demolished and the timber was not recycled—it was burnt or whatever—then the carbon dioxide is back into the atmosphere. It raises the issue of how you calculate that; it raises the issue of who gets the credits and who pays for the emissions.

**Mr Tate**—That is quite true, and it also raises the potential for whether recycling will be the same in 40 years time as it is now.

**CHAIR**—Yes.

**Mr Tate**—And one would guess it would not be. One would guess it would be a much higher level of recycling in 40 years time.

**CHAIR**—It will come down to dollars again, won't it?

**Mr Tate**—Yes.

**CHAIR**—You are assuming, I think, that the emissions are going to stay. Say, for instance, you go out and grow a plantation; you are going to claim credits.

**Mr Brett**—Queensland's sawmilling industry basically produces solid wood or plywood. As you are aware, we do not have a paper industry. We have some pulp into fibreboards but, in the main, it is produced into sawn boards or plywood. So, from our perspective, the majority of the carbon is held in solid wood.

**CHAIR**—But do you see an opportunity to gain credits for doing that?

**Mr Brett**—We see opportunities where industry, government and environmental groups, as part of the Queensland forestry strategy, can say we have the opportunities to work with a Mobil or whoever to plant more trees—whether it is for sawn timber or plywood or whatever—but the concept is that the sink works from day one to day whatever it is that it maximises its sink capacity, and then is produced into what is the next best sink—solid wood for construction—and then replanted.

**CHAIR**—As long as it does not get burnt or degrades back into the atmosphere—

**Mr Brett**—None of the current plantations—

**CHAIR**—There is a limit, really, to what you can do because there is a certain period of time that it takes carbon out of the atmosphere and, unless you store that timber indefinitely, then there is a limit to what you can do in sinks.

**Mr Brett**—That is right. We say it is a sink for as long as it can be, and then into solid timber which is its next best sink.

**Mr Tate**—And the replanting then takes on the new generation.

**Mr Brett**—That is right.

**CHAIR**—What would you say, for instance, if some of this available land in Queensland was bought up by Mitsui or Mitsubishi or BP or one of the big world conglomerates to produce a sink that is just left there, locked up?

**Mr Brett**—We would not be encouraging that. We would be encouraging Mitsubishi or someone like that to work with us so that it was a sink that had the best opportunities for all parties—that it was a sink and then a sawn product.

**CHAIR**—Could you see the forest industries becoming the world's whipping boys—in other words, 'Here is a great idea; we are going to put all the carbon dioxide into forests; we are not going to touch it'?

**Mr Brett**—I think in all the reading we have done there is an acknowledgment worldwide that carbon sinks are a part of the answer. One statement that we have read suggested that at best it is potentially 30 per cent of the solving of the problem. And say it is, that is what we expect the accolade potential to be. We know that emission control has to be achieved in line with the development of sinks.

What we are seeing now is organisations coming to us as a timber board, and we are a loose end to work with them on the development of the methodology of the trading arrangement, particularly as the timber board is not the owner of the resource in most cases—the Queensland government is the owner of the resource. So, initially we are hoping that a Mitsubishi or whoever it is can come to us. As with the examples we have seen in the States and Costa Rica—and a couple developing in New Zealand—there is a win-win solution between the various bodies to help with a viable timber industry, but out of a carbon sink.

**CHAIR**—So I would assume that what you are looking at is, say, that the forests in Queensland would be getting the credits for taking carbon dioxide out of the system, and the likes of Daishowa, which is making paper, would have to buy credits. That is the only way the market would work.

**Mr Brett**—Yes, that is right. I do not think we have looked at our presentation as not being pedantic in working out how Daishowa or whoever would be credited, to be honest. We are looking at it from our perspective as saying, 'If the means to the end is viable forestry operations, we can get that part; we can develop that relationship with a Daishowa or whoever.'

As to how the trading credits work, we were listening to the question that you put to the representatives of the Queensland government. We are about as far advanced as they are, or even behind them, in working through how the process could work. Seeing Mobil, for example, working on planting hundreds of thousands of trees on degraded land in Kentucky and Wisconsin is the level we have reached.

**Mr BILLSON**—Do you see the Costa Rican example, where the Nebraska energy company was buying established rain forests, as something a bit different from the proposition that you are putting forth? The net greenhouse advantage of a transfer of ownership is a little bit questionable.

**Mr Brett**—We do not have, to the best of my knowledge—unless they go and buy private lands, farm lands—an ability for Mobil to come and buy our state's rain forests.

**Mr BILLSON**—In my former life we came up with an answer for that: property rights, forestry rights. It was in Victoria; I was in the natural resources area there. Someone could own the crop, the tree, and the land owner would take an annuity or a share of the value when that crop was harvested. I do not know what the case might be now. Is that a more likely strategy for your sector to pursue, facilitating the availability of the land, rather than having the land transfer issues that the chairman has raised which were a problem in Western Australia—introducing an investor to the land-holder where the investor made the investment in the trees and the land-holder's advantage was the annuity or a rent for the use of the land? Was that more constructive? It is already working, and it not a difficult thing to implement.

**Mr Tate**—Yes, but you asked earlier about the Costa Rican experience, and we have given you one within the brief. By far the larger one is a plan that is operating with the United States in a United States government agency, the international development government agency. I have some information here that may shed light on what you are asking here. Do you already have details on this?

**Mr BILLSON**—Talk about it anyway.

**Mr Tate**—It says:  
Farmers in Costa Rica plant trees to offset carbon emissions of schools, individual homes, and small businesses in the United States.

This is the largest plan that is working in Costa Rica at the moment.

Linking the farmers' efforts in Costa Rica to the domestic emissions brings a sense of reality to the problem. In most cases, it is economical and feasible to take action. The estimated cost of this method of carbon sequestration is less than \$5 per ton.  
Farmers who join the program will receive financial incentives, seedlings and technical assistance to ensure the success of their tree plantings. In return for this aid, under a 40-year contract, they assign the right to register the carbon sequestered to the donors through Reforest the Tropics, a non profit

organisation established to manage

the Klinki Forestry Project.

- in association with the United States government—

It is expected that the sequestered carbon, equal to about 16 tons of carbon dioxide per acre per year, will be certified by the Government of Costa Rica after inspection and verification of the growth data. Greenhouse Gas Mitigation Certificates, guaranteed by the Government for a 20-year period, will document the extraction and storage of atmospheric carbon for donors.

... ..  
Farmers will benefit by being able to produce wood on their fallow pastures, recreating in a sense the forest that was cleared by their grandfathers. These Klinki forests—

importantly, I think—

are actually mixtures of tree species . . . Native species are mixed with naturalised trees, each contributing to the overall biodiversity of the stand—

and, therefore, it is health, therefore, it is growth—

Farmers agree to follow a management plan that allows them to thin the planting to promote the growth of the remaining trees.

... ..  
This project has a goal of establishing 15,000 acres of carbon-offset forest linked to U.S. emissions.

So that is how it works in Costa Rica, and I think that is the largest of the projects that is working there.

**Mr BILLSON**—It separates who owns what. One of the things that we have been asking through our inquiries is how you land the benefit of plantation activity on the landowner, who gains the credit. The volume of the credit may present a barrier to individual landowners being a player in the tradeable rights arrangement. Under that model, at least the not-for-profit now but soon to be profitable donor becomes the trading entity and you get a volume that at least is transactable, compared to individual property owners.

**Mr Tate**—There is also the land value improvement, the land improvement value of the operation.

**Mr BILLSON**—What is attractive about that is that it is a mixed vegetation measure combined with the silviculture it generates so it is marketable. Do you see a difference in that as an outcome, compared to clearing remnant vegetation that in the eyes of the beholder might not be of much value but in the eyes of the ecology is of high value and replacing it with an homogenous monoculture with plantations with a view to timber production? Should that be valued differently, or do you deduct the credits that the native

vegetation generates from the monoculture and then take the net?

**Mr Brett**—I think we have got to do more work with the Queensland government in establishing areas of land. In our work with various environmental groups I do not think we have broached with them the concept of clearing native vegetation for the growing of monocultural plantations on them. I think we are really in the early days in the development of what land mass is available, what trees should be planted and where it would be economically viable.

We have seen examples in our readings too where the plantations of native species have been put in close proximity to national parks so that, when saw milling operations commence, disruption to fauna is less disruptive, because they have the national park nearby. I am not an expert—the conservation representatives could perhaps give me more information on that but, just from reading over the last few weeks, those sort of initiatives that we are learning about from other parts of the world may have some merit.

**Mr BILLSON**—In general terms, would you support reward for planting an already cleared area? What I am getting at is, we do not want to create a system that has perverse rewards in it, that is, where there is incentive for people to cut through swaths of native vegetation, however they might feel about it, and then be rewarded for it. We are having to come to grips with the net effect of that.

**Mr Brett**—With the development of tree clearing guidelines and codes of practice for planning and milling, all those sorts of things, it is early days. If a farmer can have a counter-cyclical crop that improves land quality and is done in an auditable, sensible way, we are very much for it.

**Mr BILLSON**—So you would support a reinforcement of good forestry practice and good land management practice in the reward system for plantation?

**Mr Brett**—The industry is working with the government through codes of practice for their operations. In our opinion, it would be ludicrous to have private property holders working to a different tune.

**Mr Tate**—We do think it is important to have rules.

**Mr BILLSON**—In the international world, it is the net effect that they are interested in. That is why the purchase of the rainforest in Costa Rica tickles me a bit. At the end of the day, there is no net outcome other than a Nebraskan energy company feeling pleased with themselves.

**Mr Brett**—I think the Nebraskan energy company believed that by buying it they were protecting it from future clearing. I do not know the realities of the theory, but that was the concept.

**Mr EOIN CAMERON**—In your earlier remarks you said we would need to plant something like 80,000 hectares of plantation per year for 25 years, is that right?

**Mr Brett**—That was in the federal government submission.

**Mr EOIN CAMERON**—Do you know how much is being planted at the moment?

**Mr Brett**—No.

**Mr EOIN CAMERON**—What about in Queensland?

**Mr Brett**—We are now negotiating with Queensland Forest Service about expansion of plantings of native and exotic pine. It is very early days yet.

**Mr EOIN CAMERON**—You would not know how many hectares are going in?

**Mr Brett**—I could get you that information; I do not know it off the top of my head.

**Mr Tate**—I recall from my previous occupation in covering this that on a national level the balance was still out, that there were more being lost than were planted through all measures of losing trees, cutting and die back et cetera. I think that was the case.

**Mr ANTHONY**—I suppose I have begun my own carbon sink by planting three hectares the other day—we only have another 79,000 to go. Obviously, you are in favour of supporting and trading carbon emissions, although I noticed the submission from the National Association of Forest Industries does not share the same enthusiasm. It is their view that it might actually damage the timber industry. Can you explain why they would come to that view?

**Mr Brett**—I have not read their submission in great depth. I understand they say we have to be cautious about moving forward—they are entitled to that opinion, of course. Our members and our position in Queensland in working with state government and environmental groups suggests that we would rather get on with it. To be quite honest, we cannot see too many flaws in any area where trees are planted for the good of a carbon sink and then have the opportunity to saw them into solid wood at the end. I will leave you to discuss NAFI's terms with them.

We are babes in the woods on the methodology of how it is done. We would share some concerns about how the trading methodology would be worked out, If we do not progress, we can see the Mobils, the Toyotas, the cement industry and everybody else looking elsewhere because requests that have come to us for early advice want answers in the next few years, not in the next couple of decades.

**CHAIR**—So you would see legislation as being important to protect an investment? If you grew that for a sawn timber resource in the future, you would see legislation as being important to protect that?

**Mr Brett**—If the forest service did it, it would be easy. But, as you are probably aware, on private lands now there is a difficulty with current legislation regarding tenure of trees and land on Crown leasehold.

**CHAIR**—Why would it be easy if the forest service did it? What if it became a koala habitat?

**Mr Brett**—Then it would be difficult, yes. Again, it depends on the types of trees. The gentleman from the QCC might have a different opinion, but we assume that if an exotic pine plantation were growing, for example, there would be less concern about the flora and fauna habitat there than if we were talking about a current native estate. So we are saying that in future these plantations would have similar sorts of targets. For example, if we started hardwood plantations in some parts of the coastal belt of Queensland, specifically as a carbon sink and specifically for use as a sawmilling operation at the end, we really do not then want to re-fight vegetation protection orders or the like. So we want to make sure that once established whatever the legislation is that is required means that that progresses through its natural course and at the end we cut down the trees.

**Mr ANTHONY**—Which varieties have a faster carbon uptake?

**Mr Brett**—You are out of my depth there, to be quite honest. All I know, and from our reading of the last few weeks, is that that sort of work is being done efficiently enough in the United States and in South America. They have gone to greater detail on species type, suitability of species in degraded land—their degraded land problems are probably worse than ours: they are looking for species to go into areas of high salinity—and a variety of problems.

**Mr Tate**—The tree species that they are specialising in in Costa Rica is one that I have never heard of but you may have. It is called the klinki pine. That is apparently one of the best of the carbon absorbing trees.

**Mr ANTHONY**—So you would assert that the timber board obviously having young forests, rather than mature forests being locked up forever, as a carbon sink obviously has a greater impact through a regular harvesting regime than perhaps what others might argue. Have you got studies to back that up?

**Mr Brett**—We have not got studies commissioned by the Queensland Timber Board, but the work that we have summarised for you today suggests that those organisations working on this overseas are working on all the angles at once: what is the best species, how can we make it as fast growing as possible for the required use, and how can

we look to areas of land that are degraded. Somebody asked a question about where is the land available. Maybe we overlook areas of degraded land that could potentially be usable. When various research and development in those areas come together, trees are planted and those trees are therefore harvestable at whatever the optimum time is for the carbon sink process. Whether that works indirectly with a forestry operation, I do not think we have done sufficient reading to work that out. But it certainly suggests that it is.

**Mr ANTHONY**—The question I am driving at is you have to be able to measure how successful these particular carbon sinks are.

**Mr Tate**—Indeed.

**Mr ANTHONY**—And put a price on them and make them tradeable. That is the value that your organisation hopefully one day may place on them. How accurate do we get these estimates? How do we monitor them?

**Mr Tate**—You need the overseas models as a starting point. They do exist. We do have some in my Sydney office. I would be more than delighted to send them up—rates of carbon storage and also the study that we mentioned earlier within Russia, which is showing a plus or minus of three per cent error. So if they are of assistance, we would be happy to send them up.

**CHAIR**—Okay.

**Mr BILLSON**—The idea to function would place an onus on the downstream processes to engage in carbon friendly processing. You are saying that the retention of the harvested timber in a solid form reduces the carbon loss in its processing as compared with intense processing like pulping. You would say that the processor would need to shop around for permits to carry out that process. Is that your contention?

**Mr Brett**—It would all depend on the amount of capital required for the process. I know that for sawmills to be efficient they are looking for more wood. The Queensland Forest Service's ability to produce that wood is getting to the extent where there are certain holes in the forestry program. For example, if the current pine plantation mills were to reach international capacity volume, we have to start planting the trees now to fill the gap in 25 years of bringing forward that flow.

**Mr BILLSON**—We have an oversupply, footloose processing capacity anyway in the country. You can pick up and move your plant. I will not mention their names. That is a problem we have now. You are saying that we may as well use that—

**Mr Brett**—I am just saying that Queensland has three mills with volumes of 250,000 cubes and to be internationally competitive—and they have the infrastructure to make them 500,000 cube mills—we do not have enough wood in the future.



**Mr BILLSON**—The point I am getting at is that if we accepted that certain timber processes are more carbon friendly than others we could either discount the carbon credit to start with, subject to that resource being used for process A, B and C.

**Mr Brett**—Yes, I agree.

**Mr BILLSON**—However, if the process is pulping at all, MDF or whatever the case may be, the industry or the processor might need to acquire the carbon permits commensurate with the release in the process.

**Mr Brett**—Yes, that is right.

**Mr BILLSON**—One of the big questions we are grappling with is: at what stage in the process or use cycle? For example, in the motor vehicle industry, is it the petrol companies, the car assemblers, the motorist, or do we pursue other policy levers to get a better outcome and not get that enthusiastic about trading? We do not have an answer to that. But what you are suggesting is that the onus lies with the processor, at the conversion point.

**Mr Brett**—What you are saying is right because if at the conversion point with our current knowledge—

**Mr BILLSON**—There is a choice being exercised about what to do—

**Mr Brett**—That is right. The best get better benefits and the worst either do not get benefits or get less better credits. I agree with you.

**Mr BILLSON**—Do you envisage your organisation's role as a broker in putting parties together to achieve this outcome or as a stakeholder in the credits being generated? How do you envisage that?

**Mr Brett**—I do not think we are initially setting ourselves up as being a stakeholder in the credit generation but more as a facilitator. With the first organisations that have come with us, we are only doing tentative work in establishing the background research and then linking the parties. In the research from overseas there are tree planting programs along roads, there are tree planting programs near residences to stop use of air conditioning, and there is a variety of tree planting options outside normal sawmilling. I guess we are probably Kyoto-plus, however long it has been, doing the research and it is not enough yet.

**Mr BILLSON**—Finally, on the issue about the role of governments, in earlier evidence someone suggested that governments should be the keeper of permits and credits, and they have a role in making sure that the two marry up with their state activity. I find that a ridiculous suggestion. In terms of your ideas, you are trying to get the benefits and

the costs as near as you can to the people exercising those choices.

**Mr Brett**—Yes. The early examples seem to be of companies attempting to be progressive either on a voluntary basis or seeing commercial advantage, coming up with some interesting initiatives without the need of government influence.

**Mr BILLSON**—We would need to reward those people. Our concern is the lag time. People say the accounting period is not till 2008. But those that are doing helpful, constructive things now need to see the benefits of that just like those who think they will ignore all that stuff and get into it in 2008 need to somehow get a signal that that is not terribly helpful.

**Mr Tate**—That is the key to getting things going here on emission trading. It is also the key to try and protect Australia from the cost competition we will face from developing nations.

**Mr BILLSON**—In terms of starting up that trading arrangement as soon as we can, in some industries we could conceivably have a trend down line within the overall bubble for Australia towards the accounting period. Would you see the initial allocation of permits being one that goes some way to accommodating current activity and processes, but with a discounting to let everybody know that they have to start working now to reducing their emissions or start forking out money to buy permits or have to invest some money? How do you see the start-up?

**Mr ANTHONY**—What is the start date? Is it now or is it 1990?

**Mr BILLSON**—There is a view around it should be July 1 next year. That is a lot of legwork to develop some trading framework.

**Mr Tate**—But there is a lot of legwork to accomplish before July 1 next year.

**Mr BILLSON**—That is just one view.

**Mr Tate**—My own view, and I think the QTB's view also, is it should be as early as possible. I do not think we should put a date on it. We have suggested that by the year 2000 we should be up and running. The international rules will certainly be clearer then and, as well, there is a matter of early recognition for developing nations beginning in the year 2000. We feel we would certainly want to start by that date to remain competitive.

**Mr BILLSON**—The key being have something that is bankable, that is real.

**Mr Tate**—And to also ensure that Australian business knows how the system operates and has the culture change within their own companies here in Australia to be able to compete when this thing really gets up and running.

**ACTING CHAIR (Mr Jenkins)**—Who do you think is responsible to garner that culture change? What role has government got in that process?

**Mr Brett**—Changing the way companies handle things?

**ACTING CHAIR**—Their outlook, the way they think about things.

**Mr Brett**—I heard you ask a similar question of the last group. Any education of companies is great. We have been approached by two large Queensland companies which are divisions of international companies. The message has certainly got through to them. The Queensland Timber Board will certainly have an active role in pushing the concepts if, as we have said, there is a milling outcome at the end. It is a great alternative. If we can work out an outcome where government and the environmental groups are happy with that process, then it should be one of the easiest messages in the world to sell.

**Mr Tate**—Government has a role in encouragement and support but the pre-eminent urgers of this matter should be business itself. Groups like the business council and the various industry institutions have a very important role to play in showing the opportunities that exist.

**Mr ANTHONY**—Just coming back to your views on some of the conceptual problems of trading credits, you have obviously thought it through a bit. If someone is growing a plantation and they sell their credits, when they fell their trees, do they have to buy credits back?

**Mr Brett**—We are happy that they would be felling trees as part of the process. They would have to assure that they would continue to cycle.

**Mr ANTHONY**—How do you measure the cycle?

**Mr Brett**—There must be—

**Mr ANTHONY**—Is it measured when the tree is growing?

**Mr Brett**—There are suggestions that international research can tell us. I do not know whether that is for Australian species. A tree planted today has, if my memory serves me well, three per cent of its capacity in the first 10 years and then it ramps up to 100 per cent in 50 years or whatever it is. At that later end of its life, the agreement is that it is sawn, or whatever is best for it, with the precondition that new trees are planted and the cycle recommences.

**Mr ANTHONY**—Do you think that there should be different values if that timber is hardwood to build a home or go into paper?

**Mr Brett**—We indicated before that the end use should obviously be involved in how the credit works. Say sawn timber is the best, whatever is the best credited, it works back to whatever the end process is. We do not have a paper industry up here so we have not considered it in great depth.

**Mr JENKINS**—Your submission stresses the concern that, if nothing happens, there will be an unfair international playing field, as others are ready to jump. Yesterday in Sydney in discussions people talked about the opportunities for foreign investment in plantations on the basis of earning emission credits. Do you envisage that Japanese interests or anybody else might think that there is an opportunity here in Australia?

**Mr Tate**—Certainly to seek carbon credit from growing forests. This going to be a globalised market.

**Mr JENKINS**—Who owns the forest though?

**Mr Tate**—Yes. This is something that we have not got an agreed position on. All I would say is it is certainly an issue and one that needs to be worked out. I cannot help you at the moment.

**Mr Brett**—The entire state is controlled by the Queensland forest service or is on private land leasehold, so the opportunity for that to happen is somewhat limited, unless they start buying agricultural properties with forestry licences.

**Mr JENKINS**—That is one of the extensions. I know it worries the chair how far you go in present agricultural land with these types of things and that cuts back on the potential for further developing agriculture.

**CHAIR**—It all comes down to dollars, I suppose, and where the most dollars are.

**Mr Brett**—The further you broaden the question, the more it comes back that at least more trees are being planted and the carbon sink capacity grows. An assessment on foreign ownership is something for you gentlemen to probably consider as opposed to ourselves. We are interested in the carbon sink concept and then, eventually, the potential for milling. We still have a lot of work to do on the species and the like. Foreign ownership is another piece of the puzzle. I had not even thought of it to be quite honest.

**Mr Tate**—No.

**Mr JENKINS**—Is it likely that the emission credits aspect might push more domestic end use or the domestic value-added end of the industry? We will be wanting to lock up carbon and so want higher value-added outcomes, rather than low cost outcomes that are usually sent offshore.

**Mr Brett**—We do not have clear felling woodchipping operations in Queensland. I guess that is the lowest end of the cycle. It would be unfair for us to comment because we

do not have such an industry.

In Queensland, the majority of the product ends up in sawn product and, to a much lesser extent, plywood or board product. Further work has to be done about an assessment of whether the carbon is best captured in sawn timber or plywood or medium-density fibreboard or particle board or whatever. As we are only dealing with those industries and nearly all sawn timber, the reading we have done suggests that that is the best alternative once the tree comes down.

**Mr Tate**—It does seem logical that a tree grown for producing timber that would go into a housing frame would have a higher value than a tree perhaps grown further south that is a tree to produce woodchip. It makes logical sense that the tree that locks it up is ultimately of higher value. The challenge is to work out a system and the best way of putting that system in place to ensure that that occurs.

**Mr BILLSON**—Is it perhaps coming to what the World Wide Fund for Nature and others have been pursuing for years with timber certification where there are better timber products and more recklessly created timber products? The certification idea was to try and reward best practice in forestry. The idea you are putting forward, in my mind, conceptually comes at the same sort of outcome but from the other end. Is that your reading of it? Do you see some quintessential parallels here?

**Mr Tate**—That is ironic because WWF is one of those organisations that have serious concerns about carbon sinks.

**Mr BILLSON**—I was raising it as a curiosity.

**Mr Brett**—Isn't the WWF's concern more that it is an excuse to pollute?

**Mr BILLSON**—The Costa Rican experience you mentioned earlier is why they have a legitimate concern, in my view. But the thing is that that way of encouraging best practice in timber management and putting in a financial incentive for plantation processes and things like that was the aim of the certification process. You could pick up a product and know it was produced through sustainable practices and preferential planning. You will get the same outcome with cost signals this way where a rape and pillage timber operation will have a higher emission, therefore permit requirement and therefore cost, whereas a more sound sustainable timber process will have conceivably very little additional greenhouse permit requirements.

**Mr Brett**—We also somewhat selfishly see that in our negotiations again with the government and environmental groups working towards the conclusion of the regional forestry agreement process. Our argument is that the dislocation of the industry in regional communities is not something that we want but we recognise the environmental groups' concerns over various areas of native forest sawmilling. If the carbon sink approach is a

way by which native forest plantations can be developed at a quicker rate, then it is a much easier answer for our industry members that a future is coming than just the mills are closing.

**Mr BILLSON**—Can I throw a curly one in? You do not have to answer it.

**CHAIR**—Why not?

**Mr BILLSON**—It might be difficult for you to answer. It is probably better to ask the Queensland government this one. With government initiatives where the primary objective is land management outcomes—that is landcare, national vegetation initiative, those sorts of terrific things the coalition government is supporting—where public resources are being invested on private land to achieve a broader land management outcome, would it be sound in your minds that the dividend for the taxpayer would be the retention of any greenhouse sink benefits and the private property owner could enjoy the land management outcomes as broad attachment would? Is that a separation of benefit that would give more life to some of these land management issues that are involved in public land?

**Mr Brett**—I think it would be difficult for us to answer that straight away. I think that they are the sorts of discussions that we are expecting to have over the next little while with the state government to work out a fair distribution of the credits dependent on who is doing the work.

**Mr BILLSON**—If it was Mitsui or someone like that putting the money in then the investor would be looking to generate some advantage. I am raising the transportability of that concept as an argument for a renewed and even stronger government effort in that area for land regeneration.

**Mr Brett**—We would have to acknowledge it being sensible but cannot definitively say yes. We just have to reinforce a point we made in our initial statement that, for it to work well if there are government, state or federal initiatives in the tree planting processes, without work with industry, the environmental movement and other industry bodies like Greening Australia to plant the right trees in the right place, we are really going to be wasting our money. There has been a number of state—and not necessarily the current government but over the years—and probably federal initiatives in tree planting. The trees are growing somewhere but they are nowhere where they should be.

**Mr Tate**—We also believe, just to strengthen that, that engagement of the environmental movement is critical in all of that to overcome some of those problems that you mentioned earlier about renaming a plantation a habitat area. If they are engaged from the start those problems will be diminished.

**CHAIR**—Thank you very much.

[11.02 a.m.]

**McALPIN, Mr Steven Francis, Regional Project Officer, Queensland Fauna Network Project, Queensland Conservation Council, PO Box 12046, Brisbane, Queensland**

**CHAIR**—I welcome the representative of the Queensland Conservation Council. Do you wish to change or amend your submission in any way at this stage?

**Mr McAlpin**—In fact I do. There is one word that I would like to add to the submission that I see is missing. It is on page 4 under the paragraph headed 'Current timber use practices'. It is on the bottom line of that paragraph. Between the words 'produce' and 'woodchips' I would like to add the word 'export'.

**CHAIR**—Before we begin with questions would you like to make an opening statement?

**Mr McAlpin**—Yes, thank you. I work from a base in Townsville in two biogeographic regions in Queensland: the desert uplands and the northern brigalow belt. These two biogeographic regions have the highest rates of land clearing in Australia and that is basically the reason why I work there. I am addressing the sustainable land management issues in those regions.

In liaison with various other stakeholders in the region, I feel that all sectors that produce greenhouse gases need to be involved in the establishment of this framework. I feel that it should be a national system because it has implications on an international trading scale that needs to be something that is established within a national framework. I believe there are various anomalies already operating within the system that presently works in terms of how land clearing operates and how funding from the federal government works.

The national vegetation initiative is marked down to contribute \$318 million over five years. One of the aims of the national heritage trust is to revegetate 250,000 hectares per annum. These aims are not being met and the latest figures for clearing are around 400,000 hectares per annum. There is clearly an anomaly there. I think that this system has great potential benefits for the environment. I would like to say that the environment movement supports this move if it leads to biodiversity conservation values being enhanced and if it falls into line with the national strategy for biodiversity conservation.

You have already asked the first two groups a question about the assessment of potential land in Queensland for plantations. The Queensland Department of Primary Industry has put in a submission to the national heritage trust for this round of funding, applying for funds to ascertain what areas of Queensland are potentially viable for plantations. They have a list of species that are potentially useful for plantations in Queensland.



**CHAIR**—Thank you. Would there be information on that as to the extent of that and whether it impinges on other agricultural activities or whatever?

**Mr McAlpin**—Yes.

**CHAIR**—I might start asking some questions, if you do not mind. Firstly, what do you see as the potential of forests as carbon sinks in this whole exercise? We will start with Australia.

**Mr McAlpin**—Obviously, the establishment of plantations would be carbon sinks. Areas of extant vegetation such as woodlands and forests are potentially carbon sinks. Also, another important area is regrowth of forests and woodlands that have been cleared previously, particularly areas that have been cleared prior to 1990.

**CHAIR**—What would you use as a baseline? I put it to you that when Europeans first came to Australia the Aborigines used fire extensively to control forests, to an extent. What would you use as a baseline in that area of regrowth?

**Mr McAlpin**—We would need to use historical land practices as a baseline. I am not talking about 200 years or 10,000 years ago, I am talking about this being a system that is being established on 1990 levels of emissions. I think we have to talk about probably the last 20 years to 50 years of land use practices and use then their historical use as a baseline.

**CHAIR**—In the establishment of plantations or more extensive carbon sinks, would you see that some of the run-down, degraded or poorer forests could be cleared with a debit for the clearing initially and regrown as plantations as a greater sink?

**Mr McAlpin**—I guess the biodiversity values of an area that you would talk about would have to be ascertained by the government department that was responsible for that wherever you are talking about it in Australia. In the areas that I work in, there are very large, significant areas of degraded lands that have never been cleared, but their general make-up has altered because of altered land use over the past 200 years.

**CHAIR**—Due to over-grazing or something like that?

**Mr McAlpin**—Due to grazing and due to a cessation of the historical fire management practices. Something I have problems with is this notion of vegetation thickening. To me, it is a sign of poor land management. I think it is a very complex question that you have asked. How would you ascertain what the biodiversity values of something that someone regarded as degraded? How would that be established—whether there were other methods of protecting the biodiversity or enhancing the biodiversity of a region like that, whether that was more valuable to the conservation ethic than, say, clearing it and establishing a forest that would have presumably fairly low biodiversity

conservation values.

**CHAIR**—You talk in your submission about regrowth. To what extent would you go with that? If that was interfering in land management for grazing, for instance, where there needed to be some clearing of regrowth or some control of regrowth, how far would you go with that regrowth?

**Mr McAlpin**—Because I work in that region I can see it as a block by block case where I know, for example, land-holders who have had a 5,000 hectare portion of land cleared. As far as they are concerned, it has been a waste of money to them. The regrowth has been such that it would require extensive retreatment, which is not economically feasible for them to initiate. There are people out there already who are really regretting the fact that they have cleared a piece of woodland simply because the regrowth for them is financially unmanageable. On the other hand, there are other areas that have potentially great biodiversity values. I referred to brigalow areas in my submission.

Dr Robert Johnston, who worked for QDPI for many years and ran the herbarium in Queensland, recently published a paper talking about the conservation values of brigalow regrowth. About 95 per cent of the vast brigalow habitats have been cleared in Queensland, and a lot of them need re-clearing every eight to 10 years. He stated that over a long period of time, say around 50 years, the floristic make up of brigalow regrowth closely mimicked the original brigalow. He was saying that there was a good case for establishing areas of brigalow regrowth as an adjunct to the very small areas of pristine brigalow that had already been set aside in national parks and reserves.

For all of us, this series of ideas are in their early stages. So I have not got definitive prescriptions about how this would be done—what areas or what sizes of areas—other than the notion that there are very positive biodiversity outcomes potentially for these sorts of ideas, and that we should be exploring them. They can be part of this system that I hope develops in a way that benefits biodiversity conservation.

**CHAIR**—So the regrowth could be a potential windfall gain to the grazier?

**Mr McAlpin**—Yes, I see that. Unfortunately, for a lot of graziers, if a system like this were established, most of them have a leasehold property and, therefore, they do not own rights to the trees. That is something else I have addressed in my submission. Possibly the government could look at conferring the rights to the trees on to the leasehold owners, if it were a case of those rights being conferred on them led to an enhancement of biodiversity conservation and it led to areas of endangered areas such as brigalow being re-established and being added to the very small base of areas that are set aside.

**CHAIR**—I am sure all leaseholders would agree.

**Mr McAlpin**—This is an important thing too: Australia, I think, is in a unique

position because of its size. There are a lot of possibilities that may be developed. The way that the primary industries returns to the land-holders have been going over the last 20-50 years, the commodity price has been on the slide—I do not need to tell you any of this, do I? If alternatives can be developed that are going to benefit land-holders and at the same time benefit biodiversity conservation, I can see this as a fantastic development not just for the environment in Australia but for the economy. I think the benefits are fairly obvious.

**CHAIR**—So the credit should be established with those who are producing the sink and therefore Australian emitters and world emitters can buy those credits from those people.

**Mr McAlpin**—Yes. I see that the way it should be established is that the owners of the land, whether they be private land holders or leasehold land owners, can benefit from the enhancement of carbon sinks by outsiders from whatever country in the world—it could be Australia or any other country making some sort of contractual arrangement with those land holders that benefits those land holders.

**CHAIR**—Can we look at an old established forest which is old growth, if you like? Generally that would be considered to be either in balance or probably an emitter, would it not?

**Mr McAlpin**—Yes.

**CHAIR**—Is there any value for these people over here to be harvesting some of those forests so that we get young trees growing up that are absorbing the carbon dioxide?

**Mr McAlpin**—You could make an argument for that, sure. I would not personally make an argument for that.

**CHAIR**—I realise that. What I am getting at is that if it can be guaranteed that some of this timber or, as Americans call it, lumber can be locked up in the system for long periods of time then it is the younger growing trees in that first 20 to 30 or 40 years that really absorb the carbon?

**Mr McAlpin**—I think clearly that is the case. If you had a regime where you established that this table lasted for 80 years and your harvesting cycle was 20 years, then over those four harvesting cycles you have built a lot of tables. For each cycle you are establishing an increase in the preserved carbon over that period of 80 years. I do not think there would be any argument from anyone about those facts and figures. I guess then the argument that the environment sector might have is whether the value of that old-growth forest was greater in some other way—you were not just talking about economics.

**CHAIR**—How it could be effectively managed for all benefits, I suppose, is the

argument. **Mr McAlpin**—Yes, but I think there are probably better ways of doing it. I do not really see that we need to keep knocking down our old-growth forests. I think we have enough cleared land already.

**CHAIR**—I was only talking about selective forest—selective harvesting.

**Mr McAlpin**—Yes. I grew up with a guy who works currently for Harris Daishowa. We have known each other since we were five and we used to play in the bush together. Despite growing up in Sydney, we lived on the outskirts and there was a creek running across my street and there was bush everywhere. We had very similar ideals and likes about what the world was and how it worked. His job currently is ascertaining where Harris Daishowa should log their next coupe.

**CHAIR**—This is in the south east, is it?

**Mr McAlpin**—This is in Eden.

**CHAIR**—South-east New South Wales.

**Mr McAlpin**—Yes. So we have fairly different perceptions about the values of forests now. I can look at an old tree that is full of hollows and know that there are two or three species of possums and a couple of species of birds that can nest there and that it can be used as a food source by maybe 30 or 40 different animals, whereas he will look at it and say, ‘That is a crappy old tree. It is useless in terms of its economic potential. We should get rid of it so that three or four taller, straight ones can grow.’

**CHAIR**—We will not argue the management because I used to be the minister for forests in New South Wales and we should have left some of those.

**Mr McAlpin**—Both arguments have merits in certain aspects, but how one takes priority over another I am not here to argue yet.

**CHAIR**—It is a management.

**Mr BILLSON**—On the conferring of ownership issues—separating the ownership of the trees from the land—are you familiar with that forestry rights concept?

**Mr McAlpin**—Not fully, no.

**Mr BILLSON**—I will not go down that path then. I am just thinking about practicalities now and I am interested in feedback. In terms of plantations and sinks, do you think it would be wiser to treat them as deductions, like a tax return type arrangement,

or as a currency in their own right? Somebody who needs permits could argue that they need lesser permits because they have an established relationship with somebody who has produced a sink is one option, whereas somebody whose submissions are X and they need to go and find X permits, and they can do that by buying sinks off other people to make up that amount, is another option. Do you see one being preferable to the other in terms of simplicity and encouraging the involvement of as many land-holders as you possibly could?

**Mr McAlpin**—For as long as I have been interested in these aspects I have been a fairly strong supporter of tax incentives simply because I think they work. I think all Australians are fairly keen to minimise their tax, particularly land-holders. I am fairly disappointed at the present federal government's attitude towards tax incentives—

**Mr BILLSON**—For plantations.

**Mr McAlpin**—As they relate to land management issues in general. I know that the federal Treasurer is not very keen on using any money out of the Treasury budget to fund tax incentives for conservation purposes.

**Mr BILLSON**—That is interesting, but I did not explain my question very well. What I am getting at is: just say you are a power generator and, for argument's sake, you have 100,000 cubic tonnes of emissions. Should the power generator seek to acquire 100,000 tonnes of permits or should they seek to acquire 100,000 tonnes less whatever relationship they have with someone who is involved in sinks, which might knock 30,000 tonnes off and acquire only 70,000 tonnes? What I am getting at is: should the sink exercise be a deduction on their permit requirement or should it have a currency in its own right that can be sold as if it were equivalent to a permit? Do you know what I am getting at?

**Mr McAlpin**—Yes, I do.

**Mr BILLSON**—I am thinking about the mechanics of it. There are verification concerns and all these things and a deduction might be a way to go.

**Mr McAlpin**—I think we are long way from establishing what the best idea in those terms is. I currently saw the way this would operate as large producers of emissions would be able to enter into contractual arrangements with carbon sinks to reduce their emission levels.

**Mr BILLSON**—Their net emissions.

**Mr McAlpin**—To make their net emissions lower. I guess that was the way I saw this system operating. I would be more than happy to support some tax component of it as well because I think one of the things about this system is that we need to have it as

broad based as possible so that we can attract as many contributors or players as we can into this whole system.

**Mr BILLSON**—Do you have a view about the language and the protocol? Forest protocol provides for reforestation, deforestation and afforestation as the spread of factors to be considered. Do you have some concerns that native vegetation retention might not be included in that plan?

**Mr McAlpin**—I do. I have stated in the submission that as far as we are concerned we consider that plantations should only be placed on land that has been cleared prior to 1990. We do not consider that it would be a tenable system where you are continuing to clear native vegetation in order to create plantations.

**Mr BILLSON**—So you would support an argument that says that deforestation, reforestation, afforestation equals vegetation removal, creation or regeneration. These are the broadest possible vegetation definitions so that somebody who is involved in restoration of grasslands or something like that, albeit at a lower carbon sink value, is recognised as doing something worthwhile as if they were creating a forest.

**Mr McAlpin**—Yes, certainly. It is reasonably well established in this greenhouse challenge sinks workbook that it should not be difficult to establish baselines for whatever project you are talking about. Once you have established those baselines, it should be simple enough to follow through the whole project and see where deductions are in order and where additions need to be made to the emissions that a proponent is doing with the project.

**Mr BILLSON**—You heard our discussion earlier about the initial allocation of permits.

**Mr McAlpin**—Yes.

**Mr BILLSON**—Do you have a view on allocating and discounting versus open auction or some other idea?

**Mr McAlpin**—It is important for everyone to have an input. It is not something that I have had time to put my mind to at this stage. I have been mainly concerned with the environmental parameters.

**CHAIR**—Would you like the market to be wide so that everyone can have a chance to buy permits?

**Mr McAlpin**—I think so. I cannot necessarily support or not support a system that was either operated by the government or by private enterprise. I do not see the necessity for this system to be operated by the government but I do see a necessity for the param-

eters of this system to be established by the federal government. That is very important. As to how the market operates, I do not really see that that is all that important at this stage.

**Mr BILLSON**—You mentioned earlier that the trading regime is something you support if biodiversity conservation is enhanced. If the Queensland Conservation Council became a trader, a purchaser, to promote that faster rate by withdrawing permits out in the market place, would you see that as something the council should consider or you would support?

**Mr McAlpin**—I imagine it would be very difficult for them to become a financial player. Unfortunately, philanthropy has never been one of our strengths in Australia. The situation that exists in America is not mirrored at all in Australia. I really think there are better ways to address this. Potentially, environmental groups could become players in the purchasing and resale of these permits. There are probably better ways to achieve biodiversity conservation within this system. I think the initial establishment of tight regulations by the federal government would be the best way to prevent biodiversity values from being compromised by this whole system being established.

**Mr BILLSON**—We are moving into an era where employees can pick the super fund they want to be with. Would you see, over time, some strategic alliances built between the conservation movement and superannuation funds, with funds purchasing credits and hanging on to them until they became highly valuable in their investment portfolios? Would you envisage conservation groups advocating those funds?

**Mr McAlpin**—Yes. To some extent they do that already. The fund that I am in is supposedly an ethical investment fund. I think that will become a growing feature of people's conservation ethic. There is already a Tasmanian land fund established and it has moved onto the Australian mainland to purchase blocks for conservation purposes. That is something that will definitely grow in the future. I can see it being figured into various other aspects.

**CHAIR**—I am interested in, and tend to support, the taxation angle. Are you aware that in the late 1950s and early 1960s there were some schemes developed, in New South Wales in particular, on taxation incentives? In fact what we got was some fly-by-night companies that did not really produce anything but took a lot of people's money.

**Mr McAlpin**—I am not aware of the particular examples you are citing. I guess that is part of the nature of our society, that whatever scheme we develop there will be people who try to manipulate that scheme. I do not think it matters who sets it up or how it is established; that will always be the case. It seems to me that the more complicated a system is the more potential there is for rorting that system.

**CHAIR**—It needs to be controlled and simple.

**Mr McAlpin**—Yes. We need to have a broad based, fairly simple system that includes as many players as possible. I see that as being quite feasible. I do not have all the nuts and bolts to put it together at this stage.

**CHAIR**—I tend to agree that you have to have some incentives in the system. There are people who do have some private plantations who have persisted. Do you think that they should get credits in the system, and how far back should they be allowed to get benefits from those credits?

**Mr McAlpin**—The Kyoto agreement is all about 1990, isn't it? It would probably be fairly difficult for people to establish, if they did something before 1990, that—

**CHAIR**—So you think it would be fair enough that they got credits from 1990 on?

**Mr McAlpin**—I think so, yes, especially if you are talking about 1990 figures, particularly in land use and forestry where the figures have gone down since 1990 simply because land clearing has decreased since that time. It would be a reasonable argument to say that people who have forestry plots established since then could be counted as contributing to carbon sinks. Again, that is addressed in the sinks workbook. We need to establish some code of what counts as a project. Just because it is commercially viable, I do not believe it should be discounted as a project that potentially could be within this system. Obviously, there might be people who would argue, 'Well, this was going to happen anyway, why should we count this as a carbon credit?' I really do not think that should be a consideration. As has already been mentioned, what we are talking about is lowering overall carbon emissions. I think whatever we do that lowers carbon emissions potentially should be counted in this system.

**CHAIR**—To break out of the vegetation sinks area for a while, one of the reasons the Europeans got a bit of a jump on us, I suppose, is that they use a lot of nuclear power. Should we in Australia be pursuing some manageable ways of using the uranium we have in this country to reduce our emissions?

**Mr McAlpin**—I do not think that is for me to say.

**CHAIR**—Wouldn't the conservation movement have an opinion on it?

**Mr McAlpin**—I think they have and I think you would find that they fairly well come down on the side that they do not want to see a nuclear industry established in Australia. Again, there are a lot smarter ways of producing our energy. We have a vast continent and a lot of sunshine shines down on it. All of this gets back to something that has been misinterpreted by the media and has now become a misinterpretation across the general public in Australia.



A lot of people were lead to believe that our outcome in Kyoto was really beneficial for the Australian industry. I am not too sure whether that was the case because it appears to me that it has allowed our energy producers, particularly those who use coal-fired energy systems to produce their energy, to carry on business as normal. Yet we are living in a world where the way energy is created is going to change through the force of this Kyoto agreement, where we have not been told to reduce our emissions but other countries have, and they are significant importers of our coal. If that is going to change over the next 20 or 30 years, potentially the Australian power industry and the Australian coal industry are going to be left holding their coal out for people to buy and no-one will want to buy it. Really, the Kyoto agreement has given Australia a big challenge to look at alternative energy systems. I would support a nuclear energy system as an alternative and I would certainly support solar and wind—I am not so sure about tidal.

**CHAIR**—It will all come down to economics.

**Mr McAlpin**—Again, yes, and that has been stated a few times.

**CHAIR**—The point is, if the government is going to continue to try to grow the economy at four to five per cent, which has been the stated aim, then there are going to be increases in emissions unless we do something about the methods we have at the present time because we are going to need energy to do that. That is going to be a fairly difficult assignment.

**Mr McAlpin**—It is, yes.

**CHAIR**—Unless we look at some of the alternatives, and one of those alternatives is, obviously, nuclear, if it is feasible—I do not know whether it is.

**Mr McAlpin**—I guess that is a debate for Australian society to have. There will be proponents of it and there will be detractors from it. Speaking personally, I imagine the Queensland Conservation Council as a body would not support the establishment of a nuclear industry in Australia. I cannot imagine that there would be any environment group in Australia that would support it. They certainly would support the growth of solar energy systems in Australia. I think that is happening and this Kyoto agreement has given us the impetus to push that along.

**Mr BILLSON**—The energy sector is telling us, on the business as usual scenario, that by 2010 they will have a 40 per cent growth in emissions. They are telling us that even what the government signed up for, both at Kyoto and in the domestic response, represents quite a considerable challenge for them, including the five per cent renewable element of their supply, which, in a fairly immature market in renewable energies they are saying represents a substantial ask. What I am getting at is that the non-trading measures, other policy measures can facilitate the types of change and transformation you are talking about. Is it the council's view that we should not put all our eggs in a trading basket but

should continue to look at other policy measures like what the government's domestic response is, which is a direction on how energy will be provided into the future?

**Mr McAlpin**—Yes. This obviously has to be an integrated process and things will change as the world changes over time. Currently, coal is good for Australia in terms of its energy production. That may not be the case in years to come. That may force us to change the way we produce our energy. It may not be outside pressure that forces us to change that; but then again it may be. I think we need to look at all the possible options. It will not be one thing that I would look at. I am sure society will look at the nuclear option.

**Mr BILLSON**—There is an argument that alternative renewable energy technology—as you mentioned earlier, solar is just one example; there are also photovoltaics, thermal and biomass—has been around for a long time. We have quite a strong capacity to implement it; it is just that there is no market for it. I guess the government's direction should be creating a market for those sources. Hopefully we can see some economies generated in its production because it has a sixfold price tag.

**Mr McAlpin**—The market will change and the market will drive those processes eventually. The market is obviously going to change in the long term and probably in the short term as well.

**Mr BILLSON**—In the car industry, you can hardly slap a permit on a motorist. But the directions surrounding fuel efficiency of vehicles and those sorts of things, would the Queensland Conservation Council be supportive of those sorts of measures?

**Mr McAlpin**—Yes.

**CHAIR**—What I am looking at really is the fact that I do not think sinks are going to be the panacea for all of our problems.

**Mr McAlpin**—No.

**CHAIR**—We have to look at where we will get reductions in emissions to live within the parameters that we have agreed to. The alternative energy you have mentioned: yes, we have some state-of-the-art technology in solar in Australia. We are certainly developing wind power. We probably have the potential for wave power in many of our northern areas with the big tides. Do you think that there are areas of government—I suppose this is a leading question—that should be doing more to try to cultivate this technology so that we can gain credits and even sell that technology to some of the underdeveloped world?

**Mr McAlpin**—I do but I am not sure which government should be footing the bill for these things. Ultimately it is going to cost governments to change. If it is a change that

is forced through societal pressure rather than through market forces then it is going to cost governments to implement that change. I do not know whether—

**CHAIR**—You would prefer market forces to play it?

**Mr McAlpin**—Not necessarily. I would prefer commonsense to come into play. I think that it would be a commonsense solution for Australia to develop a very powerful solar energy production industry and gradually diminish the coal fired energy production industry. To me that makes commonsense; that is the solution that I see. I do not have a solution about which government should be footing the bill to do that.

**Mr ANTHONY**—Have you done any sort of modelling of what capacity you could produce?

**Mr McAlpin**—The conservation council has not but I imagine that various alternative energy production systems have done some models on those sorts of things.

**Mr ANTHONY**—But some areas in Queensland have as their biggest rural product sugar cane and they are only now starting to go co-generation, I think, where we would deregulate and plug into the grid. I would have thought for the Queensland Conservation Council that would probably be the one resource which could be enacted pretty quickly because it is already there. They are burning it now but to put it back through boilers and plug it into the grid—have you done any studies there?

**Mr McAlpin**—No, the council has not done any studies there. I do not really know whether they intend to or not. The QCC has some problems with the sugar industry in Queensland. At the present the expansion is being driven by speculation rather than by allocation through canegrowers and so people are clearing native vegetation to establish or to speculate about establishing cane expansion in northern Queensland. I would certainly support their co-generation under existing plantation areas but a sort of an addition to that through the clearing of native vegetation to speculatively expand the cane industry, that is something—

**CHAIR**—Why are they speculating in that area? World market prices are very low at the present time.

**Mr McAlpin**—Historically, world market prices have gone up and down and they have fluctuated fairly markedly. It was not all that long ago that world market prices did not look so bad. There have been problems in Thailand and it looked for a while that the Thai production would be down substantially this year. I think that gave further impetus to a speculative expansion in Australia. There are people now clearing vegetation in Queensland before there is any indication as to whether they will be allocated a cane allotment by the canegrowers, so—

**CHAIR**—That has been deregulated anyway, has it not?

**Mr McAlpin**—Yes. Again, market forces will probably drive that but obviously a group like us is not going to support speculative land clearing to expand an industry that has historically been fairly significant impactors on the biodiversity of a fairly limited resource.

**CHAIR**—What controls are there on land clearing in those areas? Do they not have to get an application to clear?

**Mr McAlpin**—Not on private land.

**CHAIR**—Not at all?

**Mr McAlpin**—No. This gets back to why this needs to be a national system. It is vital that we need some national vegetation protection guidelines because they vary from state to state. Currently there are areas where native vegetation has been cleared to establish plantations of pine or other species and to establish cane plantations. It seems really vital to me, and to our group, that there has to be national vegetation protection laws. The current situation in Queensland is that there are three or four shires that have vegetation protection orders but over the vast majority of Queensland there is no vegetation protection on private land.

**Mr BILLSON**—Is that through their planning scheme?

**Mr McAlpin**—Yes, through the local council's planning scheme where people need to apply for a permit to clear private land. Over 99.9 per cent of Queensland there is no vegetation protection on private land.

**CHAIR**—Sugar is a crop that soaks up carbon dioxide and turns it into sugar.

**Mr McAlpin**—I would not argue with that. What we are arguing against is the need to clear native vegetation to establish plantations. I am not arguing that it is not economically sound; I am arguing that it may be environmentally unsound and that we are not addressing the biodiversity values that we have got in our national biodiversity area.

**CHAIR**—Not the carbon area—this is the biodiversity area you are talking about?

**Mr McAlpin**—Yes. If you are just talking about growing carbon then there are plenty of better ways of doing it than growing a cane crop.

**Mr ANTHONY**—You are creating electricity at the same time. That is the difference.

**Mr McAlpin**—Yes. There are ways of creating electricity and growing carbon as well, like plantations of timber for example. There is no reason why they cannot be linked to co-generation where you are producing tables that last for 80 years and all the by-products of the timber industry are being put into co-generation.

**CHAIR**—You grow that on the land that is being cleared as well?

**Mr McAlpin**—Yes, I think so. That is our opinion. As far as we can see, Australia has cleared enough land already and we do not need to clear any more. We have gone overboard in terms of land clearing; we have got more than enough land cleared already. There is a lot of marginal land that is being allowed to go back to grow into woodland and forest; they can be carbon sinks. There is plenty of land that is fairly marginal in terms of its economic output that could be put to better purposes. It can be used for forestry plantations as carbon sinks and can be used for co-generation. I do not think we have looked at the smartest ways of doing all of this.

It is like all these paradigms in life; we have gone along doing the things that we do and we have not really necessarily looked at the new, better ways of doing things. Obviously, that is starting to happen in our society but we are still not grabbing the best opportunities often enough.

**CHAIR**—If we go back to this forest area, we are talking mainly plantations. We have been concentrating on plantations as carbon sinks and yet plantations are a very small amount of the vegetative cover of Australia.

**Mr McAlpin**—Yes.

**CHAIR**—Why shouldn't we be looking at our forests and our crown lands as being sinks as well?

**Mr McAlpin**—We should and I have said that in my submission. Because we are talking about such vast areas I think there is excellent potential there. I work with people who own 100,000 hectares and there might be three-quarters of that that has never been cleared; it is woodland. It is not a very dense area of woodland. Current default values in this workbook show they are looking at something like 30 to 40 tonnes of stored carbon per hectare. It has already been established through current practices worldwide that areas like that are being perceived as having value not necessarily as carbon sinks that are sequestering carbon but as carbon sinks that actually hold carbon and keep carbon held for an indefinite time period. I think as the carbon dioxide levels in the atmosphere continue to increase and the amount of stored carbon in woodland continues to decrease, then stored carbon in woodlands are going to be protected for indefinite periods.

It would, to me, accrue an increased value as time progresses. I can see that there is definite potential here in our vast areas of inland Australia for those areas of woodland

and forest to be valued as a carbon store that would be protected through some contractual agreement over an extensive period of time so that it could be used as an alternative income source for land-holders. Also, it could be used as a carbon store over a long period of time, not just over extant woodland and forest but over potential regrowth of the areas that have been cleared prior to 1990 and for areas that are marginal land for them to be rehabilitated through de-stocking and through protection of them by some sort of fencing system.

They are areas that have not been cleared. They have been grazed, they have been run down and they may have processes such as vegetation thickening but, given that they were offered some sort of combination of an incentive system and a carbon storage contract, they could become a valuable asset to land-holders—which again gets back to the potential for maybe conferring the rights to trees on leaseholders so that it would be able to provide them with a monetary benefit.

I have addressed that in this submission in terms of the native title debate because obviously that native title debate has implications over the resources on the leasehold land, so I would just like to—

**CHAIR**—If the court ever tells us that.

**Mr McAlpin**—Yes, I mention that. That is obviously a consideration that needs to be taken into account.

**Mr JENKINS**—What sort of areas of natives do you revegetate for biodiversity purposes?

**Mr McAlpin**—No one knows because we just do not have a handle on what our biodiversity is. Research projects are being conducted all the time. CSIRO did one last year and the year before where they looked at six areas of rangeland across Australia and the impact of watering points on biodiversity. The conclusions they came up with were that about a quarter of all species benefit through the placing of water points and about a quarter of the species are badly impacted by the placement of watering points. For about half of all species, it does not really matter.

The most important finding of the whole research project was that virtually all of the invertebrate species that they recorded during the study were new to science. We just do not have any idea what the driving forces behind our ecological processes are. We have got some sorts of pretty rough ideas about how our ecological processes work but we are just still at a really basic level of understanding of how our systems work, yet we have gone a long way down the track to destroying a lot of our systems. There is a lot of work that needs to be done.

**Mr JENKINS**—In the biogeographic areas that you are working in, do you have a

sort of fix on the ratios between the carbon fixing that you get from revegetation for biodiversity purposes as against similar land that was put over to plantation? What are the relativities?

**Mr McAlpin**—I do not know. No one has done any work on that. But I think with all of this work it is reasonably easy to establish those figures. It is pretty simple. Someone mentioned Bill Burrows before—they are doing a lot of work. They have got growth rings on trees. You take a destructive sample of an area of vegetation and you measure it. It is a pretty simple matter of over how many years you want to do that to measure those processes. I think the real nuts and bolts of this system—the parameters of it—are easy to establish by various methodologies that have already been established but the work to give you all the figures about the vast range of systems has not been done yet. I think we are there in terms of knowing how to measure these things. We just have not done enough work to measure them.

**Mr JENKINS**—Right. That is a point in time measurement but what about measurement given that there would be different management practices. I mean you talk about the importance of fire regimes to biodiversity—

**Mr McAlpin**—Yes. I think this gets back to default value tables and this is a problem that this whole system is going to have to address. If we have a normal economic system, we know to a very fine degree the parameters of something when you are talking about economics and people are going to make judgments on fairly fine points.

Here we are talking about values that might be even within, say, three per cent either way. There is no way an economist would want to hear about figures that were three per cent either way because it is not accurate enough for him. I still think that is fairly simple to get around—we just need to establish default tables. You have got a default value that sets what the maximum you can claim on something is. If someone who has a project wants to establish that they are accruing a greater carbon sequestration in their project, then it is up to them. It is simple. They just measure it and they prove to whatever body is overseeing this that they are actually sequestering more carbon than the default tables.

**Mr JENKINS**—So you think the default could be potentially undervalued?

**Mr McAlpin**—Yes. It will be. Obviously, that is going to have implications in terms of the market and how it is traded. It probably will not be reflected in the real value of this carbon sequestration, but I think that is something that the system is going to have to live with until such time as we refine our techniques and we can establish a better default table.

**Mr JENKINS**—There has to be a price, for certain. We do not want everybody challenging the values that are set.

**Mr McAlpin**—I think if people challenge, then it is up to them, at their own cost, to establish that they are producing more than the default value table says. Again, market forces will drive that. If people feel that they have got a system in place where they can establish a better return, then it is up to them to pay to have that established.

**Mr JENKINS**—Who monitors these? Who sets the values and monitors? Is this a role for the state and the national system, or is this something that the Commonwealth government should do?

**Mr McAlpin**—I believe the parameters of the whole system need to be established by the federal government, but the system probably needs to be a market driven, private enterprise system.

The Queensland government, in their submission, suggested that there would be a department set up in the federal government that would oversee this through that portfolio, and that seems like a reasonable suggestion—that it is initiated by the federal government, they establish the parameters and the guidelines, they set guidelines that identify who gets authorised as a verification body, how you become a verification body, how you measure. All of those things can be done as regulations. Then the system can be operated under whatever, if it is private enterprise or not.

I cannot imagine the federal government wants to get involved in the actual running of the system, but I think it is vital that they need to establish the parameters and the regulations that control the system. That works in every other facet of our society and there is no reason why it should not happen in this one, is there?

**CHAIR**—I agree. Thank you very much.

**Proceedings suspended from 11.57 a.m. to 12.06 p.m.**



[12.06 p.m.]

**ROBINSON, Mr Russell Noel Reginald, Environmental Coordinator, Stanwell Corporation Limited, PO Box 6510, Rockhampton Mail Centre, Queensland 4702**

**SIMSHAUSER, Mr Paul Edward, Market Trading Manager, Stanwell Corporation Limited, PO Box 6510, Rockhampton Mail Centre, Queensland 4702**

**CHAIR**—We have received your submission. Are there any amendments or changes that you wish to make?

**Mr Simshauser**—There is just one very slight amendment on page 5, in section 5, first paragraph, last line. Between the words ‘permits’ and ‘the market’, we just need the word ‘from’ in there so that sentence makes sense. Shall I say that again? On page 5, section 5, possible emission traders, the first paragraph underneath that, the last line reads, ‘new permit issues and by any access permits the market’. Between the words ‘permits’ and ‘the’ should be ‘from’.

**CHAIR**—Do you wish to make an opening statement?

**Mr Simshauser**—Yes, if we could. I will just go through these fairly quickly and try to bring out the main points of our submission. We did draft it from a heavy industry perspective; that is where our expertise lies. Collectively, the fossil fuel users represent about 38 per cent of those emissions. We are a pretty easy target because there are not that many of us, comparatively speaking. We would hate to think that 38 per cent of the industry takes 100 per cent of the blame for it. We see it as imperative that industries like transport and so on be included.

Our experience in the development of trading systems like that is fairly fresh, having been involved in the deregulation of the electricity industry over the past 18 months, and from that experience we can probably offer the one advice: you definitely need some form of department or oversight body to start this thing up. It is a horrendous amount of work, but it is not impossible. Twelve months ago we basically started with a clean slate in Queensland. They brought in a reform unit. We basically disaggregated a generator up in the three companies and put in fully fledged and operating spot market trading and grew with this market running. It is possible to do it in a short time frame as long as you have got the right oversight body.

In terms of measurement, we would see continuous emissions monitoring as probably the most appropriate for the heavy industry and, failing that, some high default level that errs on the side of caution. Verification needs to be done by an external accredited auditor, but monitoring should be done internally and just reported periodically back to whoever the oversight body is.

We believe that the offsets need to be introduced that probably send the right sorts of signals, particularly in the generation industry. In terms of how they get reviewed, I suppose we saw this as being as similar to the taxation system where you are going to have certain precedences. The idea of the default table that was brought up is a good one, and anything beyond that I will go to on a case-by-case basis, which then sets the precedent for anything in the future.

We also need to consider the benefits that we can bring to foreign countries. If we have got a Chinese power station that is operating at 24 per cent efficiency, we can actually go over to that station and increase its efficiency of conversion up to something like 30 to 37 per cent, which is obviously of great benefit. We need to be able to claim those international credits, because the engineers from our organisation are more than capable of doing that.

I guess the biggest thing from our perspective though, is the allocation of the permits. They need to be based on the installed capacity at the current emission rates, and they probably need to include any projects that are financially closed—anything new thereafter would need to be purchased from the open market. Probably the most significant thing for us is that the permits need to have an indefinite life. If we are having to constantly go out to the marketplace—year in year out—buying these things, it represents an enormous financial risk for a large organisation. Given the size of the typical companies involved in the industry, we are talking \$2 billion—

**CHAIR**—It would be a huge incentive as well to get out of the system and then become efficient, wouldn't it—to reduce your emissions?

**Mr Simshauser**—There are other ways. I do not think that is the only way. That is basically belting someone over the head saying, 'Become efficient, become efficient.' The alternative is to actually issue the permits with an indefinite life, then they start having value as a positive way we can reduce our emissions, if we have got something that we can sell. That to me is a much better way of achieving the right outcomes. That is something that is going to get industry working with you, rather than against you. If you put in something that is just a constant battering over the head, you are going to get all the horrendous lobbying that goes with it. If you put something in place where there is a value, people are going to work with that.

**Mr Robinson**—One other thing about issued permits is that something purchased now for one tonne of CO<sub>2</sub> equivalent might be worth 0.8 of a tonne of CO<sub>2</sub> equivalent in five years time, so there are a number of options there.

**Mr Simshauser**—On that basis, the permits have a clean market signal about them and that is positive. Administration does need to reside with some form of government department or oversight regulatory body, at least until the market matures. Thereafter, it is probably just a very quick in and out process every year, making sure that all the right

levels are out there in the marketplace, and so on. Transaction costs need to be absolutely minimal. There are ways around the transactions costs, such as financial market documentation, which is nice and easy to use once it is set up—it is a bit of a legal nightmare to start with.

We see the role of government as being to facilitate the market, but not to try to influence outcomes. Once this sort of thing is up and running, the market forces need to dictate. The only time the government should step in is where there is a clear distortion, or something going against the spirit of the arrangement.

We have probably mentioned the transportation industry. Carbon or emission taxes are simple and easier to ramp up, but the difference is they are probably a little bit easier to pass on, in terms of their cost.

To summarise the Stanwell Corporation's position on this—we believe that this is coming, we know it is coming and we are fairly happy to support the concept of it. Our commitment to this sort of stuff is pretty strong. We are enrolled in the greenhouse challenge. We are installing continuous and monitoring units on all of our generating sets. We will have the first unit done by the end of this year and all units done by the end of next year.

We are planning a seed orchard at the moment. We have got projects on the board, 10 megawatts of wind, 6 megawatts of mini-hydro, 20 megawatts of solar thermal, 10 megawatts of waste to energy, 29 megawatts of biomass cogen. We are funding the CSIRO and the University of Central Queensland, who are doing research and development for us into carbon sinks and the measurement of uptake.

We believe this stuff is coming. It is starting to affect the whole way our business is operating and, certainly, the direction it is taking. But I guess the thing I cannot emphasise enough is that those permits need to have an indefinite life if they are going to be effective. If you want people to continually invest in generating assets into the future, there has got to be some clear benefit to doing so. If it comes to the point—I would like to think that everything we do in the future would be solar, biomass or whatever the case may be, but the reality is that it is not going to be like that. At this stage, the cost of them, by comparison to conventional installations—and I do not mean just coal, but combined sulfur gas turbines and these sort of things—they just cannot quite compete.

If we want to get these sorts of investments into our economy to make sure that we continue to grow, no-one is going to do it if we are going to have to keep buying permits; not when you have got to outlay \$1 billion to put one of these things in place—it would just be insane. There is just way too much risk which you could not control, that you would have no dictation over and no way to hedge. To me, that is a very frightening prospect. I listened to the New South Wales government advocating this down in Sydney, a few weeks ago, at an economics conference. I nearly had a heart attack; I did not realise

anyone was thinking that way.

**Mr BILLSON**—You probably had a heart attack when your own government was doing the same thing.

**Mr Simshauser**—Yes. I was not here for that one, unfortunately; I will go and beat them up as soon as I finish. If we are going to get to the point where this is an annual rebuying of these permits, we should be done with it and put the carbon tax in. It is much simpler and cleaner and we can then all just go and pay the bills. But something like the annual permit concept—the business risk involved in that is just terrifying. We would never invest in a big installation again—or even a small installation—if we knew that we were up for that sort of a risk. To be quite honest, if it came out this way, my recommendation to the board would be, ‘Let us get out of power generation.’ It is just suicidal, unless you have something like the winds, the biomass—something that has no carbon emissions involved in it, whatsoever; otherwise it is just way too risky. I could not stand in front of them and guarantee them that we are going to make profits in five years time, because I do not know what the market is going to do. I have got no way of hedging it.

**CHAIR**—Thank you, Mr Simshauser. Do you want to make a statement, Mr Robinson?

**Mr Robinson**—No.

**CHAIR**—Could I ask a couple of questions to start with. You mentioned the green power situation where you were investing some of this in biomass, in wind farms and solar. Is that specifically for that green market; or are you, in fact, looking for credits in the future, and you are going to absorb it in the price?

**Mr Simshauser**—Unfortunately, the green market for electricity has been a little bit disappointing. Energex have released a green package up here. I think, of their 800,000 customers, 3,000 of them took it up.

**CHAIR**—What was the difference in price? I suppose that is what it comes to.

**Mr Simshauser**—It will basically cost us somewhere between 50 per cent and 300 per cent more to produce the energy.

**CHAIR**—So you have to pass that cost on and that is the price of the electricity to those green consumers?

**Mr Simshauser**—Yes, either that or we are going to have to wear a bit of it ourselves. We try as much as we physically can but, at the end of the day—

**CHAIR**—So your investment would really be punting on the fact that you should get some credits for this clean generation?

**Mr Simshauser**—I guess that is so, in part. I suppose the other thing is, too, that we have to demonstrate some sort of commitment to environmental directives. We cannot just sit there and say, ‘We support the environment.’ We have to get out there and act on it, and demonstrate to the public that it is not just in appearance; it is in fact.

**CHAIR**—You are buying your coal for generation from open cut, are you?

**Mr Simshauser**—Yes, that is correct. We draw from a number of mines in the central Queensland region.

**CHAIR**—So it is not an underground mine that is emitting any methane, or anything like that?

**Mr Simshauser**—No.

**CHAIR**—We have heard a number of ideas about the market itself and about proposed systems—whether it should be auctioned or whether it should be permits allocated on emissions in the past, or a percentage of that, or a shandy of those. The arguments have been about the cost, in the first instance, of buying permits under auction. The other argument has been how to let other players into the marketplace. Do you have an opinion on what you see as being the perfect model?

**Mr Simshauser**—I think to start by calling an auction would be changing the rules of the game far too much. We are basically calling every business at hand, in the industry, to come in and justify their existence. That could be a horrendous cost. My background is in the auctioneering industry. You can get black bidders and they are bidding things up if—

**CHAIR**—You would never do that, would you?

**Mr Simshauser**—No. I have seen the owners walk in there—I am sure they owned that bit of it. You know the thing I am trying to get across. There is enormous financial risk to the companies that are actually going to have to buy those things up.

My understanding of this is to try to iron out the greenhouse issue, not raise revenue. To me, with this initial option concept or annual options, we are just talking taxes. It is a revenue raising thing. The reality is we cannot let the power stations that are there close down at the moment. In Queensland we are running out of capacity. We do not have a surplus. If one of our stations does not get its permits, you are facing blackouts immediately. That is the reality. You probably all saw on the news in January that we lost a couple of units and there were blackouts. Imagine taking an entire power station out.

You just cannot do it. The economy will come to a standstill.

In terms of whether it keeps out new entrants, I think it would be fair to say that it probably keeps new coal-fired entrants out, but I guess that is probably one of the objectives of this scheme. The new entrants that come in are likely to be greener or green energy. In the past we could never get a combined cycle gas turbine up in Queensland. The cost of gas was too much. It is significantly better on the environment but we just could not cut it financially. Now it is close, we are looking at building one up in Townsville. It is about 700 megawatts and it will go a long way to keeping the Queensland grid up and running.

The environmental uptake will keep a coal-fired station out because currently its main competitors to setting up are three coal-fired stations. The reality is, if one of those coal-fired stations got their stake in the ground before our gas installation does, we are going to have to wipe it off the board because we cannot compete with a coal-fired station; it is just far cheaper.

These things will stop new coal-fired stations coming into the system and they will start to turn the economics on the greener stations, and indeed the green installations themselves. For example, a wind generator is going to take a lot of environmental taxes and permits before it becomes economic, or else a lot of people will have to be prepared to pay a green tariff of maybe 20 per cent or 30 per cent. If it is embedded deep enough in the system it might work.

As for solar, we have a solar thermal project on our books at the moment. I saw one in the United States. Talking of costs, the capital cost is 20 times the cost of coal. I would love to see more of them—they are amazing to see—but the cost is prohibitive. Each time these permits come up for renewal, if they are significant enough and valuable enough in the marketplace, they will turn the economics that will keep new coal-fired stations out.

**CHAIR**—On that matter of cost, as you said, there are two methods here: it is either the hammer or the carrot. If it was the hammer and the government said, ‘You will reduce your emissions by two per cent per year,’ that is going to cost you.

**Mr Simshauser**—Yes.

**CHAIR**—So what is the difference in buying a property right, which you can sell?

**Mr Robinson**—In Central Queensland we have talked to land-holders, to the United Graziers Association, et cetera, about the concept of potentially locking up some areas of degraded land which are more suitable for regrowth of rare habitat than cattle production. We talked about the economics of us doing that and paying them a price that is equivalent to them raising cattle in that area. It is less expensive to us than actually

putting some sort of abatement measures on the power plant or building a new plant. That is a serious option for us to consider.

**CHAIR**—So you are really saying that, with the property right that is going to be given to you, you do not see it as being a huge value?

**Mr Robinson**—We believe it is very early days yet but, from our discussions so far with various freehold land-holders, we believe that there is certainly some much more economically attractive measures available to us than some abatement measures.

**Mr BILLSON**—You are missing a key factor in your calculations and that is the value of freed up permits and what that might bring on the market, which is so variable that you would have no feel for it at the moment.

**Mr Robinson**—True.

**Mr BILLSON**—That is what the chair is getting at: there is a new value. If you had abatement measures successfully implemented and generated some slack—

**Mr Simshauser**—I guess you are talking about the hammer approach. I see the same with the carrot. If you issue these permits and that is it, there might be a certain amount allocated each year as some are bought up, or whatever the case may be. If we look at some modification to our plant, for example, gas firing the start ups or something like that, it might just make that little bit of difference. Even with indefinite life permits you have still got a market out there which you can go and sell those to. There is a clear manner in which to demonstrate the economic cost of gas firing a unit start and the benefit of doing it. As long as we can sell out in the open market—

**CHAIR**—But there is a broad view on this, not just within Australia, if this becomes an international marketplace, and it would seem that we are heading down that track. We were given some figures yesterday—and this is off the top of my head so do not hold me to them—that Australian generation efficiency was something like 58 per cent and for some of the developing countries it is around 25 per cent.

**Mr Simshauser**—Correct.

**CHAIR**—Have you not got the potential to go and sell that technology to the developing world and gain credits?

**Mr Simshauser**—Absolutely.

**CHAIR**—That is the value in your permit. You can gain these credits and then you offset that—

**Mr Simshauser**—Yes.

**CHAIR**—Therefore, you can notionally reduce your emissions.

**Mr Simshauser**—But would you not be able to do that under either methodology? Even under the carrot methodology you would still do that because it is—

**CHAIR**—Yes, but the value is there.

**Mr BILLSON**—I think we are in heated agreement here!

**Mr Simshauser**—I agree with you. I mention that here because our engineers do have the capability to go over and iron out a lot of the problems with these Chinese power stations because they are down around the 20 per cent mark. For a thermal station you should be able to get 37 per cent efficiency fairly easily.

**Mr BILLSON**—The simple point you are making is that acquiring credits either through activity offshore or by purchasing may be more cost effective than abatement measures. Is that correct?

**Mr Simshauser**—Correct.

**Mr BILLSON**—Where you guys are not in agreement with your state government is over its view concerning auctioning these periodically, perhaps in a five-year cycle to match up with the accounting period through Kyoto and life after Kyoto. That is something they are strongly advocating. That strikes me as bizarre for a whole range of reasons. Is that something that you are planning to take up with them?

**Mr Simshauser**—Yes.

**Mr BILLSON**—On the issue of the longevity of the permits—and I have some sympathy for the rolling permits—bear in mind that the goal is to reduce emissions. I would see those permit values discounted and depreciated over time to bring our national permit allocation, plus or minus credits and stuff brought in from overseas, in line with our international commitments as something you have alluded to, although you have favoured a buyback option. I have trouble with governments effectively creating a new property right and then saying, ‘Now you can buy it back.’ Would we not be better off creating a property right, being a permit with a known discount rate, a known depreciation rate, so that you just lost them and you had to pull your weight along with everybody else?

**Mr Simshauser**—This is coming from either side of the fence. I can see that it probably does not make a lot of sense for a government to create something of value and bowl it over. I agree. But take a step back; imagine you had pieced together a company



back in 1990. In our case it was 1993. We put a \$1.8 billion company on the ground and we are planning to run it for 40 years and five years later we have been told, 'We are going to dump this enormous cost on your business. It's going to come every 12 months and—

**Mr BILLSON**—We are not saying that. You need to be clear on that. We are not saying that.

**CHAIR**—Some people are.

**Mr BILLSON**—The nearest we have got to that is saying that your government is saying it. Let us be clear on that. One or two people think it is a good idea and—

**Mr Simshauser**—If we say the body that is to look after this should buy back those permits, yes, that has imposed a cost on that particular body and they have created the value in the first place. But then, on the other side of the coin, if they do not buy them have not the shareholders just lost all their money?

**Mr BILLSON**—That is the cigarette company argument. That is the tobacco argument—that when we started off our tobacco business we did not know that it killed you, that it gave you lung cancer. Do you know what I am getting at? I understand what you are saying and in a perfect world where we had this crystal ball to enable us to look into the future we could ensure that our actions today would be so virtuous that they would never come into question later on.

You could run that argument but here we have the globe saying that we have to do something. We, as a nation, have said that we have all got to pull our weight. The energy sector does nothing else other than what it is doing now. It has a 40 per cent growth projection in its emissions and we have got, as a nation, an eight per cent outlook, which takes account of population growth and a whole lot of juicy things. Everyone has to pull their weight.

If we discounted the permits over time, you would know where you stood. You would know the costs of not matching that diminishing value of your permit and you could take some action. You get the positives and the negatives. If you accelerated your abatement effort beyond that depreciation, you are generating value that you could flog on the market. If you do not, you are going to shop around and buy it off somebody else.

**Mr Simshauser**—I can see the other benefit in that. You would get a lot more support from us on that sort of concept than the idea of this annual option stuff. The cigarette industry is a hard one, I suppose. You can understand the principles that they are putting up. I do not think there is anything wrong with the principles that the cigarette industry is following. That is the reality.

**Mr BILLSON**—Except that it is killing people. We have a bit of a problem with that.

**CHAIR**—In 1800 they did not know that.

**Mr BILLSON**—‘You have got cancer but we do not know what it is from; it is not us.’ You cannot run that argument.

**Mr Simshauser**—What are we to do? Do we close down a power station?

**Mr BILLSON**—This is our whole point. It is to try and talk about what we can do without bringing the nation, as we know it, to an absolute standstill overnight. At the same time, we need to make sure that everyone puts in. You have an option that gives you lead time, gives you planning capacity and gives you choices. I assume that, with the regulatory framework that your paper envisages, you are not suggesting seven different bodies, as I counted; you are creating seven different functions.

**Mr Simshauser**—Yes, that is right.

**Mr BILLSON**—A number of which will fold into one another or one agency or another.

**Mr Simshauser**—Sure.

**Mr BILLSON**—Would you support the notion of the government doing that in such a way that it was internationally recognised?

**Mr Simshauser**—That would make a lot of sense.

**Mr BILLSON**—Our neighbouring countries or people that are frightened of the Europeans and Americans would come to happy Oz to get an objective, informed assessment of the world as it is.

**Mr Simshauser**—I can only reiterate what we were saying before that there are benefits in having something that is internationally compatible. It gives us the ability to go and do those things we were talking about, the Chinese power station and that. It is a big help having something like that. If it was not internationally recognised, or something like that, that may create a problem for us.

**CHAIR**—It would narrow the field.

**Mr Simshauser**—Yes, it would.

**Mr BILLSON**—I am arguing that we go further and give you an endorsement for

the region.

**Mr Simshauser**—Yes.

**Mr BILLSON**—You talked about transport and, after others have had a go, I would like to come back to that issue of where the obligations land. Is it the producer or the consumer? In the transport area, though, let us say we went for the umbrella proposition that you suggested, where the Department of Transport acquires permits for the transport vehicle activity as a whole and pushes it through registrations or whatever the case might be. Who would do that? Would it be the state or the federal transport department?

**Mr Simshauser**—That is a mighty question. I must confess I know very little about the transport industry and I would hate to start making calls on their behalf. We were just trying to convey that it is possible. You need to find the most appropriate person.

**CHAIR**—We have a national registration agreement at the present time.

**Mr BILLSON**—I am thinking about where the behaviour would come from. If you are trying to change people's behaviour—I mean, the states run all the public transport systems.

**Mr Simshauser**—That is right. I guess they also have the ability to go for the variable and fixed. The fuel taxes and the registration—I am not sure about. I presume that it is still issued by the state. I mean, they are different.

**CHAIR**—They are the same. They have been broadly—

**Mr Simshauser**—Right.

**CHAIR**—What about falling on the refiner?

**Mr Simshauser**—That is probably another alternative. If you take that through, you could probably throw it on the coalmines. There is nothing wrong with that either. I am just trying to work out where it is easiest to pinpoint it.

**Mr BILLSON**—It raises the point that the trading scheme alone is not enough. If we popped it on the refiner, we could all whiz around in V8 cars and there would be no signal to the manufacturers to think about power mass ratios and that sort of thing.

**Mr Simshauser**—They may start incurring it themselves; I agree. With our proposal, we are trying to work through issues, not why it is going to be a problem but how to overcome them. From that perspective, we have tried to give you answers rather

than unsolved questions—‘We think these are some points where we reckon the raw nerves will come’ or ‘This has probably got some merit in it,’ because of the reasons that we have stated.

**Mr BILLSON**—Teasing it out a bit further on those other policy measures in your sector, the Prime Minister’s commitment requires you to pick up five per cent from the renewables. That irks some people but, by the same token, it is creating a market that, without that direction, would probably never develop and mature. So you are not opposed to other policy measures to complement the transitions we need to make?

**Mr Simshauser**—No, not at all.

**CHAIR**—If there were an auction system, either part or whole, would there be any objections if any money raised went to encouraging alternative energies?

**Mr Simshauser**—We have suggested that it should be along the lines of research into making it more efficient. For example, for a 10-megawatt solar thermal, we are looking at \$200 million. If we could get that down to maybe \$100 million they might start popping up all over the place. It needs to go into R&D to try to make it more commercial.

**Mr BILLSON**—You have a managed market where the barrier to entry is not so much price but certification as a legitimate player. Why? Andrew Coyne, writing in the *Ottawa Citizen*, said:

It is not hard to imagine groups of investors setting up solely to earn emission credits, whether by buying up forests from timber companies, or capturing methane from landfill sites.

What is wrong with a business in trading agreements?

**Mr Simshauser**—I would hate to see where you have someone pulling permits out of the marketplace that is starting to have a detrimental effect on the economy. We had an example of the tradeable permits in California—

**Mr BILLSON**—The US clean air act, the sulfur dioxide. If the goal is to end acid rain, and a few of us get together, and we go along and buy these things and sit on them as a great little earner down the track, what is wrong with that? By the same token, it puts a bit of a blowtorch under whoever is pumping the gunk into the air.

**Mr Simshauser**—I suppose that probably has all the right objectives except that sooner or later the economy is going to come to a standstill, if that went out of control. That is the reality.

**CHAIR**—But would it go out of control? That would only be a minor part of it, wouldn’t it?

**Mr Simshauser**—Let us take the power industry—it is the only one that I feel I can speak on behalf of—and say we take all of the coal fired power stations out of our system and replace them with green energy. Realistically, if that is what ends up being the competitive marketplace, I would be surprised if the average cost of energy did not at least triple, under current technology. Our neighbour next door, New Zealand, has hydro installations. Energy represents, on average, about a 13 per cent input cost and for some of these organisations it is significantly higher.

**Mr BILLSON**—Let us follow through the rolling permit argument. Whatever becomes available to the marketplace is whatever you generate as surplus permit capacity. Notwithstanding depreciation—I think that is a good idea—and the government does not give them all away in the first instance, the government might retain five, 10 or 15 per cent and facilitate new market entrants to facilitate reward for performance that warrants it to make the market work. That would represent a good thing in the marketplace. Why should not the Soroses of the world get out of currencies and into specking on greenhouse permits?

**Mr Simshauser**—At the end of the day that is just a trade-off, is it not? I can see it now. The one thing I have a lot of experience in is with modelling different types of power stations, configurations and the cost. I am telling you: if you get someone in there who wipes out all of these things it is going to come back and haunt the economy. It will not haunt me; I will not care. I will still have a job because I will be employed so vigorously trying to work out how to get around these things.

**Mr BILLSON**—A new industry.

**Mr Simshauser**—But, in your modelling, what if three per cent were pulled down? I guess we just pull back three per cent of production and try and replace it with something else.

**Mr BILLSON**—Or you would buy a gas business and offer your clients a—

**CHAIR**—But you would do a bit of lateral thinking, wouldn't you? For instance, in the concrete industry where CSR is a big player, and CSR is also in the timber industry—

**Mr Robinson**—Yes, and coal.

**CHAIR**—So they might get involved in that, do a bit of lateral thinking and play one off against the other.

**Mr Simshauser**—Under those circumstances I guess you can. I guess you are just going to have to try and find innovative ways to get around it, and we sort of start our seed orchids as a trial to see how that runs, and I guess we will get more innovative. It is

quite an unusual concept, a generator with a forest on their grounds, but—

**Mr BILLSON**—But your key policy point, though, is that wholesale withdrawal is fearsome and would create chaos?

**Mr Simshauser**—Yes, I think so. I just think dangerous—very dangerous.

**Mr ANTHONY**—I just want to make a comment. You mentioned—and notwithstanding the reasons—that the term, when it is allocated, should be a fixed term.

**Mr Simshauser**—Yes.

**Mr ANTHONY**—And so you have a fairly rigid value system there?

**Mr Simshauser**—Yes.

**Mr ANTHONY**—By the same token you argue that carbon sinks should be regularly reviewed, so there is an offset there which is being assessed constantly whereas, with a permit system, they would be advocating it is fairly firm. Then you advocate that it should be done on the Sydney Futures Exchange—okay?

**Mr Simshauser**—No, the time you could—

**Mr ANTHONY**—But why would you put it on the Sydney Futures Exchange? On that exchange they are instruments that normally expire, they are rolling, they have a certain duration, whereas the instrument you are proposing does not really have a place there because what you want, basically, is a fixed life with a depreciation schedule, with the value, so I just cannot work out some of your methodology here.

**Mr Simshauser**—Let us take, for example, the position where we work out our particular power station and we have pulled off some incremental change; we have now got some number of permits that we can go and sell on the open market.

**Mr Robinson**—Or camp.

**Mr Simshauser**—Yes, or camp. Every time we do that, we have got access—we can go out and sell. We might work out that, if we go ahead and do this particular capital alteration to our plant, we can go and fund that through the value of our permits. When I say indefinite life, that is probably not quite exact. I guess what you are really after is something that lasts for the life of that installation or whatever the case may be, but the thing is it is still tradeable. You can still go out and sell marginal components of that if you need them. The way stations are structured, generally they get to half life and they start to change the way they operate. They might reduce down to half.

**Mr ANTHONY**—How does your carbon sink trade-off come into that? If you plant a number of forests on your new site at Townsville, your carbon sink credits become tradeable permits?

**Mr Robinson**—I think the way we see it is that it is an offset to the emissions that we are producing; therefore, the net number of permits that we need are offset by carbon sinks.

**Mr ANTHONY**—It is purely an offsetting mechanism?

**Mr Robinson**—Yes.

**Mr ANTHONY**—So you actually do not get any permits?

**Mr Robinson**—No, we see it as an offsetting mechanism.

**Mr Simshauser**—That was just our view, I suppose, at the time. It does not mean it is necessarily correct.

**CHAIR**—But it may change.

**Mr Simshauser**—Yes. But that was, I suppose, sitting down from our angle. Where we were sitting, that was the way we looked at it.

**Mr Robinson**—Just to add to that, carbon sinks we see are part of the picture. That is not the whole picture. It is looking at changes in technology, renewables, et cetera. It is part of changing our portfolio from a coal fire base portfolio to meet the need and changes.

**Mr ANTHONY**—I am just thinking that if many energy companies, let us say, put in enormous numbers of carbon sinks or whatever—forests, let us say—then the value of permits would diminish because they would be trading regularly, wouldn't they?

**Mr Robinson**—Correct.

**Mr ANTHONY**—So you would be paying a very high premium price for your permit—'To make sure that we have got security for the next 40 years, we have paid X amount, we expect that.' You are probably paying way too much because, if there are heaps of carbon sinks being developed and other energy companies are trading it, then that value goes down.

**Mr Simshauser**—That is right.

**Mr ANTHONY**—With it having a fixed period, as you are arguing, you would be

doing yourself in the eye.

**Mr Robinson**—I think the point there, which the previous speaker made as well, is that there are only certain areas in Australia that are available for carbon sinks. It is not a great area. You look at the amount of CO<sub>2</sub> the current coal fired power in this region generates: you would need an area bigger than the area of Australia to accommodate that. It is only going to cover a portion of Australia—

**Mr ANTHONY**—That is in Australia, but you could trade it somewhere else, couldn't you?

**Mr Robinson**—Possibly.

**CHAIR**—In your submission you talk about the high cost initially of a permit system, and obviously in our discussions we talked about auctions. So there is a cost involved. Have you had any blue sky projections—I suppose at this stage there would have to be blue sky projections—as to what that might cost your company in buying those sorts of permits? I know it is all speculation at this stage. It is a huge amount of money, is it?

**Mr Robinson**—It is a huge amount of money, yes. Our accountants have looked at that with the range of prices that have been available through the Internet and other spheres but, yes, we are talking about a lot of money.

**CHAIR**—So you see that would necessarily have to be passed on. You have got to get the payment from somewhere, so you would see that that would increase the cost of your electricity quite substantially?

**Mr Simshauser**—Anything that we have pieced together over the last three or four years has always made it quite clear that, if we get slugged anything from greenhouse, it is going straight through to the consumer. We are not wearing it. In actual fact it is going through to the retailer who will then distribute it off to the consumers. But we are not wearing it, and it is going straight through us.

**CHAIR**—That sort of figure I know would be commercial-in-confidence. But would there be any way that the committee could get some rough estimation from the whole electricity industry—just a bit of an idea, I suppose—as to whether we auction half the permits or whether we auction all the permits, or not auction them, and obviously we know what no auction is going to mean, so we can get some sort of a handle on what this would mean?

**Mr Simshauser**—Yes, Harry Schaap. ESAA have had their economists do a lot of modelling, as you would be aware, in this area. They have got the best picture. All the generators are members of ESAA and have access to—



**CHAIR**—Because it is no use us making a recommendation if it is impractical.

**Mr Simshauser**—I guess, Mr Chairman, the good thing about approaching Harry Schaap is that ESAA is the voice of all the generators in Australia, so he would probably be able to piece together the information quickly—much quicker than anyone like us could—and they would probably get it a lot more accurate because they are independent and they respect confidentiality of the individuals, so they probably get a much clearer view.

**Mr ANTHONY**—Just following through from that, we talked about the transport industry. Can you elaborate on how you see that being regulated through the department of transport?

**Mr Simshauser**—I must confess I do not know; that is a hard one. I guess all we wanted to do was to flag that. I would hate to think it was just the generation industry that got slogged with this. It is almost saying, ‘If we are going down, we want to drag a few others with us.’ I do not mean it to come across like that, I suppose, but I would hate to see it where we are getting nailed for the entire thing because we are an easy target, there are not that many of us.

**Mr ANTHONY**—So really you reckon just whack on a tax?

**Mr Simshauser**—I think probably that has got to be something thought about. The way we were viewing it was that, ‘We should try and stick it’—because that is essentially what this is. If you have got to, stick it to someone who can do something about it. If we get someone like the department of transport or someone in that sort of position—maybe it is the actual refineries themselves, I am not sure—make them accountable and responsible for it and then they have got the means to actually make it work.

We know right now we cannot start going straight up to everyone out there who has got a motor vehicle and say, ‘Right, you’re going to need a permit for that car.’ That is probably not going to be workable in the short run. If you want to get something up quickly, even to the point where we have got a paper trial running in 12 months time just trialling this sort of stuff, seeing how it works, how it might work just in over the counter form, you have really got to put it to someone who can give answers as to how it can be implemented and how we can get the effects flowing down to the people to change their behaviour.

I guess we saw the department of transport in not a bad position. They probably have the right mechanisms to apply a fuel tax which gives you the immediate pain in the back pocket of all the consumers for every single kilometre they drive, and they have the ability to give them a fixed charge as well through the registration—maybe slug a couple of hundred bucks on that every year, or whatever the case may be. I suppose we just saw them as being in a great position to be able to actually send a signal out to the right

places.

**CHAIR**—I understand there is a meeting to take place in June of government officers—I think it must be international because it is in Geneva. Do you think it would be imperative that we get all the state and the federal government representatives together before that for a bit of brainstorming to see where the Australian situation should be; and should we take up your suggestion that, if we are prepared to go down this track, we should put a phantom system in place just to see how it might work before we put something in place that is permanent?

**Mr Simshauser**—There are two things there: firstly, by all means have the brainstorming session but I would advise caution over the individual states. I think you need to try to make sure that you have something that is going to work for the whole economy, not one economy within it. I would probably give some thought to that.

**CHAIR**—Do you think there should be some representatives of industry as well as public servants?

**Mr Robinson**—If not, they should have some consultation with industry and other stakeholders prior to that meeting taking place.

**Mr Simshauser**—Secondly, on the issue of the phantom trading system, I just think something like that cannot hurt so let us have a look and see how it can work. Whether there is going to be a trading occurring or whether it is just a matter of everyone buying it and holding it, I just think something like that is going to be a useful exercise to go through. The main thing is that you are going to need a very good unit piecing this together—the equivalent of that electricity reform unit in Queensland—with a very sharp head who is going to keep the finger on the pulse of everything. As we said, there are few things you need to cover.

**CHAIR**—Small and focused?

**Mr Simshauser**—Yes, small and focused.

**Mr Robinson**—I do not know whether that is a role for the Australian greenhouse office. We had in our submission a department of sustainable industry, development and growth, but whether it comes under the AGO.

**Mr Simshauser**—It could be any one; it is not important. The main thing is that it is an enormous task to set something up like this, as we have just lived through. It means a lot of late nights and it is horrific, but it is possible. And it is possible to do it fairly quickly. In Queensland, as I was saying at the outset, we have restructured an entire industry, and they are now trading on a half-hourly basis in electricity. They have done that all in the space of 12 months, and that is from a standing start and includes creating

three brand new companies with 200 to 400 employees each and \$2 billion balance sheets. So amazing things can be done in a short period of time, but you have to have the right people looking after it and a fair commitment from participants who want to help to trial systems.

**Mr Robinson**—The other thing we believe is that we need to act as a country fairly quickly, because other countries, as other speakers and the committee have mentioned, are moving into this fairly rapidly. We believe that we cannot afford to wait for several years. The paper trial type concept is very important so that we do maintain an international competitive advantage.

**Mr Simshauser**—And maybe set the protocols for the international type arrangements, and maybe be the hub of this sort of trading for the Asia-Pacific.

**CHAIR**—I can see someone coming out of the woodwork!

**Mr BILLSON**—Would you go with all six greenhouse gases or, in line with getting amongst it earlier, would you just stick with CO<sub>2</sub> or methane?

**Mr Simshauser**—In our submission we suggested that you should not just stop at CO<sub>2</sub>. We want to send the right signals across, and we believe those sorts of things are going to give us scope ultimately—assuming that we are not going to have to buy these things back every year. There will be some clear benefits. We now have an economic value to go out and do something about these gases, because at the moment there is still a fair bit of borderline in the cost benefit to the company as a whole.

**Mr Robinson**—For a paper trial, yes, we believe that CO<sub>2</sub> and methane would be a good starting point.

**Mr Simshauser**—Yes, focus on one and get it right, learn from the experience and then go and hit the next lot.

**Mr ANTHONY**—You mentioned some of the alternative energies that Stanwell is using. What percentage is still coal; is it 80 per cent or 90 per cent?

**Mr Simshauser**—In our current form, all these current projects are still based on books, so none of them are actually up and running at all.

**Mr ANTHONY**—What about gas; what percentage of energy?

**Mr Simshauser**—In our installations at the moment, there are 1,400 megawatts of coal-fired. We have 132 megawatts of hydro and we have an oil-fired combustion turbine of about 34 megawatts.

**Mr ANTHONY**—Is the gas turbine in Townsville?

**Mr Simshauser**—No, it is in Mackay.

**Mr ANTHONY**—This is probably a fairly obvious question. With the use of gas as opposed to brown coal—

**Mr Simshauser**—Black coal.

**Mr ANTHONY**—Black coal—what reduction is there in emissions?

**Mr Robinson**—We are looking at 50 per cent reduction in emissions, from the efficiency of this plant. Compared with our Stanwell power station, which is at world best practice in black coal-fired generation, we are looking at a 50 per cent reduction per unit.

**Mr ANTHONY**—Most electricity utilities will be privatised ones, in Victoria and other places. To meet their targets, really they are going to be shifting to gas, aren't they?

**Mr Robinson**—They are going to have to.

**Mr ANTHONY**—The rest are just peripheral.

**Mr Robinson**—Yes.

**Mr ANTHONY**—So with your permits, obviously, how would you value gas?

**Mr Simshauser**—I suppose again it comes down to the value of selling those marginal ones that you no longer require. If you have got 100 per cent at the moment, with a gas pipeline going past Stanwell, I can see the day where we end up just gas-firing the thing.

**Mr Robinson**—Or co-firing with coal to reduce our CO<sub>2</sub> emissions.

**Mr ANTHONY**—If that is the biggest area for Australia to make an impact on reducing our greenhouse gases—and you have talked about tax, permits, credits and whatever—then we are away. I have not read the other submissions, but why would you not be advocating some type of accelerated depreciation or some type of instrument that is specifically geared to gas?

**Mr Simshauser**—The answer in short, I suppose, is that it is going to be an enormous cost on our company.

**Mr ANTHONY**—Yes, I know. But we know that, to do solar, wind, tidal and all these other energy sources, it is going to cost consumers three times, isn't it? It will cost

your company a lot more.

**Mr Robinson**—You talked before about policy instruments and things like that. Another thing that the Prime Minister announced last year in his greenhouse package was efficiency measures for power generation. We are going to be involved with the ESAA in consulting with the federal government on that. I can tell you that there is going to be a lot of internal wrangling. The brown coal generators will want the best standard efficiency for brown coal. Black coal generators will want the same. If we are really serious about it, we should have one efficiency standard for power generation, with targets over a period of time to improve that efficiency. You are going to have the same sorts of arguments with the brown coal generators, in particular.

**Mr BILLSON**—Larry, in the southern states, that extra demand for energy is being serviced by increasing the uptime of existing plants. Down in Victoria, some of them were only 70 per cent productive, but now they are actually operating longer than they were theoretically meant to do, because there is no downtime. Then you have that energy shift to gas. That is why they are saying you cannot get that instant reduction, because the growth in demand is being serviced by productivity on old plant.

**Mr JENKINS**—You rattled off those figures a bit quickly for me. Of the hydro power, what percentage—

**Mr Robinson**—Currently, about eight per cent of our generation is hydro-electric.

**Mr JENKINS**—What is the projection for 10 years down the track?

**Mr Simshauser**—In our existing portfolio, it would not change. We have got no intention to increase our coal-fired capacity whatsoever, so it will only go up: we are at eight per cent now and it is going to get better and not worse.

**Mr JENKINS**—As a company, do you have a target for production from renewable sources?

**Mr Simshauser**—Yes, we do. Our strategic plan has an additional five per cent capacity in renewables and, basically, no coal. We are committing to no more coal. We are out of the game. Even if an overseas opportunity came up that was coal-fired, I do not think we would touch it. We have made the decisions now. Before we received the letter of invitation from the standing committee, we saw this coming. We know it is coming and we are happy to run with it.

**Mr Robinson**—As part of our strategic future as a corporation, we see that we need to obtain a greener, cleaner image. All those things that we have talked about, as Paul said, we were already going to do, prior to any sort of government initiatives or policy chances.

**Mr JENKINS**—It helps that you have alternative resources, besides coal, not too far away.

**Mr Robinson**—Yes.

**CHAIR**—There are no further questions. Thank you very much for appearing before the committee.

Resolved (on motion by **Mr Jenkins**):

That, pursuant to the power conferred by paragraph (o) of standing order 28B, this committee authorises publication of the evidence given before it at public hearings this day.

**Committee adjourned at 12.59 p.m.**