



COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

**HOUSE OF
REPRESENTATIVES**

STANDING COMMITTEE ON PRIMARY INDUSTRIES AND
RESOURCES

**Reference: Offshore Petroleum Amendment (Greenhouse Gas Storage) Bill 2008
[Provisions]**

WEDNESDAY, 16 JULY 2008

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HOUSE OF REPRESENTATIVES
STANDING COMMITTEE ON PRIMARY INDUSTRIES AND RESOURCES

Wednesday, 16 July 2008

Members: Mr Adams (*Chair*), Mr Schultz (*Deputy Chair*), Mr Bidgood, Mr Champion, Mr Forrest, Mr Haase, Ms Livermore, Mr Perrett, Mr Sidebottom and Mr Windsor

Members in attendance: Mr Adams, Ms Livermore, Mr Perrett, Mr Sidebottom

Terms of reference for the inquiry:

To inquire into and report on:

The provisions of the draft Offshore Petroleum Amendment (Greenhouse Gas Storage) Bill.

Specifically, the Committee will ascertain whether the Bill:

- a) Establishes legal certainty for access and property rights for the injection and long-term storage of greenhouse gases (GHGs) in offshore Commonwealth waters;
- b) Provides a regulatory regime which will enable management of GHG injection and storage activities in a manner which responds to community and industry concerns;
- c) Provides a predictable and transparent system to manage the interaction between GHG injection and storage operators with pre-existing and co-existing rights, including, but not limited to, those of petroleum and fishing operators, should these come into conflict;
- d) Promotes certainty for investment in injection and storage activities; and
- e) Establishes a legislative framework that provides a model that could be adopted on a national basis.

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Committee met at 9.03 am

BRIGGS, Mr Ian Maxwell, General Manager, Strategic Policy, Environment Division, Department of Industry and Resources, Western Australia

HARVEY, Mr Colin Frederick, Principal Legislation and Policy Officer, Petroleum and Royalties Division, Department of Industry and Resources, Western Australia

CHAIR (Mr Adams)—I declare open this public hearing of the House of Representatives Standing Committee on Primary Industries and Resources for its inquiry into the future development of the draft Offshore Petroleum Amendment (Greenhouse Gas Storage) Bill 2008. This is the second public hearing of this important inquiry. Today the committee will hear from a range of witnesses representing government, industry and environmental groups.

I welcome representatives of the Western Australian Department of Industry and Resources. Thank you for being with us today and for your submission. Although the committee does not require you to give evidence under oath, I advise you that this hearing is a formal proceeding of the parliament; therefore, it warrants the same respect as proceedings in the House. It is customary to remind witnesses that the giving of false or misleading evidence is a serious matter and may be regarded as a contempt of the parliament. The committee has received a submission from the Western Australian government. Are there any corrections or amendments you would like to make to that submission before we start?

Mr Briggs—No, everything is correct.

CHAIR—Thank you. Would one of you like to make a statement before the committee asks some questions?

Mr Briggs—We are just going to make a short statement. First of all, thank you very much for inviting us to provide some discussion on our submission to you. This submission and our comments today are just from the Department of Industry and Resources and therefore are not necessarily those of the Western Australian government, although we are very much aligned with that side of things. I should add that the department is the lead agency within the government that is dealing with the carbon capture and storage matters that are currently being addressed by the government.

CHAIR—It is a rather big issue for your state, Mr Briggs.

Mr Briggs—Yes, it is quite a large issue and also a growing issue, both for offshore interests—such as those in the Kimberley and the North West Shelf—and for those onshore now, particularly in the Perth basin. So it is certainly a growing issue for us.

CHAIR—We think that this bill may help you with some opportunity to set some parameters to allow the states to also use that and hopefully we can get some good coming together of all quarters to bring this into a legal framework which allows the commercial interests and the public interest to work.

Mr Briggs—Yes, thank you. We agree with the intent of the bill itself, but there are several issues that we have discovered in our reading of the bill which we have highlighted in our submission. We have not gone through to the real depth of the bill itself; these are just the overarching issues. We were hoping to perhaps not speak to our submission but to highlight that we have some concerns about the administrative side of things, such as between the joint authority and the responsible Commonwealth minister, and in our submission we have listed a number of those particular concerns. From a departmental point of view on the greenhouse gas storage issue, even though it is in Commonwealth waters, there are some possible issues which could arise which affect state interests. Perhaps this is an opportunity to highlight some of those concerns to you.

CHAIR—Please do.

Mr Briggs—As I just mentioned, one of the concerns has been with the joint authority and the responsible Commonwealth minister. Normally with, say, petroleum tenements, the state would be involved in the decision-making, and we think that has worked quite well. But we were not quite sure, when the responsible Commonwealth minister is involved—where there is overlap between a greenhouse gas storage tenement and a petroleum tenement—about how the two would work out their decisions. And also that leads into a question on the responsible Commonwealth minister taking in the public interest: we were not quite sure from reading the bill how much scope that public interest would involve.

Colin has a couple of maps, which we have given to Bill Pender, the inquiry secretary, to highlight one of the issues of where there could be this overlap between state interests and the Commonwealth's interests over a single gas field out at Scott Reef, which is just off the coast of the West Kimberley. Would you like Colin to give you a short summary of that issue?

CHAIR—Yes. I point out to my colleagues here so that we understand: we are dealing with an island which is Western Australian territory—

Mr Briggs—That is correct.

CHAIR—but the gas is below that or out from there somewhere.

Mr Briggs—That is right, yes.

CHAIR—Does it come ashore to Sandy Islet?

Mr Harvey—That is right. Sandy Islet is a very small speck of land. That is actually under state jurisdiction—that is under the onshore legislation—and then around that, because of the provisions of the Petroleum (Submerged Lands) Act 1982, we are able to claim a fair amount of water. All the titles we are looking at here are currently under retention lease under the three separate pieces of legislation. Around Sandy Islet we have TR/5, which is a retention lease under the state submerged lands act, but then around that we have the Commonwealth retention lease WA-30-R. The area in red on the larger map, on the Scott Reef area, which we are talking about here, the Torosa field, is a field that straddles three jurisdictions—two state and one Commonwealth. This is hypothetical but it is a bit of a case in point. Should a company that holds this title be going down the route of greenhouse gas storage for either enhanced petroleum

recovery or for straight-out greenhouse gas storage, then the provisions of the bill we are considering cover the area of WA-30-R, and in that area we would be dealing with a responsible Commonwealth minister. But in the areas under TR/5, the doughnut-shaped area, and Sandy Islet, under which there are some significant proportions of this reserve, we are dealing with a state entity.

On the state side of things the same minister is responsible for both petroleum and, eventually—not yet, because we do not have any legislation in place—the greenhouse gas storage provisions. On the other side of the line our state minister is involved, through his role as the designated authority in the Commonwealth legislation, with the joint authority, which he is also party to, but then there is also the added rider of the responsible Commonwealth minister. This may be an issue; it depends on the timing of anybody who is doing greenhouse gas storage in the area. I might add that, whilst all the titles we are looking at here are held by the same company, there is acreage in the same area that is held by another major company. If we were going down the route of greenhouse gas storage here, and we have petroleum production occurring at the same time, you have this whole issue of pre-existing rights and the rights of a new player in the field. But, over the top of that, you have these two administrative arrangements—the traditional one, which WA believes has worked pretty well since it was first instituted back in the early 1980s as a result of the 1979 Offshore Constitutional Settlement, and this new regime, which is housed in the same legislation—and having to work through all these issues. The impact for the state is that we have to be involved on both sides of the fence, whether we like it or not. One of the overarching concerns we have is just how this whole thing is going to work when you consider a large project like this. So I hope these maps give some indication of what we have flagged as a cross-jurisdictional issue.

CHAIR—I understand. I think you were thinking in your submission that the joint authority you presently operate under has worked well. Is that how you feel?

Mr Harvey—We do. In any arrangement there are always ongoing issues but, by and large, that structure has been in place since 1982—when the state submerged lands acts came into being all around Australia, not just in WA—through to the present day. We have always had the question in our minds—and we have raised it in various forums—as to why we should not utilise that structure, given the implications not only in the offshore area but also on the reverse of the coin, where the CO₂ is coming from an onshore project and is being piped out through jurisdictions, the state's territorial sea, to the Commonwealth areas to be stored offshore. On the other side, companies in the offshore area would be piping their CO₂ to onshore areas. In other words, we believe we have to look at this holistically in order to get the best result.

CHAIR—Thank you. I guess COAG is coming to grips with that in many other areas as well. I can only say to you that this matter has been on the table for some time. We now have a bill before the Commonwealth parliament and this committee is trying to come to grips with it. This bill is taking us forward—that is what we are seeking to do—to meet the challenge that is there. Hopefully we can deal with these issues, which are complex. But we will ask you more questions about it, you can tell us anything else you want to put before us and we will give that consideration in our final deliberations.

Ms LIVERMORE—Mr Harvey, do you suggest that the joint authority replace the responsible Commonwealth minister for all of the decision-making processes in the bill?

Mr Harvey—I do not think we are suggesting that. We are just highlighting that, when a petroleum producing area is the same area that the responsible Commonwealth minister would have an interest in through greenhouse gas measures, it is probably going to require ongoing consultation to work. Obviously that has been alluded to all the way through this process. It is something you cannot avoid and perhaps it needs to be done on a more formal basis than has been suggested, rather than, say, contracting the designated authorities to do the work. Because of the importance of petroleum not just to the state but to the nation, you cannot ignore the impact of the one industry on the other. We are not suggesting that is the way it should go—just having the joint authority—but we are flagging that it seems to be an anomaly, in legislation that has worked well for a considerable time, that this is the suggested route.

CHAIR—Of course, other states have other priorities because their energy comes from different sources than in Western Australia. So I understand your parochial interest.

Mr Harvey—Yes, we understand that the rest of the nation has different energy issues.

CHAIR—And that is what we have to deal with as a nation.

Mr PERRETT—In your submission you flagged the issue of the responsible Commonwealth minister taking state interests into account when considering the public interest. I am from Queensland, so I am familiar with some of the resource benefits and also some of the resource challenges. How do you think the responsible Commonwealth minister will be able to balance the Western Australian government's particular concerns? I note you said you were speaking for the Department of Industry and Resources. You have not consulted with other stakeholders in the government or government departments?

Mr Briggs—We were given only a short time to prepare this submission. We have spoken with others departments but we are principally the department that put this together. So our submission does not really reflect the views of other departments within the portfolio. Getting back to your question about the responsible Commonwealth minister, we were not saying that the responsible Commonwealth minister would not take into account our concerns.

CHAIR—We understand that.

Mr PERRETT—What if that minister is making a decision on the public interests of the nation, not just the particular concerns of Western Australia? They might be parallel but perhaps not converge at the same point.

Mr Briggs—That is right. I am not quite sure how to answer that one, in the sense that we would believe—

CHAIR—It is a very hard question.

Mr Briggs—It is a very hard question. I think we would find comfort if we knew that the responsible Commonwealth minister had that scope of consultation with other Commonwealth ministers as well as with state jurisdictions. But, I guess, from what Colin was just saying about the joint authority, it was seen—by me, anyway—as a group of Commonwealth and state people together making a decision on a petroleum tenement, where you have the responsible

Commonwealth minister singly making a decision about a greenhouse gas tenement, as it might be. When the greenhouse gas and petroleum tenements are separate, that is probably quite workable. The concern from my point of view is that when the petroleum tenement and the greenhouse tenement overlap and you have those particular issues. Also—and Colin is a bit more technical than me on this side of things—where you do have a gas field like the one up at Scott Reef, if you affect one end of the aquifer, a petroleum aquifer, it does actually affect the other end through their connectivity. So operations in a Commonwealth jurisdiction may also affect a state jurisdiction. That is understandable; that happens all the time. But it is really securing that sort of administrative arrangement, and how that would work as a system, that the responsible Commonwealth minister would be taking into account.

Mr Harvey—What Ian is talking about—and I am not a technical expert but I do have some knowledge—is the issue of aquifer depletion on the North West Shelf. The Barrow sub-basin and the Dampier sub-basin are huge aquifers underlying oil and gas fields, and WA in particular and industry itself have noticed that, over the years of production, there has been a drop in aquifer pressure. Now, this has implications, and it has implications in other areas like the Gorgon project on Barrow Island, where again there are cross-jurisdictional implications, because by changing pressure in the aquifer you affect the recovery rates of petroleum. You could also affect, either increase or decrease, potentially, the spread of any plume of greenhouse gas stored in or near an aquifer, and the aquifers spread over many tens of kilometres. So it is a bit like pressing a balloon: when you press it in at one place, it will pop out somewhere else. That is a very simplistic way of looking at it—but the aquifers are so large on the North West Shelf.

Again, our main area of concern is where we have petroleum titles or potential petroleum production underlying or overlaying greenhouse gas storage areas; you cannot consider one without the other. And this whole issue of aquifer depletion is one that certainly impacts on the Gorgon project and could impact on our hypothetical example, the Scott Reef area. It can impact just as well on shore. But what it could mean is that the plume of the CO₂ being stored could go beyond what you originally expected.

CHAIR—Sure. The committee have been informed that there is very good science and technical monitoring which allows them to see where that plume is going and whatever, so we are pretty optimistic. We have had a lot of representations from the petroleum industry on those issues as well, but we also see that in other parts of the world these things are occurring and they are finding solutions. I think we have to be bold in these areas. I would really like to get from you your view of the importance of greenhouse gas storage to the economy of Western Australia.

Mr Briggs—As outlined in our submission, the WA government in its greenhouse strategy of 2004 indicated that geosequestration was a legitimate means of reducing our contribution of greenhouse gases from the state and therefore has pursued that as a viable option for when companies are addressing their greenhouse gas emissions. So in that sense geosequestration or the storage of CO₂, from a government's point of view, is accepted as a means of doing that. That probably led us into this submission.

CHAIR—That is fine. I take it that your concern is over these issues and decision making in that area, which is also affecting the enormous amount of wealth that is coming to the state from the petroleum industry.

Mr Briggs—Yes. I think it also goes to the attraction of investment into the state. If you have major companies that are going to develop petroleum or coal gasification and those sorts of things, which may lead them to store their emitted CO₂ in the Commonwealth jurisdiction, it is really about the certainty in the decision-making process. We are not objecting to having a responsible Commonwealth minister looking after it; it is just making sure that those administrative arrangements are such that it does provide certainty so that the state can attract investment. One of the roles of my department is to try to attract investment into Australia, particularly into our state.

CHAIR—That is a very important matter. How is it proposed to deal with the CO₂ from Collie coal? Coal has come back into play a bit with the problems you have had at Apache. Is there any proposal as yet to deal with the CO₂ from the coal?

Mr Briggs—Yes. What has been formed in that colliery is what is called the Coal Futures Group. Offhand, I think it involves some of the coal companies themselves, like Griffin and Wesfarmers, but also some of the bauxite mining companies, which rely on coal for their energy production. That is chaired by Mick Murray, who is one of the politicians in that area. Through the help of the CO₂ CRC, they have found that the Harvey Ridge, which is on the coastal plain down from Collie, is a possible site for geosequestration. They are extremely keen to look at that for their disposal of CO₂. They have done the initial survey of the Harvey Ridge, but that was just to see if it were an option that they could explore. They are quite keen to explore that option further. That is just one of the groups on the coastal plain. There is one further north, which I think is mentioned in this submission—Aviva Corporation—which is a coal gasification process. They have put in processing to take off CO₂ if it is necessary. They are currently looking, with the help of the CO₂ CRC, at a site in the northern part of the Perth basin for storage of CO₂ as well.

CHAIR—I recently visited the wave technology experiment off Fremantle, where I saw the balloons bouncing around.

Mr Briggs—I have not seen that yet.

CHAIR—I want to explore the original issue in your submission. I think it was in 1979 that the Offshore Constitutional Settlement scheme was proposed and out of that grew the joint authority. Have I got the sequence right there?

Mr Harvey—Yes. Prior to that the Commonwealth and the states had mirror legislation which ran side by side until the rights to the seabed I think were settled in the High Court. Following that, in I think a very strong example of cooperative federalism, the Offshore Constitutional Settlement, which is basically a gentlemen's agreement between the premiers and the Prime Minister of the day, allowed the states to take over the administration of the territorial sea area. As part of that the joint authority was set up in the petroleum legislation for the Commonwealth area.

Since 1982, with the states' submerged lands acts all around Australia, that has been in place. It is obviously the intention of the states to flow on, as best we can, these changes when they are finalised in the offshore area, as it is now known. Obviously we cannot do it word for word

because we do not have an equivalent to the Offshore Petroleum Act, but we certainly intend to pick up the principles and policy thrust of the offshore legislation.

CHAIR—We welcome that. That is probably a good direction for our country to go in if we can do that. Can you explain how the joint authority works?

Mr Harvey—The joint authority—there is one for each jurisdiction—comprises the state responsible minister and the Commonwealth responsible minister. That joint authority has certain powers under the legislation. Most notably, they are—and I am talking about petroleum here—the release of the acreage, the offer of an exploration permit and the grant of a permit, and that flows through to all the other types of titles. They are the key areas where the joint authority acts. They act together to grant the right for somebody to explore, retain or produce petroleum. As a flow-on from that they can also suspend or cancel a permit. Underneath that, the designated authority, which is the state responsible minister who is part of the joint authority, has the power in the act to do basically the day-to-day administration of petroleum matters, such as the variations to a work program, the approvals of operational activities like the drilling of wells and the surveys, and the assessment of resource management plans, which is also done concurrently with Commonwealth agencies. So the joint authority acts as an overarching body which governs the main grant of title, and the day-to-day stuff is handled very much by the designated authority. A lot of those powers are delegated down to officials to carry out to enable the whole thing to run.

Ms LIVERMORE—Following on from that, are you confident that you have the technical expertise and the people within your department to take on that role in the greenhouse gas storage area? Is it similar in terms of qualifications?

Mr Harvey—A lot of the science and management issues we believe will be the same. In WA we are perhaps a little unique in that we have a large body of experience. We have had the Gorgon project since 2003. We are perhaps the best resourced state department. We have people who specialise in reservoir engineering, which you need to have for greenhouse gas storage, and in assessing proposals for developments and in drilling technology. These are all things you need whether you are doing petroleum or greenhouse gas storage. Over a number of years we have been able to retain a large enough body of knowledge, whereas I think some of the other jurisdictions, particularly with the increase in demand across the resources sector, have suffered. So I can understand how some jurisdictions would want somebody else to take on some of this work. But in WA, because of the size of the state and the implications of the resource projects to the state, we have been able to retain that body of knowledge and we would have substantial experience to enable us to deal with greenhouse gas matters.

I might add that in a lot of these projects we are going to be dealing with this on shore rather than off shore. Gorgon is on shore; it is going to be dealt with on the island. If the Kwinana DF3 project had gone ahead it would have been off shore, but other proponents who have come to us are talking about bringing the CO₂ from offshore Commonwealth areas to the state. And on the mainland it is our department that I suspect will be charged with administering any greenhouse gas equivalent legislation on shore, so we need to have that knowledge and that is why we take a very close interest.

CHAIR—Just staying on that theme for a moment, I guess the universities in Western Australia are pretty active in earth sciences and are promoting those degree-level people. It looks like we are going to increase gas production in Australia and we are running out of people with the expertise.

Mr Briggs—In the CO2CRC there are a number of our institutions. Curtin University and parts of UWA are in that side of things, so they are fairly strong there. I think it was announced last week that they are setting up a centre of excellence for greenhouse gas work at Curtin University as well, but that is something that is sponsored by the state. So there is a fair body of information and expertise in the state and that is perhaps also reflected in agreements with the Commonwealth Department of Resources, Energy and Tourism. We do a lot of technical management work for them, which includes environmental assessments of the projects. So there is agreement between the state government and, through us as the department, the Commonwealth. The Commonwealth, in a sense, relies on us doing a lot of the technical work and also the management and assessment work. Of course, in Commonwealth waters they have the final tick-off on the projects and they also audit us in that process.

CHAIR—Just like you do with all the goldmining. The state has the final tick-off on all that.

Mr Briggs—Yes; that is right.

Mr Harvey—That is an important point that Ian has raised. Going back to the joint authority and its operations, even though it is a joint authority with two ministers, if there is a conflict between the state and the Commonwealth, the Commonwealth member of the joint authority has the final say.

Mr PERRETT—To take that further, all the grunt work—the actual assessment and processing of applications—is done in Western Australia by your department, the Department of Industry and Resources?

Mr Harvey—Most of it is—

Mr PERRETT—For offshore?

Mr Harvey—Yes.

Mr PERRETT—Coming from Queensland, where we do not have anything offshore except on the Great Barrier Reef and a little bit of stuff in the gulf, I have not encountered it much. Most of the work is done by your department?

Mr Harvey—Yes. We receive the applications. We will be doing most of the vetting of the applications, the reporting—

Mr PERRETT—As the designated authority?

Mr Harvey—As the DA, yes. We will be running the register and approving operations. A lot of these are done concurrently; we work together with the Commonwealth. But, at the end of the day, it is the state that does most of the work.

Mr Briggs—Under the state petroleum acts, our department is the one that administers those petroleum acts.

Mr PERRETT—I am leading to what you raise in your submission about resources. You say you have a reasonably expedited process operating, so have you changed some of your processes over the last 10 years to make them reasonably attractive in bringing capital to Western Australia?

Mr Harvey—We have certainly improved the processing. It is still a work in progress. The significant milestone was probably the Keating review, back in 2002. Certainly, in approvals processing, we are always looking to remove duplication.

Mr PERRETT—Has the final sign off by the Department of Resources, Energy and Tourism, through a ministerial decision or the department ticking a box, been a hindrance, or not particularly?

Mr Harvey—No, because, whilst we are a state, we obviously appreciate the national point of view. A lot of these projects do involve major companies, perhaps more than does, say, goldmining. We are talking about major international companies. We do work closely with the Commonwealth, particularly in areas like the resource management plans for an oilfield or a gas field. They are arrived at jointly between the Commonwealth and the state. But the production title that results from that, going forward, is issued under the joint authority.

Mr PERRETT—I am interested to make sure that there is no particular time delay by having that Commonwealth involvement.

Mr Briggs—No, I do not think so. Through this Keating review, one of the key tenants of the recommendation was providing certainty and clarity. Timeliness was another part of that. There may be some delays in the Commonwealth system, but I think it is pretty well tight in the sense that there is at least a process we go through to coordinate. Even our assessments and those sorts of things are done in consultation with the Commonwealth.

Mr PERRETT—It would be beneficial to have that minister also looking at the greenhouse gas storage then in terms of making sure that there was as little overlap as possible.

Mr Briggs—If that would improve the efficiency of the decision-making process, that would be fine.

Mr Harvey—It is probably not so much an issue so long as the responsible Commonwealth minister remains the Commonwealth minister in the joint authority. That is obviously the intention of the bill. It would not work if they were different entities.

Ms LIVERMORE—We have talked a lot about the administration side of it and the decision-making process. Based on your extensive experience in WA, what principles do you think should guide the balance between the competing interests and generally has the bill got that balance right—the balance between petroleum licence holders and prospective greenhouse gas licence holders?

CHAIR—You might get it from the Collie CO2 if they find oil and gas down where they are going to put the greenhouse gasses. That is the other issue we are dealing with in the eastern states more than in your area. You are about taking CO2 back down from original petroleum issues. You might like to comment on that.

Mr Harvey—Certainly, time will tell whether the balance is right. It is very hard having competing resources housed in the one piece of legislation. The consultation mechanisms, the assignment of people's rights and the consideration of their rights—like whether they have pre-existing rights in terms of access to petroleum—are very important. It is something we have begun to see a little bit of onshore because we have our geothermal legislation housed in our petroleum legislation. It is always going to be a bit of a balancing act. That is where terms like 'public interest' become rather important, and of course they can mean different things to different people.

CHAIR—That is for the High Court.

Mr Harvey—It is hard to please all of the people all of the time. You can only please some of them some of the time.

CHAIR—We are politicians; we know that.

Mr Harvey—That is the reality. It does make it very difficult when the one entity has to balance up these competing interests between a cash flow today and solving the problems of the world down the track.

CHAIR—Yes, sure. They are important issues. That is one of the things we are trying to get right.

Mr Briggs—I am not quite sure if anybody has the right answer to that. We are aware of some of the concerns that may have been raised in some of the submissions about coal companies being held off by petroleum companies, particularly because they are producing energy, and those sorts of issues. I do not think we have really thought about it enough to come up with a concrete answer.

I guess that is really where we reflect on the certainty in the processes—that if you are dealing with a coal company, for example, wishing to inject CO2 offshore in the Commonwealth waters or within a petroleum licence, there is a clear process on how that can be resolved. It may also occur on the onshore areas, where, because petroleum is sedimentary-rock-focused, you may have issues. I guess one example is the recent one with the DF3, where the BP-Rio proposal was to take CO2 from the Kwinana industrial area and pipe it offshore—only a short distance—into the Commonwealth waters. How that might be resolved I am not really quite sure.

CHAIR—Thanks. It is something that we are trying to come to grips with. Hopefully, we will have a reflection of that, we will all have to work and the states will have to endeavour to make sure they get that right as well in their legislation further down the track. Before we let you go, I want to deal with the issue of the longer-term liability of the storage of CO2 and what your opinions are in that area. We have a situation of a closure of the well or whatever, and then the

long-term liability or monitoring for 20 years, 50 years or whatever—who has the liability? We are trying to find people's comments and thinking on that. We would value your comments.

Mr Briggs—I think liability is another difficult one, as you have pointed out.

CHAIR—There are a lot of them.

Mr Briggs—Yes. I suppose that, reflecting on the Gorgon proposal, we had thought pretty long and hard about the liability side of things. Perhaps, in that case, we were looking more at the milestones along the process rather than at who should be taking on the liability. I suppose the key point, for us, is knowing the post-closure period after which the state would say, 'Yes, you've met your conditions,' and we are confident that any catastrophic event or other leakage above what may have been predicted is unlikely to occur because everything is conforming to, or going better than, what was modelled in that side of things. But, when it comes down to whether the state government, the Commonwealth government or the company should still remain liable, that is still a bit of an open question for us at this time.

CHAIR—We have had some submissions suggesting that we should have a trust set up and that there should be a levy to meet long-term monitoring or long-term problems—that, if we have to somehow adapt a storage, money be paid to a trust for long-term liabilities.

Mr Briggs—I suppose that, when we were looking at the Gorgon one, it opened our minds a little bit more, because usually the liability for mine sites and other projects is fairly short term, and that is, perhaps, less complex than looking out to hundreds of years. I guess that one of the potential issues regarding liability is the fact that records could be lost. Even if you do set up a trust fund, are you confident that that trust will be managed decades ahead? Those are some of the unknowns, I guess, on that.

CHAIR—Very true. We are trying to do that. Probably that is why the Commonwealth is trying to give some leadership in getting a bill on the table and getting it done so that we have some direction to take us forward in this important area. Thank you very much for appearing and coming over and for your submission. We do appreciate it. It is a major issue that we are trying to come to grips with. I wish you well in your continuing work and in the Gorgon project, which is an enormous project. I am sure that there are going to be a lot of people who gain a lot of knowledge, and we should do so as a nation and for our benefit. Thank you again.

Mr Briggs—Thank you very much for giving us the opportunity to speak to you.

[9.57 am]

CUMMING, Mr Francis Alexander, Asset Manager, Woodside Energy Ltd

CLYDSDALE, Ms Elizabeth Helen, Offshore Development Approvals Coordinator, Woodside Energy Ltd

DADDO, Mr Simon, Special Counsel, Environment, Woodside Energy Ltd

GRAZIA, Mr Niegel, Vice-President, Government Affairs, Woodside Energy Ltd

CHAIR—Welcome. Although the committee does not require you to give evidence under oath, I advise you that this hearing is a formal proceeding of the parliament and, therefore, warrants the same respect as proceedings of the House. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as a contempt of the parliament. Thank you for your submission. Do you wish to make any corrections or amendments to it?

Mr Grazia—No.

CHAIR—I now invite you to make a brief opening statement, after which I am sure the committee would like to ask you some questions.

Mr Grazia—On behalf of Woodside, I would like to thank the committee for the opportunity to address our submission and answer any questions you might have. There is a particular point we would like to focus on which is covered in our submission. Of course, we are happy to answer questions on the submission or any relevant matters. I will explain to you why we have fronted up with four individuals today. Simon Daddo and Liz Clydsdale are our in-house experts on the working of the legislation. Francis Cumming is here to provide for you, through the Browse LNG Development, an illustration of a particular concern we have with the legislation as proposed. That is particularly in relation to integrated petroleum developments, which I will spend a bit of time talking about.

I will make just a couple of comments about Woodside for the record; I will not spend too much time on this. Woodside has grown to become Australia's largest independent producer of oil and gas and one of the world's largest producers of LNG. The LNG story is really just beginning. Woodside operates Australia's largest resources project, and our goal is to become a global LNG leader by 2015 through developments such as Pluto, Browse and Sunrise. Woodside generally supports the introduction of the bill and commends the efforts of the minister, the Department of Resources, Energy and Tourism, the parliamentary draftsmen and the committee to arrive at this point.

Woodside is proposing to develop large gas resources offshore from Western Australia and in remote areas in the Northern Territory. We consider these areas will be unlikely candidates for geosequestration activities outside of the oil and gas industry. Our intent is to ensure that there are no unintended consequences arising from the bill for large-scale LNG developments. Large-

scale LNG developments such as Browse are world-scale undertakings and involve capital investments likely to exceed \$20 billion. These developments should have the opportunity to sequester greenhouse gases arising from the production stream and processing activities. The bill in its current form limits that opportunity to sequester greenhouse gases arising from the production stream and processing activities.

Woodside proposes in its submission that integrated petroleum developments be able to sequester greenhouse gases arising from that development, without being subject to competitive bidding for the right to undertake that activity. In this context, we would describe an integrated petroleum development as including the three points of the gas cycle: the production licence fields, the processing facility and the greenhouse gas storage. The proposed Browse LNG Development is a prime example of an integrated petroleum development. I will ask Alec Cumming to describe the development in more detail; but, suffice to say, it is expected to derive its gas from multiple gas fields under several production licences and then to process that gas through a single facility. The ownership structure of the production fields varies, as may the ownership interests in the petroleum production licence covering the ultimate geosequestration site.

It is our submission that the greenhouse gas derived from the extraction and processing of that gas from an integrated petroleum development should be able to be sequestered within that project and without competition, regardless of the number of existing petroleum licences involved. We submit that, provided the fields are covered by petroleum exploration permits, retention leases or production licences, the opportunity for the commercial entities to agree to commercial terms for a real and credible geosequestration activity, including early geological studies and tests, should not be impeded by the overlay of an additional and unnecessary acreage bidding system.

The reason for that submission is that a development such as the Browse LNG Development represents a significant investment by our company and our joint venturers, requiring reasonable surety of time frame and development scope. The management of the procurement and construction of the geosequestration components may become a significant development and cost component of the project of the proposed development. Procurement of long lead items and mobilisation of the offshore construction workforce, specialised construction vessels, the management of the schedule and other project interfaces are intrinsic to the successful execution of the entire project. Enforcing a bid process onto projects of this type creates a new and unnecessary risk to costs and schedules that is not faced by our international competitors.

While carbon sequestration forms only one part of an integrated petroleum development concept, any risk to obtaining title, including schedule delays arising from competitive bid processes, can adversely impact concept and investment decisions. Please understand that we are not opposed to geosequestration bidding per se. There may be circumstances in which we participate in a geosequestration bidding process under the proposed regime, such as for potential disposal sites across unheld acreage.

In closing, we respectfully submit to the committee that, given the significance of the emerging Australian LNG market, the potential impact arising from this bill that I have so far described should be mitigated. This issue arises because, as the legislation is currently drafted, there is restriction on the ability to geosequester CO₂ arising from different fields—that is, under

the current provisions it can only be sequestered back into the field which it came from. I will shortly ask Alec to illustrate the issue that that creates for an integrated project.

In addition to that key point, in our paper we raise other issues, including our concern about the lack of guidelines covering the circumstances relevant to the proposed ministerial discretion to approve injection activities despite objection from an affected petroleum licence holder. We also raise the issue of the risk to the management of petroleum titles and petroleum operations arising from a ministerial declaration. We make suggestions in our submission regarding bid criteria in the event of competing greenhouse gas permit applications. We also draw attention to the potential for a greenhouse gas formation to extend beyond the existing petroleum title. We are happy to address any questions in relation to those additional matters that we have raised. Subject to your agreement, perhaps through the chair, I would like to invite Francis to give a run-down of the Browse example.

CHAIR—I think that would be good, Mr Grazia. Thank you very much. Mr Cumming, please do that and then we will go to questions.

Mr Cumming—If you do not mind, I will stand and point to the diagram on the board that I will hold up. Can that be accommodated?

CHAIR—Please. That is fine.

Mr Cumming—What you have in front of you is, I hope, the same version of the diagram. Very briefly, what we call our Browse development consists of three gas fields. What you can see on the board are the Torosa, Brecknock and Calliance gas fields. Combined, they contain about 18 trillion cubic feet of gas at what we call our expectation volume. Those fields also contain in the reservoir gas something like 10 mole per cent of CO₂. So 10 per cent of the gas in the ground is CO₂. For a project the size of Browse, that means that over its lifetime we could have to deal with between 80 and 100 million tonnes of reservoir CO₂. When we bring the gas to shore, we actually have to strip off the CO₂ before we make LNG. If you put the CO₂ through the LNG process, it freezes up the LNG trains when you refrigerate the gas—so you have to take it off. That means that you end up with a relatively pure stream of CO₂ to do something with. That is quite different from some of the flue gas things that you have been hearing about, which are very difficult to deal with, as they are relatively dispersed CO₂ streams. What I am saying is that we have almost a ready-made CO₂ stream and we have the technology, potentially, to do something with it.

CHAIR—Are there other gases with that CO₂?

Mr Cumming—There will be minor components, but generally in the process, when we bring the hydrocarbon gas to shore, we take off most of the CO₂ in what we call our acid gas removal units. So it is not completely pure but it is quite concentrated CO₂.

CHAIR—Do you have a figure, 99.9 per cent or—

Mr Cumming—I do not have a figure off the top of my head, sorry.

CHAIR—Okay.

Mr Cumming—To economically develop these fields, we need an integrated system. To give you a little bit of a flavour of that, the three gas fields are situated some 440 kilometres north-north-west of Broome, around 300 kilometres offshore, at water depths of 400 to 800 metres and about 70 kilometres from end to end. We collect gas from each individual field. There is some initial in-field processing. We then send the slightly processed gas to a facility located on a shelf—by ‘shelf’, I mean shallower water—where we strip off most of the liquids. We send the dry gas to shore, somewhere onshore, and I have given you two examples in this diagram: one is to send the gas all the way down south to the Burrup; another is to send it somewhere in the Kimberley, which is the one I am using as an example here. When we send the gas onshore, we strip off the CO₂. It all comes to shore, and then we refrigerate the gas down to about minus 160 degrees and turn it into LNG. We take that CO₂, potentially, and we compress it.

I have shown two examples. In this one, we actually send the gas—that is, the gas from the CO₂ from all three fields—offshore and we geosequester it down at the Calliance field, which we are currently looking at as one of our options. For the Burrup option you have in front of you we have identified potential candidates for sending the CO₂ offshore into one of the potentially depleted—or depleted by the time we get this project up and running—gas fields. I guess the point to all this is that this is an integrated system; it is a very expensive system. We will have one point for injection of the CO₂ that comes from all three fields. In this particular area we have got something like seven different licences, so we have an integrated project coming back to shore, stripping the CO₂ off and sending that CO₂ back to one location.

CHAIR—Can we just deal with the licences? There are seven licences. Would you know what they are?

Ms Clydsdale—They are retention leases at the moment. There are five Commonwealth and two WA retention leases—one offshore state waters and one onshore.

CHAIR—Is that because it is within the state waters?

Ms Clydsdale—It is because of the emergent reef at Scott Reef. It is state onshore, with the boundary around it in the offshore areas.

CHAIR—I understand.

Mr Cumming—I will talk about the Browse time line. To achieve this geosequestration we need to build this system at the same time as we are building the rest of the system. It is an integral part of the engineering; it is a fairly significant component of the engineering. There are many dollars involved in doing it. We are hoping to get the LNG system up and running between 2013 and 2015—what we call our ‘ready for start up date’. To do that we have to take our financial investment decisions somewhere around 2010. If you work backwards from that you will realise that you have to have applied for acreage, if that is required. You then have to appraise a geosequestration source. Normally that means appraisal of seismic and wells—at least one, and maybe more, wells. You then need to understand, almost as with a field development plan for a petroleum hydrocarbon discovery, how you are actually going to do the geosequestration. If you put those time lines together, we have a fairly short time fuse to make Browse happen, as in any big, integrated project like this. Working backwards from 2010, right

now we are trying to understand the geosequestration options for developing Browse, and our time line is looking quite tight.

That is a description of the fields. Both options that you have in front of you require an integrated approach. We will be taking the CO₂ together with the hydrocarbon gas onshore, separating it off at a single point and then sending it back offshore.

The only other point I think I want to make is: it is not economically and technically very feasible to consider stripping the CO₂ off and dealing with it offshore. There are two reasons for that. One is that these acid gas removal units are extremely big and heavy. They are something like 50 metres by 100 metres in general size, and there would be something like 30,000 tonnes per train; you would probably need two trains for a project the size of Browse. Putting them on offshore platforms, for those of you who know anything about the North West Shelf development that we have, would require two additional platforms about the size of North Rankin 2, which is one of the largest platforms around Australia at the moment. On top of that you would have to put your CO₂ compression systems offshore, which would add additional weight to the system. The final point is that the process requires a lot of heat to regenerate the amine systems once you have taken the CO₂ out of the hydrocarbon gas. For the size of the project we are talking about here, something like 400 megawatts of power would be required just for the acid gas removal units.

Mr PERRETT—How much again?

Mr Cumming—Four hundred megawatts. We would get that power ‘for free’ if we were to take it onshore and use waste heat recovery from the LNG trains. If we were to do it offshore we certainly would not get that amount of waste heat recovery. It is important to us to bring it onshore, get the waste heat recovery, minimise the amount of infrastructure we have offshore and get ourselves effectively a point source of injection back into the fields.

CHAIR—Is co-generation on energy? Is that the term or is that an old term?

Mr Cumming—We are looking at various different utilities and power generation systems. Waste heat recovery comes from several sources. It can come from the generation of power but it can also come from the main gas turbine drivers we use for compressing the gas.

CHAIR—The cost of building the separation out there means it is cheaper to do the piping. Do you use different pipes? You will run the CO₂ back. You called it an acid gas—is that the right terminology?

Mr Cumming—Yes. CO₂ is often called an acid gas. We call them acid gas removal units because, if you mix CO₂ with water, it creates carbonic acid. I think what you are driving at is that, if you put carbonic acid into plain steel, it does not like it very much.

Ms LIVERMORE—So at the moment in its present form the bill would only allow you to, say, take gas from the Torosa gas field and reinject the CO₂ back into the Torosa licence. Is that right?

Mr Grazia—That is our understanding of the drafting currently.

Ms Clydsdale—That is within petroleum production licences—the rights within those. Then the bill, of course, allows for competitive bidding and greenhouse gas titles. But the existing legislation gives a petroleum producer the right to inject waste gas into only that production licence. What has been recovered from the licence can go back in as a waste product.

Mr PERRETT—I had a general question. The introductory information talked about Woodside producing 40 per cent of Australia's oil and gas. Is that 40 per cent of the oil and gas that we produce or 40 per cent of the oil and gas that we consume?

CHAIR—Domestically, you mean?

Mr PERRETT—Yes.

Mr Grazia—No, it is total production, domestic and exports.

Mr PERRETT—Not consumption?

Mr Grazia—No.

CHAIR—So the issue that you are looking at is that the legislation would be restrictive in relation to a project like the one you have just outlined. Those in production of petroleum usually deal in percentages. What is the likelihood of Browse going ahead, as a percentage?

Mr Grazia—I think Woodside would say quite confidently that this project will go ahead. It is a question of the time frame. This is a significant resource nationally. I will have to double check, but I think the Browse basin probably contains somewhere between 25 and 30 per cent of Australia's discovered gas resources, and this project represents around half of what is in the basin. So it is a project of national significance. It will go ahead. We are targeting the 2013 to 2015 time frame and we have signed key terms agreements with customers for up to \$6 million tonnes per annum of production. So we have customer commitments in place.

CHAIR—So that is 90 per cent?

Mr Grazia—I think there is a 100 per cent probability that the thing will go ahead; the question is when. Our view is that it is achievable by 2015.

CHAIR—And your submission is that being able to take the CO₂ and reinject it from different areas makes the economics of it and the opportunities all work a lot better. You would have to bid under the proposed legislation—is that basically your submission?—and you feel that a proposition like this would make the economics work a lot better.

Mr Grazia—That is right, and the engineering. There are a couple of issues running side by side here that I think we need to tease apart. We are looking at the impact of current legislation and the impact of the bill in terms of understanding what the future regime may look like. We are drawing attention to a restriction that exists under the existing petroleum title production licence that limits our ability to reinject CO₂ from multiple fields, and we would like to see that addressed. We think it is fundamentally important for us to avoid unnecessary delay in the development of our LNG potential. So there is that issue.

An additional issue is that, for an integrated petroleum development where there are existing petroleum title holders—be they exploration licences, retention leases or production licences—and where we are talking about multiple licences, invariably the ownership varies across those licences. We believe that, for an integrated development such as this, those parties should be able to come to commercial agreements and willingly take a proposal forward to government that can be approved without the need to go through a bidding process.

As I said earlier, we also see value in bidding processes for unheld acreage, where we might look for opportunities that can provide a cost-effective solution for geosequestration outside of existing titles. The fact of the matter at the moment is that we have a number of fields that will stand behind the Browse development. We have a number of locations for geosequestration—be it Calliance or a depleted field in the Carnarvon basin—and there are plenty of opportunity for the parties concerned to get on with proving up that potential now. If we have to wait for geosequestration title or to participate in a bidding process, that will impact the timing of Browse. Alex mentioned—Francis, in our day-to-day language, is lovingly known as Alex, so excuse me—

CHAIR—Yes, we have got him on the record as Francis.

Mr Grazia—Francis made the point about the need to start undertaking studies and appraisal work for the Browse development. That is next year. If we are put into a conundrum in relation to understanding our rights to undertake that work, we are talking about schedule delay for the project.

Ms Clydsdale—If I can expand on that, there is also the concern about certainty with the competitive bid process. For Browse, if we have to go through that competitive bid and gazettal process, there is no certainty that the Browse joint venture would gain the rights for a greenhouse gas title. So there are two issues. There is the lack of certainty that we would have the right to geosequester the CO₂ from the Browse fields in an area in the Browse integrated development. Secondly, if we have to go to that process there is the delay, which could be a couple of years, until we get our appraisal work done.

CHAIR—I take your comments about the companies involved in the different licences, and this is going on right across the north-west, with different companies working together to achieve common goals. If somebody gets excluded, the issue comes down to having a resolution process, which is basically the law, to find solutions. Do you have any comment to help us with that one?

Mr Grazia—I think there is an important point to make, and I touched on it in the opening comments. We are talking about circumstances here in the far north-west where the only conceivable CO₂ stream in the near term is in fact the CO₂ stream that is created by the integrated projects that we are talking about. So it is highly unlikely in this part of the country that we are going to see conflict in relation to other parties seeking access to the geosequestration formation. So, with the intent of the bill in trying to balance the interests of those with the CO₂ stream—looking for a place to put it—with the prevailing rights of petroleum, it is important to stand back and see the world for what it is. In the north-west, in relation to both the Carnarvon basin and the Browse basin and, I would argue, the Timor Sea, we are likely to be representing the only credible CO₂ stream in contention.

CHAIR—I take your point. There are no old pearl shells making up a coal stream below Broome or somewhere—nothing that we have heard of. So we are talking about zoning type circumstances for the country or something in that area.

Mr PERRETT—Mr Grazia, can I take you back to an earlier point you made—and I might have misheard this—when you talked about the possibility of the titleholder of the exploration, retention or production licence reaching an agreement with a neighbouring licence holder, rather than opening up the full open tender process. Is that what you are saying?

Mr Grazia—That is right, yes.

Mr PERRETT—So if I can take you back to what the chair was saying, would you be looking at an exemption for the north-west or for Woodside, or perhaps an opting in of an open tender process when it is considered appropriate by the minister? I know your focus is on Woodside, but could you kick this idea around a bit more for us in terms of the rest of the industry?

Mr Grazia—Sure, and Simon may want to comment further. What we are looking for here is not so much an opting out but a recognition of the existing rights of petroleum titleholders in relation to the interests that they currently hold and therefore the ability for them, through a commercial dialogue, to enter into arrangements that can accommodate the disposal of CO₂. There are scenarios for the development of Browse in which we will not be dealing with a third party; it will just be the Browse joint venture trying to deal with geosequestration from three fields into one field—whether it will be one of those three or another one near shore, time will tell. But there are scenarios where the gas stream goes to the Burrup Peninsula, in which case we would be negotiating with a different joint venture, the North-West Shelf joint venture, for access to a depleted reservoir, for example. What we are seeking is a recognition of the opportunity for that commercial dialogue or agreement to be struck and, should it be required, for a greenhouse gas sequestration licence to be issued without triggering a competitive bid process.

CHAIR—That is for Pluto?

Mr Grazia—It could be Pluto or it could be other fields, one of the other North-West Shelf fields.

CHAIR—So you are saying—and, again, we are not talking about CO₂ from another area, only from petroleum products as such—that the joint ventures should be able to resolve that in a commercial sense and use a reservoir to store the CO₂.

Mr Grazia—Yes. When we are talking about these large-scale integrated projects we think that the public interest will be in finding a means for getting the projects up and moving forward where the parties can actually manage that gas stream. I guess the essential point is that for integrated projects we are looking for a mechanism to exist through which the minister can grant an authorisation for the geosequestration of CO₂ without having to trigger a bid process in the sorts of circumstances we have been describing.

CHAIR—I understand. Thank you for that. Simon, would you like to add to that?

Mr Daddo—I do not have anything concrete to add to that. I think it would be fair to say there are probably a number of ways you could do that and that Mr Perrett touched on.

CHAIR—Would you like to give them to us? We are very keen to hear from as many interesting minds as we can.

Mr PERRETT—Can I ask a supplementary question and then throw it over to Simon to respond?

CHAIR—Sure.

Mr PERRETT—The public policy intent is to get as much CO₂ underground as possible. Obviously the government are all Labor people but we are all very intent on markets being the signal to achieve that outcome. I have some concerns about removing a market, albeit in this particular part of the world because of the nature of production, but I am looking to be convinced. By removing the market I guess we are not giving the opportunity for other people to enter the race and say, 'This aquifer is worth a lot to us.' I am not sure how viable it would be for Indonesian CO₂ or other CO₂ to come down to it, but my concern would be: by removing the market, what are we doing in terms of not giving an incentive for other people to put the CO₂ under there?

CHAIR—That is maybe a future scenario.

Mr PERRETT—Yes.

CHAIR—Mr Grazia, have you any comments in relation to that?

Mr Grazia—I think the key point here is that we are talking about disposing of the CO₂ stream that is created from the production of the hydrocarbons in the first place. We are not talking about the disposal of CO₂ from a separate onshore activity. So we are talking about the commercial parties who are investing in the infrastructure to produce the hydrocarbons, in this case LNG, having a waste stream and looking for the most efficient means to dispose of that waste stream, which they own. So we are not here talking about competition, with respect. We really have to ask the questions: what is the total capital cost of the development? What is the engineering complexity? How many fields are involved? Who is in ownership of the CO₂ streams? Is it a credible CO₂ stream? Yes, it is in this case: it is very large; it is very substantial; and it is part of the system of producing the LNG. In terms of competition, we are not actually competing with anyone other than ourselves in a sense in trying to find the most efficient means to dispose of the CO₂.

Mr PERRETT—I am being devil's advocate here and looking to kick ideas around.

Mr Grazia—I should make the point that, at the end of the day, the decision to geosequester will be made in the full context of the final investment decision made by the venturers. The economics of geosequestration will need to stand up against other alternatives. It might just be a matter of buying permits under an emissions trading system or by offsetting through other means. What we are trying to do here is find the most cost-effective and efficient means for

geosequestration so it can stand up and compete. Currently, there appears to be some legislative constraints in that regard.

CHAIR—This is the price of the carbon or the greenhouse gas. The production licence is one of the keys. The person with the production licence has the opportunity in the one exercise of producing the product, taking off the acid or waste gas from that and then storing it. In this case, it is done through the engineering process; it is putting into it the whole mixture—and taking in what you said, Mr Grazia, in relation to the economics and the cost of getting rid of CO₂.

Mr Grazia—Yes.

Mr Daddo—Going back to Mr Perrett's question, I will at least attempt to address potential scenarios. One solution is for the minister to make that discretionary decision as to what a particular integrated project may be. All we are saying is that that sort of decision may just be front-ending a decision that needs to be made in a bid process down the track, anyway. We are pointing to an area where there are three points of a triangle, and those three points are defined. There is a defined stream coming from those three points and into one of those points, and that of itself could be isolated from a bid process. Ultimately, if it does go through a bid process, the minister will have to make a decision down the track.

Ms LIVERMORE—That was something that I was thinking about. We heard evidence yesterday from someone proposing that the work system be broadened, so that the work bid actually looks at a bigger project or the different points of a project. I understand your specific timing issues about a competitive bid process. But, leaving that to one side, does that redesign or expansion of the idea of what is included in the work bid go some way to dealing with this?

Mr Daddo—I think that possibly goes back to Liz's earlier point. Once you end up in a bidding process, you have lost your certainty of outcome, and that is one of the very important points that we are trying to raise.

Mr PERRETT—What we discussed yesterday, Chair, was the idea that there could not be such a bidding process until there was a closure certificate and you had basically removed your title from the licence.

CHAIR—We were looking at a slightly different area from the area in which you are operating. Your submission deals with the actual injection of CO₂ and the changing of the plume in the reservoir. What are your feelings in relation to what is in the present legislation and the flexibility in that area? Would someone like to comment on that?

Ms Clydsdale—In regard to the rights to inject under a petroleum production licence, the restrictions of only allowing CO₂ or waste gas that is produced from that licence is a concern. Also there is the size: petroleum production licences are reasonably small. They are designed to follow, as much as they can through the graticular system, the size of the petroleum field.

CHAIR—They define the area, basically.

Ms Clydsdale—Yes, they define the area. A plume of injected CO₂ may be much larger than the extent of a petroleum production licence. So a greenhouse gas title would invariably be much

larger. We have a restriction: if we go for our rights under a petroleum production licence, in all likelihood the CO₂ stream would extend beyond that and that, of course, is a concern and it would not be allowed to happen—it would not be granted. One of our suggestions was that, within an integrated petroleum development, the right to inject into a greenhouse gas formation be given even though it may extend outside the existing petroleum licence.

CHAIR—Sure. I think we understand that, because it may be a bigger area than where the gas or oil has actually come from.

Ms Clydsdale—In all likelihood it would be.

CHAIR—And their licence is only for that area, so we need to deal with that scenario in a legal sense.

Ms Clydsdale—Yes.

CHAIR—That is a bit easier in your circumstances than it may be in others'. I would like to go to the area of liability, post closure of the storage of the CO₂. What are your views as a company about who is liable in the long term? Do you think that the public interest is served by having a trust account and a levy to collect income so that monitoring can be done over a 50- or a 100-year period? What are your thoughts about how we can deal with that in the longer term?

Mr Daddo—Our submission dealt with one element of your question—

CHAIR—It is not an easy question but we need to deal with it.

Mr Daddo—No, it is clearly not an easy question and it is one that we have certainly wrestled with. In terms of ongoing liability at least, we thought there could be an opportunity in the bill for the Commonwealth government to take on some liability upon closure.

Acceptance of liability can have degrees. It could be everything. We have gone to what could be described as a middle ground, saying that if the injector has done everything it can and mitigated its issues, and the government is accepting of that through the acceptance of a site plan and the monitoring and whatnot, then it is probably reasonable at that time for the Commonwealth to assume some liability for it, except for occasions where there is obvious negligence or deliberate misconduct. Where the company itself has misrepresented the situation, that is perhaps a point where liability should lie.

CHAIR—So you would think common law should apply then.

Mr Daddo—Yes.

CHAIR—But, in the longer term, maybe a Commonwealth or a state entity should take on the liability to deal with issues there—such as who would pay for the ship to go over every couple of years to do the monitoring, do seismic testing to see if the plume has shifted or anything like that? These are issues that, maybe, we want to try to deal with. Do you have any ideas on that?

Mr Daddo—As you touched on in your first question, there are obviously things such as bonds, trusts or securities that could deal with that situation, particularly in the event that the Commonwealth takes on some ongoing liability. But we have not really discussed that going forward as a company, so I would not like to comment further on it.

CHAIR—I do not think this question is going away, so I think we need to deal with it, and I think that states will have to deal with it in legislation and that companies will have to deal with it. We as a nation need, in the public interest, to find solutions to it and, hopefully, put them into this legislation.

Mr Grazia—I think it is fair to say that, during the period in which the companies are the titleholders, there will invariably be a requirement for monitoring to be undertaken to the point of satisfaction that the obligations have been met. I think your question is relating to issues beyond that period.

CHAIR—There may be a 20- or 50-year process which needs to come into being, and then there would need to be an entity of some sort, from the Commonwealth, the states or both, that would have the responsibility for this. Maybe there will never be an issue; maybe there will be. So it is a matter of having something like that within the legislation. I think that the community would be looking for that in this legislation.

Mr Grazia—Yes.

Ms LIVERMORE—You make the point about the administration by the joint authority. I think you were here for much of the Western Australian government's evidence. I just wonder if you have anything to add to their comments from the point of view of applicants under that system.

Mr PERRETT—The Western Australian government witnesses are right behind you!

Ms Clydsdale—Yes. We would most likely prefer joint-authority administration of this act, as it is very similar to the petroleum administration that is currently in place, which has a joint authority with a state member and a Commonwealth member. One reason is that, where there may be competing rights, you would have the same authority or body making the decision. We believe it would be difficult for the joint authority to act on the petroleum rights but for a different body—singularly, the Commonwealth minister—to act on the greenhouse gas storage rights. So, simply, we believe it should be the same administrative body. The other issue with having the administration by the Commonwealth minister is that, when a title is a declared title and key petroleum operations have to be approved by the Commonwealth minister, it adds an extra level of approvals, so it would extend the approval process. So, as we understand it, we would have to get our usual approvals from the designated authority to, say, drill a well, but if it were a declared title another approval would have to be gained through the Commonwealth minister.

CHAIR—Thank you very much for your evidence. Woodside is one of the shining lights of Australian industry. They keep getting bigger and bigger. I do not know when you are taking over the world, but you keep growing. This sort of project is certainly—

Mr Grazia—We haven't set out a time frame for that!

CHAIR—Anyway, thank you very much for your evidence. We appreciate it, and we appreciate your time and effort.

Mr Grazia—Thank you.

Proceedings suspended from 10.45 am to 11.02 am

PAGE, Mr Bradley, Chief Executive Officer, Energy Supply Association of Australia

RYAN, Mr Terence, General Manager Government Relations, Energy Supply Association of Australia

CHAIR—Welcome. Although the committee does not require you to give evidence under oath, I should advise you that this hearing is a formal proceeding of the parliament and, therefore, warrants the same respect as proceedings of the House. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as a contempt of the parliament. The committee has received the submission from the Energy Supply Association of Australia. Are there any corrections or amendments you would like to make before we start?

Mr Page—No, there are not.

CHAIR—You may like to make an opening statement and then I am sure the committee will have some questions for you in relation to your submission.

Mr Page—Thank you very much. I will take the opportunity to make a short statement. I would like to start by thanking the committee on behalf of the Energy Supply Association and its members for the opportunity to appear before you today and certainly for the opportunity to make a written submission on the important draft bill before you.

Our association is the peak industry body for the stationary energy sector in Australia and we represent the policy positions of the chief executives of over 40 electricity and downstream natural gas businesses. These businesses own and operate some \$120 billion in assets, employ over 49,000 people and contribute \$14½ billion directly to the nation's gross domestic product.

Consideration of the proposed Offshore Petroleum Amendment (Greenhouse Gas Storage) Bill should be done within the context, in our view, of the Australian government's greenhouse abatement objectives. The government is clearly committed to achieving a 60 per cent cut in Australia's greenhouse emissions by 2050 and the introduction of an economy-wide emissions trading scheme by 2010. The government intends to set emissions targets for the short and medium term later this year. The potential importance of large-scale deployment of carbon capture and storage to achieving Australia's greenhouse abatement objectives has been highlighted in many studies and most recently in the draft report by Professor Garnaut. Indeed, our own association's 2006 *Energy and emissions study—stage 2* indicated that carbon capture and storage technology has the potential to reduce by around a half the expected increase in electricity generation costs required to achieve deep emission cuts. There are potentially very significant economic benefits to Australia if this technology proves technically and commercially viable at large scale. In this context it is important that policy and legislative frameworks are established to efficiently facilitate large-scale, long-term sequestration of greenhouse gases if this technology proves commercial.

We do welcome the government's commitment to ensuring that an appropriate regulatory regime to facilitate carbon sequestration is established as soon as possible. The draft bill defines

a legislative regime to make this gas sequestration illegal in certain circumstances and to ensure the protection of public safety and the environment. These are very important achievements, and I emphasise that we commend the government for the priority it is giving to this issue and the progress it has made to date. However, in its current form the draft bill does not appear to provide a transparent and predictable regime to manage competing commercial interests or provide the certainty of process and tenure needed to optimise the uptake of carbon capture and storage in Australia. Indeed, it may even unnecessarily impede the development of geosequestration in Australia by not providing a regime to encourage commercial cooperation between petroleum and sequestration rights holders and independently adjudicate disputes or assess and optimise the national economic benefits.

We note that the terms of reference for your review are punctuated with words such as ‘certainty’, ‘predictable’ and ‘transparent’. These objectives, in our view, are inconsistent with aspects of the bill, which creates what we see as a discretionary regime and appears to put petroleum production ahead of greenhouse sequestration and the public interest. Under the bill, the minister has a wide range of discretionary powers that are exercised without reference to an independent regulator or, indeed, an advisory panel. The key terms that guide or constrain the minister’s decision making, such as ‘public interest’, ‘significant risk’ and ‘significant adverse impact’, are not defined in the bill. The likely impact of the bill cannot be properly analysed without these critical definitions and, in our view, it should not be left to subordinate legislation to define them.

However, the proposed approach to managing potential conflicts between petroleum and sequestration objectives appears unlikely to provide for optimal uptake of greenhouse gas sequestration. The bill, for example, prohibits the minister from granting approval for greenhouse gas sequestration if he or she is satisfied that there is a ‘significant risk that any of those key greenhouse gas operations will have a significant adverse impact’ on a pre-commencement petroleum title or post-commencement petroleum production licence. I quote there from section 249AF(11). Further, the bill explicitly provides that, for the purposes of this act, the risk is taken to be a significant risk even if the probability is low. Therefore, a low probability of a commercial impact on an existing petroleum right can delay a potential sequestration project indefinitely. There is not present in these sorts of provisions a graduation of the impact test or a balancing of economic benefits and the public interest. Also, perhaps most disturbingly, there is no requirement for the existing titleholder to even begin to negotiate on commercial terms in good faith and there is no independent body to assess the claims of loss.

For us this is a critical issue, as it appears that many prospective sequestration sites near large carbon emissions are also covered by existing petroleum titles. The uncertainty associated with discretionary use of ministerial power is not eliminated even once a greenhouse gas injection licence is granted. The minister has the power to alter the rights and obligations of a greenhouse gas injection licence holder for the purpose of eliminating, mitigating or managing the risk that injection operations could have a significant adverse impact on the ability to exploit any actual or likely petroleum resource.

To ensure transparency in balancing competing commercial interest and to protect the public interest, in our view the bill should establish an independent regulatory framework that would, firstly, encourage commercial negotiation and cooperation between different interests, secondly, protect the legitimate rights of existing and future petroleum and sequestration rights holders

and, finally, make decisions in the public interest against clearly defined economic criteria. Chairman, that ends my opening presentation. I would be happy to attempt to answer any questions you and your colleagues have.

CHAIR—Thank you very much, Mr Page. You have touched on a lot of the issues and you have laid a foundation with regard to the importance of the stationary energy sector to the national interest—and hence to this committee, which is dealing with this bill—and the very important issue of what we do with CO₂. Do you think that giving precedence to your industry over the petroleum industry on the importance of the storage of CO₂ would be a major issue for you? Do you believe we should give precedence to your section of the energy sector, as opposed to the issues raised by the petroleum industry regarding their concerns, especially in the eastern states, about it impinging on their ability to continue to produce oil and gas for the country?

Mr Page—I am not sure that we are contesting that we should have pre-eminent rights, by any stretch of the imagination. I think that the underlying theme in our submission and our concern with the draft bill is that in fact pre-eminent rights sit with the petroleum industry and are much more greatly protected under this amendment than we think is warranted. Our point about much of this is that there are many opportunities for potential commercial arrangements to be struck between the petroleum industry and those who in the future may be seeking to actually sequester carbon dioxide in adjacent fields or indeed in areas where the petroleum industry already holds leases. But much of the bill is structured in such a way that that sort of negotiation is not possible. The minister's hands are tied in certain circumstances because if there is 'a risk of'—and some of those other ill-defined terms—then the answer is no; there is no opportunity to actually negotiate between parties.

So, really, our point is not that we think we should have pre-eminence in this issue. We think that the storage of carbon dioxide in offshore waters adjacent to some of these petroleum deposits needs, as far as possible, to be done on an equitable basis to enable commercial negotiation to go on and where ministers have discretion that the basis on which they exercise that is clearly defined, including the key terms. We have listed some of those already that lack definition and frankly, therefore, leave risk for both sides.

CHAIR—Do you think the coal industry might have been a bit slow off the mark in coming to grips with some of the issues it faced, such as the capture of CO₂ and finding somewhere to store it? I would value your views in that area.

Mr Page—I think the first thing I should do is make sure that the committee appreciates that I do not represent the coal industry, and I will let them speak for themselves. But perhaps I can be bold enough to presume that your question is around the coal-fired generation industry. I think that we would contend that policy settings for some years in this country particularly did not especially give you the right encouragement to be aggressive in your pursuit of carbon capture and storage. But over the past five to 10 years we have seen our industry and a range of other industries, domestically and also internationally, firmly moving forward on examining the technologies that are involved in capturing CO₂ from coal-burning plants, and gas-burning plants for that matter, and then what is involved in transporting that carbon dioxide to places for safe storage. I think that most of these issues inevitably revolve around what you see as the government policy settings at the time. Our members operate in a highly competitive market where margins are very small, where returns on capital are certainly not substantial, and where

the invested capital is very large. As I mentioned, there is in excess of \$100 billion of assets in use in our industry today.

In those sorts of circumstances, making sure that you remain competitive while also finding some funds to go after advanced R&D can be quite difficult. Nonetheless, along with the Australian Coal Association, I think we have in excess of half-a-dozen projects now running in our industry that are looking at all forms of carbon capture and storage, from integrated gasification and brand new technology through to what is called oxyfiring and postcombustion capture. Our members are also very active in the CO₂ Cooperative Research Centre which, from what I have read in reports, has successfully injected the first 100,000 tonnes of CO₂ in the Otway Basin. So the industry is vibrant and involved to the extent that it reasonably can be at the moment against the commercial realities of a highly competitive market and the more encouraging and more recent positive policy settings for making those investments.

CHAIR—You touched on the issue of marketing in good faith, an issue that I thought Labor was arguing about in recent years. There is a need to have this issue looked at and it has been raised that there are not the mechanisms available. Maybe we could explore that, as it is one of the issues that is emerging for us as a committee. What would you see as an opportunity for good process to allow bargaining to take place over sites where we could inject CO₂?

Mr Page—I should start by indicating that our association does not have any policy remit in the industrial relations areas, so fortunately we were not part of that past debate. Secondly, our association is firmly in the place that says that the best way to resolve most things in business is through having frameworks that enable competition and full commercial activities to flourish. We think that regulation has a very important place but it has an important place where you otherwise would observe a market failure. I think that what we see most about the bill precluding some form of commercial negotiation is really that it is so firm in the powers of the minister and the basis on which sequestration rights could be fettered or even removed.

Our preference, I think, would be to see a framework that put as its first step that there had been a genuine attempt by two parties to commercially negotiate and that where that was no longer possible the minister then had at his or her disposal either an expert advisory panel or some independent adjudicator who was making judgements based on the facts that were brought before them. It is that element of the bill at the moment that we think is rather deficient. I am not sure in the end that terribly many ministers are going to enjoy being in a position where they are going to make potentially quite contentious decisions. Were the bill to go through in its current form it does not especially provide much guidance for them on how to apply it.

The next risk that then turns up for both sides of this discussion is that subsequent ministers and governments can well bring different interpretations to these things with the ultimate result that you inject uncertainty into the market generally. At every turn, our call is to let commercial realities and negotiations prevail—until you see a position that is likely to be a market failure, when good, effective government regulation is an appropriate response. It is really a first step for us. We think the first step should be that you enable the negotiation.

CHAIR—Thank you. You commented that this is an attempt to get something on the table—and we are endeavouring to do that. Of course, the petroleum industry do have property rights and licences that have been issued, so that is where we are coming from. The existing legislation

reflects the current reality. If we can gain evidence and find the words to make recommendations, we certainly will.

Mr Page—We are not arguing about the current rights that the petroleum industry has, particularly where they have paid substantial sums of money for leases—whether they be retention leases or otherwise. I think some of the elements of the bill, though, take you to a place where you have to start to ask fairly serious questions. For example, there are provisions in the bill whereby, if you are granted a right to sequester gas in an area that is adjacent to a petroleum lease and there is a view formed that that is going to impact on the extraction of that petroleum, you cannot proceed with sequestration. That is going to be a contentious question about what impact the sequestration will have and whether it really will have an impact to the extent claimed by the holder of the petroleum right. I think there are a number of ways to go about that. The first way ought to be to get the parties together to talk through and understand each other's position. Secondly, there may well be commercial recompense that can be settled. Finally, if you cannot get the dispute resolved, you should go to some form of dispute resolution whereby you do not simply have the minister saying: 'It satisfies the test. I say no.'

CHAIR—Mechanisms to bargain in good faith?

Mr Page—Essentially—when other mechanisms whereby you would hope the two parties would almost arbitrate amongst themselves have failed.

Mr PERRETT—What percentage of the 40 electricity companies and gas businesses that you represent are government owned corporations?

Mr Page—It changes all the time—depending on current government policy on ownership, I have to admit. The last time I looked, it was very close to 50 per cent in each camp. But it might be marginally in favour of government owned corporations.

Mr PERRETT—How about the megawatts produced? Is that 50 per cent government produced as well? Sorry to put you on the spot.

Mr Page—If you want precision, I would like to take it on notice. If you want an estimate right now on the generation fleet in Australia, I believe the majority would be owned by the public sector. Private sector interests are exclusively in Victoria and South Australia. They have some penetration in Queensland and, to a lesser extent, also New South Wales and WA. Tasmania and the Northern Territory are entirely government owned. Sorry, there are some private facilities in Tasmania; the bulk of the generation remains in public hands.

Mr PERRETT—I want to take you back to your point about competition. It certainly seems to be an artificial market when you have state governments or government owned corporations competing with each other to sell the greatest amount of electricity to the customers—however they do that—when at the same time we are also trying to bring in a price for carbon. Do you understand that concept?

Mr Page—I think I understand the concept. I am just not quite sure what the question is.

CHAIR—On reduction of—

Mr PERRETT—No, in terms of reducing our carbon footprint, I guess. If we look at the intent of this legislation generally, it is to get carbon underground. With what I have just said about the state governments almost being in the national electricity market, competing with the private sector, I suppose, do you think that those market constraints are going to influence how we go about implementing this? You are obviously proselytising the views of your members, but—

Mr Page—Sorry. I do understand, Mr Perrett.

Mr PERRETT—I am sorry for the long-winded nature of the question!

Mr Page—Not at all. I was not trying to be cute about answering you, either. I think there are a range of factors to take into account here. Firstly, I do not think that ownership of generation per se particularly change the incentives and the commercial reality around emissions abatement. And I think that you can see that best in the companies that are already engaged in undertaking carbon capture and storage development projects. The state of Queensland has two of these programs going on right now in state owned generation facilities and companies. In Victoria, we have a consortium of privately owned companies in the Latrobe Valley working together. We also have another one, of that same consortium but another company, doing trials itself. So, for example, Loy Yang A as part of a consortium captured the first CO₂ out of an existing power station in Australia last week. But International Power at Hazelwood also is pursuing a coal drying and carbon capture and storage project as well. Santos has funding for carbon capture and storage off a natural gas field in Queensland as well. There are a number of other projects afoot in both the private and public sectors. So I do not think that who owns these facilities particularly changes your motivation.

Secondly, the national electricity market again is rather blind to ownership, so long as the government owned companies are kept at arm's length from policy making and potential market distortions that the rule makers, in the form of government, could bring to the table. And I guess our association has indicated that there are a number of distortions currently in the market that, over time, we would hope to see removed in individual states—and they do tend to be the states that still own generation. But, that said, the Australian Energy Regulator has a remit to constantly examine the market for competitiveness and it consistently finds that the market is genuinely competitive and, regardless of who owns these generators, they are out there competing against one another all of the time. I think the proof of the pudding on the outcome from that perspective is that Australia has consistently been recording, through independent surveys, some of the lowest prices for electricity in the OECD. I understand that that comes on the back of very low-cost coal, and there is an emission issue—that goes without saying. But the point to this—

Mr PERRETT—But it is all a unionised labour force as well, so labour costs would be higher.

Mr Page—I am sorry; I missed that.

Mr PERRETT—So labour costs would be higher compared to some other countries.

Mr Page—Perhaps. We have certainly not investigated that. I cannot comment. But the competitive market, regardless of whether governments or the private sector own the assets, has driven very low-price outcomes. So it is competitive. As we move forward, I am absolutely convinced—from seeing the diversity of interests in our membership—that, regardless again of ownership, they all respond to the prevailing policy settings of the day. Later today, of course, Senator Wong will announce the green paper on emissions trading. That will bring a sea change to our industry—that is our expectation—over the next 10 years and beyond, as we come into carbon constraint conditions and there is a value placed on carbon and people respond appropriately. I think that, whether it is government owned or it is privately owned, you are seeing people positioning themselves for that already. So, from our perspective, ownership does not play a particularly large role either in the competitive market, in terms of fundamental distortions, or, secondly, as we see it, in terms of being an impediment to moving to a low-carbon future.

Mr PERRETT—Thank you for that.

Ms LIVERMORE—Following on from the chair's first questions, I am interested to know when we can reasonably or realistically expect substantial amounts of captured carbon to come on stream from, at least in your situation, the stationary energy sector. When are we going to have substantial streams of carbon looking for a place to be stored?

Mr Page—Ms Livermore, I wish my crystal ball were better. That is a very difficult question to answer. Based on the studies that we have done over the last few years—and those studies have involved us getting quite close to researchers and best information domestically and world wide—the association's view is that the period from here to 2020 will actually be a very difficult period for the industry from a technology perspective. We have very few choices. We have a lot of new opportunities under development, and they will start crystallising after 2020. Included in that, from our perspective, is carbon capture and storage, whether it is so-called postcombustion capture, which may be viable for retrofitting to existing plants, or whether it is brand new precombustion technology. However, with the number of projects that are now afoot in Australia that are trialling the capture of CO₂, and then its sequestration, I would expect over the course of the period to 2020 that we will see an increasing amount, but it will remain a minor amount compared to the total potential emissions from the existing fleet of generation. I really would not like to put a number on it, but I think it is reasonable to expect that compared to what our sector emits today, which is around 190 megatons, we are not going to start seeing a substantial proportion sequestered from pilot and demonstration programs. Our expectation is, post 2020, that that is likely to move up quite quickly, but again it will depend upon the economics, what the alternative technologies are, what the price of carbon is and how commercially viable carbon capture and storage becomes.

Mr SIDEBOTTOM—I will summarise now, I hope. In your co-development and competition supporting rationale in your submission—I think that is a fair assessment of it—you talk about and reinforce this balancing of respective needs, which you believe is much broader than what is in the bill itself. I am interested in what test you would apply to balance the respective needs and also the particular players at work there. How do you define, as you mentioned several times, 'national or public interest' under the legislation?

Mr Page—Thank you, Mr Sidebottom. I will do my best to answer you. I have to say to you to start with: I do not believe that we are in a position to firmly recommend how you resolve some of these competing interests. I think our fundamental point is that it is skewed one way at the moment. We think there is a balance. I understand that your question is: how do you get to that balance? We are in an interesting period just at the moment where there is a recognition—I do not think it matters which side of politics you talk to—that the climate change issue is very substantial and we have to start making significant progress on reducing emissions. In our sector, the most promising large-scale technology just at the moment is carbon capture and storage. The extent to which Australia is going to try to reduce its emissions will be an open question until a little later in the year when the government will have the benefit of some economic modelling.

But there are potential impacts on the economy, for example, of not being able to cost-effectively sequester carbon emissions, therefore potentially limiting into the future the role for low-cost, coal fired generation. It could result in very substantial increases in the cost of supplying the nation with electricity, for example, because you automatically have to turn back to more expensive, lower emission technologies. There will also, naturally, be a limit to how much natural gas we are going to choose to burn in generators here rather than sell to other countries that will pay very high prices for it.

The offset to that, of course, is: what are we going to do with liquid fuel resources into the future, how valuable are they, and what will be the impact on the economy if, to some extent, we have a constraint on our own supply of those things? Where I am going to in answer to your question is that, at the end of the day, it is a complex economic question and we have to weigh up the potential costs and benefits of each of these competing needs for access to a particular offshore resource.

The methodology needs a lot of development, but at the moment we see sitting in there no economic test but simply broad descriptions that tend to favour the existing petroleum rights holders. When it comes to the national interest, you probably wind up applying similar economic tests, which inevitably will be supplemented to some extent by things that are more difficult to quantify, such as energy security and its implied value to the community and to the nation, from a whole host of perspectives, not just environmental but perhaps as broad as security and defence. We do not see ourselves as well qualified to quantify all those things and comment on them so that there are judgements made, but we do not see any economic tests sitting in there at the moment, and that would be our start point. Have I answered all of your question?

Mr SIDEBOTTOM—It is about as specific as you can get and it allows us to mull it over.

CHAIR—We have in the act a proposal for tendering for acreage, tendering for reservoirs in which to put CO₂. How do we get the parties together? The petroleum industry tell us that they are concerned that if we put CO₂ below where the gas and oil are coming from it might add pressure to those fields and cause issues. These are technical-type issues that could get some resolution. How do we find a mechanism? I think you called for an independent regulatory framework. Is that to do with trying to find a mechanism—to have somebody, an arbitrator, say: ‘The public interest must take precedence here; we have to find a way to store CO₂, so we are going to do this,’ and then say, if there is a problem: ‘Who pays if we interfere with gas and oil production?’—which is also a great public interest and needed for the nation? How do we find

that? There are some big issues here that need resolution. We need to try to get this down to specifics if we can.

Mr Page—The first thing to respond on is that I think we have not gone into quite the level of detail you might be searching for at the moment. I am cautious about ‘regulatory’; it is more about an independent process that can be outside the political realm, where it is technically focused and can assess the claims of the competing parties. That is not to impugn any ministers or politicians; it is simply to say these are technical questions and we ought to be in a separate place for that. We certainly have not addressed the questions of liability and recompense should the final outcome result in a loss to either party. I think they are important matters but ones we have not thought through particularly deeply at this stage.

I still think, however, at the end of the day that most of the issues you have raised so far that the upstream petroleum sector is concerned about remain things that in the first instance should be explored by both parties. It just keeps coming back to our concern with the bill: it presumes certain preferences rather than a balancing off. The electricity industry has goodness only knows how much brown coal—some people say about 800 years worth on current usage rates—and in excess of 250 years worth of black coal. That is an accessible, low-cost, relatively high-quality resource if only we can capture the CO₂, and we are trying to do something substantial about climate change. If that is not given the appropriate priority and balanced against the undoubtedly important economic issue of gas and liquid fuels for transport and other purposes, we really will not be looking after the national interest at the end of the day.

We keep coming back to saying it is an independent framework to assess the competing needs and yes, undoubtedly at the end of the day the minister or somebody else is going to have to make the decision but that decision should be based on sound scientific advice, having let commercial opportunities take place—and, if they fail, you inevitably fall to somewhere else. I found quite fascinating the example you just gave of the oil and gas industry saying it might increase pressures. Of course, much of the carbon capture and storage technology comes from the oil and gas industry for enhanced oil recovery by injecting CO₂ into depleting wells. Maybe we can do them a favour along the way here. Of course, a commercial deal on that is something we look forward to.

CHAIR—Yes, CO₂ is used in the United States as a commodity. It is sold between oil companies to add pressure to bring up the oil from the very low, flat wells that they have. I think I am using 400 years of brown coal in the ground at present usage, so that does add to the points you make about the need to find the solution and to put together a legal framework. I wonder whether you have considered the position of liability post closure of a storage facility which has taken CO₂. What regime to deal with the liability prospects into the future do you feel could give the community confidence?

Mr Page—I have to admit that the liability questions are not ones that we have particularly considered. That may surprise you, but, to be honest, there are a range of precursor issues confronting our industry. While we do not underestimate the importance of the liability question, actually getting the technology demonstrated and viable comes before it. Understanding what the emissions-trading scheme is going to look like comes before it. Understanding what the targets are going to be and which technologies are likely to be the ones you want to invest in next comes before it.

I think there are some broad principles that you can observe around this question though. When it comes to the liability for ongoing safe storage, we would predominantly look at the cost question. If our industry is faced with in some way needing to insure or ensure that there is safe and secure very long-term storage of that CO₂, then undoubtedly there will be a cost that attaches to that in some form of insurance premium or other regime that monitors and insures the capture. Undoubtedly what we are looking for is permanent storage of this CO₂. To the extent that I understand the technology—the scientists are very confident that secure storage will occur—I suspect that, until that is fully proven, there will be some doubt around that and people will incur a cost in monitoring and insuring through the insurance firms. So that would be an additional cost that the industry would face. If government were to decide that that were a cost that was greater than the community should bear through electricity prices but was better taken by a sovereign government, then that would avoid the cost and shift the liability. But we do not have a position on that. I simply observe that there are a range of ways that you might think through that one.

CHAIR—Yes, the proposals are for trust accounts, levies on the storage and to have a monitoring regime. All the technology is available, I understand, to do that. The bill deals with common law, which takes it up to a certain time, and post that we will need to make sure that there is a monitoring regime et cetera. Thank you. Is there anything else you would like to add?

Mr Page—Nothing at all, only to thank you and the committee for your time and this opportunity today.

CHAIR—Thank you very much. This is an area which is out on the edge, and we do appreciate your being here and your submission. Please take that back to your association. If we need additional information we will write to you. We will send you a copy of the *Hansard* transcript of today's proceedings. You will be able to make editorial changes to that if need be.

[11.48 am]

COCHRANE, Mr Jeffrey Gordon, Head, Business Development Asia-Pacific, Anglo Coal

KOPPE, Mr Bill, Development Manager, Anglo Coal

CHAIR—Do you have any comments to make on the capacity in which you appear?

Mr Koppe—I am the development manager of Anglo Coal, which is concerned with the development of low-emission technologies.

CHAIR—Although the committee does not require you to give evidence under oath, I should advise you that this hearing is a formal proceeding of the parliament, and therefore it warrants the same respect as proceedings of the House. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as a contempt of the parliament. The committee has received your submission. Would you like to make any corrections or amendments to that?

Mr Koppe—I wonder if I could add an elaboration to our submission. Having heard the evidence yesterday I thought there was a particular interest in storage in the Gippsland Basin. I was the contract manager for the storage study that was undertaken by Monash Energy. I also thought there was a particular interest perhaps in co-development agreements that had been negotiated under the Queensland coal and coal seam gas regime. I might comment on those two subjects if that would be of interest.

CHAIR—We would certainly find that of interest. We are getting into that area. You can add anything in evidence today and we would welcome that. You might like to make a brief general statement on the submission and add anything you wish, and then we could go to questions.

Mr Koppe—Yes. I will comment on the Latrobe Valley study, which I think you will find referred to in some of the other submissions. That study was undertaken by Monash Energy with the CO2CRC and with the collaboration of Exxon, and I would like to acknowledge that their collaboration was very positive and constructive. This was in 2005. The point I want to make is that at that time the life of the Kingfish field was seen as being to about 2015. I think you will have heard that it has now stretched out to about 2025. At that time the Monash project was also looking to start injection some time around 2015, and that has stretched out now to maybe 2018. So originally we were looking at no real time conflict and we are now looking at a small time conflict. Partly on Exxon's advice we chose a notional injection site immediately below the Kingfish field to do the modelling and studies, just to show what was practical. I just want to emphasise that that was never a project proposal. And if there is now a concern about making sure that CO2 never intermingles with the oil, it is a very easy matter simply to inject further away from the oil to ensure that there is no reasonable prospect of that happening. There may indeed be a pressure effect but, in terms of intermingling of the CO2 with the oil, I am absolutely confident that you can ensure that that will not happen in the small time overlap that we are speaking of.

I thought it might also be useful if I commented on the coal seam gas and coal legislation in Queensland which, I have to say, was the subject of fairly acrimonious debate between the petroleum industry and the coal industry for a number of years before the legislation was finally settled. Once the legislation was settled, I think the history is that both sides then got down and negotiated cooperative co-development agreements without any particular fuss, although that legislation provided for ministerial determination in the event of the parties not coming to an agreement. I do not believe that has ever been exercised.

Mr PERRETT—I think it has been once.

Mr Koppe—Once: I stand corrected. I was certainly involved in the negotiation of the first major agreement of that kind with BHP, as it happened, and CH4, a gas company. It took us about a year to do it. The process there was simply that the parties exchanged information about their respective plans for the same area and modified them a little bit to make sure that there was no real potential for conflict between the two development concepts. But in the agreement we also contemplated the circumstances if something went wrong or one of us changed our minds radically and that did impact on the other; in particular, if the coal company impacted on the gas interests there would be a process to make good any loss either by getting the gas out faster by drilling more holes or by supplying alternative gas or, ultimately, by cash compensation. I guess the point there is that the issue of compensation for any adverse impact was dealt with in the co-development agreement. That is exactly the sort of model that I would have thought you needed in this circumstance. It seems to have worked eminently satisfactorily in Queensland, where you have overlapping resources of this kind.

Ms LIVERMORE—Once the agreement has been signed off by the parties, who or what body then monitors the agreement or has oversight of it? Or is it just left to general legal principles?

Mr Koppe—Indeed, and in our circumstance it was just a standard contractual agreement which gave us rights and obligations and gave them rights and obligations.

CHAIR—Is that the normal circumstance between different companies for those sorts of agreements?

Mr Koppe—I am really only familiar with the ones that I did. Mr Perrett might have a better idea of how typical that is.

Mr PERRETT—Doesn't Anglo also have an agreement with the coal seam gas generator? I think it is in Kirsten's electorate.

Mr Koppe—It would be, yes. We have agreements for the generation of power from waste mine gas at one site. The site that I was referring to is closer to Moranbah, and there we have two agreements with the same company, effectively. One enables them to drain gas on our mining lease and the adjacent area is the one I was most thinking of, which is about the development of a mine in coal, which they are currently draining.

Mr PERRETT—Is that the German Creek one?

Mr Koppe—Grosvenor and Moranbah were the ones I was contemplating. The German Creek project is the one where we are generating power from waste gas.

Mr SIDEBOTTOM—Regarding this co-development arrangement and the modelling that you are talking about, which is central to your submission, what role did the government and regulation play in that?

Mr Koppe—Basically the regulation sets the negotiating framework. Frankly, that is largely how I see this legislation. It sets a framework for negotiation. I think the essential factors were a determination by the government to actually issue overlapping tenements in the first place, placing an obligation on the parties to negotiate in good faith and, ultimately, giving the minister the power and authority to break any deadlock with well-defined criteria as to how he should apply that judgement.

Mr SIDEBOTTOM—That model seems to me to be a preferred model as opposed to the structure outlined in the bill.

Mr Koppe—Yes. I do not see much provision in this bill for driving the process of making agreements. I think you do need some force behind that. There seems to be just an assumption that it will happen. There must be an acknowledgement that this regime is not going to work unless there are in fact cooperative agreements between the parties, but I do not see any clear provisions in the bill to try and make that happen, whereas the regime in Queensland, which seems to have worked, did indeed have those provisions.

CHAIR—Are there any areas in your company which take methane and utilise it without mining coal? Are you involved in that?

Mr Koppe—Yes, we are. All of our methane drainage operations are within reasonable proximity of coalmines, not necessarily directly related to the mining, although in most instances that is the case. We fundamentally drain the methane ahead of mining—perhaps as long as 10 years ahead of mining—and utilise that methane.

CHAIR—Are there any other gases involved in the methane when you take it off? How do you deal with it?

Mr Cochrane—In some of our operations we have done gas drainage. The drainage, as Bill has alluded to, is for removing methane or other gases that are down there so that it is safe to mine. In some of our mines the gas has been predominantly carbon dioxide—maybe up to 90 per cent carbon dioxide—with the balance being methane. So we have a lot of experience in being able to extract carbon dioxide from within coal seams or aquifers or sedimentary layers that are near coal seams, and we have extracted that more to allow the safe mining of the coal.

CHAIR—I understand that coal seams that are not mined may become storage sites as well for CO₂ in the future.

Mr Cochrane—That is correct.

Mr Koppe—It is theoretically possible, but—

CHAIR—Being a coal person you probably oppose that.

Mr Koppe—Not on grounds of resource conflict; I just think it is a pretty hard way to store CO₂.

Ms LIVERMORE—I am just trying to work out the analogy that you are drawing in the agreements struck in the coal and coal seam gas situation—greenhouse gas storage versus petroleum interests. There is quite a different dynamic at play, isn't there?

Mr Cochrane—They are slightly different. One of the differences is that the coal seam gas comes out under the petroleum act and the coal is under the mining act, so they are under different acts.

Ms LIVERMORE—But it suits the coal producer to have that gas removed from the seams, doesn't it?

Mr Koppe—Yes. That is one thing that makes it easier—that there was a mutual benefit, in fact, in having the gas drained before we mined it. If someone else wanted to do that for us, as long as they did not leave bits of drill pipe in the coal seam, that would be a good thing. So there was a mutual benefit there as a driver. I think the thing that makes it a bit more difficult is that the methane and the coal seam actually occupy the same physical space, whereas with storage, generally, we are talking about injecting into saline aquifers which are some distance away from the oil and gas reservoirs, at least until the oil and gas reservoirs are completely depleted.

Ms LIVERMORE—The extraction of coal seam gas does not pose any risk or reduce the value of the coal resources, does it?

Mr Koppe—Generally not. The main concern that miners have would be that extraction of coal seam gas would end up with drill pipes left in the coal seam which would be a hazard to subsequent mining.

Ms LIVERMORE—But you are saying that any risk from greenhouse gas storage adjacent to a petroleum licence could be addressed through financial arrangements in the agreement between the parties.

Mr Koppe—That is what I would expect. We would have our plans for petroleum extraction and for CO₂ injection. You would have a risk management plan to manage any risks that might arise, and you would agree that, and you would also have provisions for compensation if, notwithstanding your risk management provisions, something went wrong.

CHAIR—So you are saying that your knowledge is that the technical ability to put CO₂ storage beneath a present drill platform or a platform extracting gas and oil would not be a problem. It may add some pressure, and we have received evidence that that could be a problem for the petroleum companies in continuing to keep their flows or lead to a dangerous situation in having a well blow. You believe that those issues can be dealt with in a technical sense?

Mr Koppe—I do. As I said, the case that we used as an illustration, in the Latrobe Valley study, had the CO₂ being injected only 500 metres below the oil cap. We can move many

kilometres away if that is necessary to give absolute assurance that there will be no prospect of intermingling. The pressure effect is likely to be felt in the Gippsland Basin and, whether that is going to be beneficial or adverse, I think that generally repressurisation of depleted reservoirs is seen to be beneficial. That may not always be the case, but I think it is generally the case.

Mr PERRETT—I am just revisiting the process in Queensland, where the parties come to the table. I am obviously taking on board the member for Capricornia's comments about how the absence of the gas has a value to the miner and the gas has a value to the coal seam gas operator. You touched on the fact that the framework set gets the parties to the table, basically. As we have touched on, this is not necessarily the case where the greenhouse gas value is not there for the petroleum operator, I suppose. Could you just revisit the steps that get the parties to the table in the Queensland legislation. It might be useful to revisit that, since you were right in the middle of the negotiations—you were the guinea pig, I suppose.

Mr Koppe—We were, and I hasten to add that the agreement that I referred to was done voluntarily and was not specifically driven by the provisions of the act. But, as I recall, the act lays down that, when one of the overlapping tenement holders makes an application for a higher grade of tenure, they have to provide a notice of their intentions to the other tenement holder, including details of what they believe would be the impact of their proposal on the interests of the other party. The other party then had a specified period to consider that and to make any response, rebuttal or suggested modification that they wanted to. My recollection is that then there is a specified period for negotiation, beyond which either party can then refer the matter to the minister for a determination. Now, whether that was directly through the minister or through some other—

Mr PERRETT—The mining council, wasn't it?

Mr Koppe—It could have been. But that was the process. In our instance, we were not driven by the time lines. We had established a cooperative agreement before that and simply moved ahead at our own pace, with neither of us referring it to the minister for a determination until we got there.

Mr PERRETT—I should stress that the parties were able to have simultaneous licences, or leases, if we want to call them that, rather than go through any tender process for the coal seam gas. The difference between the legislation before us and the Queensland legislation is obviously that a competitive process for the coal seam gas lease did not necessarily have to be in place.

Mr Koppe—No. That is correct. I remember that there had been a lot of prior debate about whether the two industries should be segregated—the coal seam gas industry should have access to certain depths and locations, and other more minable areas should be the sole preserve of the mining industry—but, at the end of the day, the government chose not to go that way. It chose to go for an overlapping tenure regime and, as I say, to drive this process of cooperation and collaboration between the overlap parties.

CHAIR—Just for the record, I would like to hear more about your experience in this area and how you think this system could work in the present situation of cooperation where there are property rights with the licence to extract oil and gas, with a process to then allow storage usage

within that licence area, if you like, with the current property rights being preserved. Can you enlighten us on that?

Mr Koppe—As best I can. The approach with the coal seam gas regime was for the parties to adopt a risk management approach to the whole exercise.

CHAIR—So you would start off with risk management. So you would have a situation where the petroleum company would say, ‘We’re worried.’ Their concern would be that there might be an effect on their production, so they would have something to deal with that.

Mr Koppe—Yes. The way it worked in our instance was that both sides developed plans, and I think we looked out maybe 15 or 20 years, with a more detailed, short-term plan for what it was we each intended to do where, in reasonable detail. We exchanged those plans and exchanged views on where there were potential conflicts, looked at the sorts of risk scenarios that might apply and made some modifications to address those things until we were satisfied that we had reasonable risk management processes in place, which fundamentally had to do with the timing of our respective operations—we were not both operating in the same space and time. And I think that is a parallel with storage and petroleum.

Mr Cochrane—The important thing, though, was that in those discussions you sat at the table with equal rights to have those discussions to work out the plans. One party did not have the right of veto over it, so they were balanced. To be frank, we were ostensibly the coalminer in this instance with the rights, having coal seam gas come over the top—and so on the other side of the debate that we are in here. It has worked extremely well and both the coal seam gas industry in Queensland and the mining industry in Queensland have prospered since.

CHAIR—That is good. As you say, a mechanism for both parties to bargain in good faith is the essential item. I think that is the point you are making there. And then there are the potential risks and the commercial interests, I suppose. Did you deal in the commercial side with the benefits for both companies?

Mr Koppe—We dealt more with adverse impact. If there was an adverse impact on the gas producer from what we wanted to do, we had a series of escalating provisions for making good that loss. I would expect that to be the case in a co-developer agreement between petroleum producers and storage proponents. It helps focus their minds on making sure there is no adverse impact if the liability ultimately resides with them.

Mr Cochrane—The objective of the two parties in the case of coal seam gas was the value and, by working together, you are able to make that value more than if it was just coal or if it was coal seam gas. Similarly, in the case of carbon capture and storage and in the case of removing oil, I think the objectives are not inconsistent. The value of that property can be doubled in the sense that it can be used for one and it is an ideal place to be able to store carbon dioxide as well. So it is a case of sensible use of those things to be able to address the changing problems of the world. These might have been that we need oil and that it is precious. But we also need to be able to stop putting carbon dioxide into the atmosphere and the place where you can put that volume of carbon dioxide at the moment is through storing it in secure geological structures.

CHAIR—There is a lot of expertise in the petroleum industry as well.

Mr Cochrane—I think that is an important point. One of the other things that came up was that there was a lot of sharing of information about how the mine was going to operate and how the coal seam gas operators needed to extract in terms of how the gas reacted and how the mine would actually affect the strata. So having that data all put together—what the coal operators had through explorations and what the coal seam gas guys had—made it a sensible way of being able to obtain that.

CHAIR—There is a lot of commercial sensitivity. People have paid for that. That is one of the difficulties, isn't it? People have paid for that in a way. They have paid to get that information and they have a licence to drill and extract. Companies seem to do it—North West Shelf is a prime example. Lots of petroleum companies work together because of the size and the expertise they can share, and they seem to be doing that very well. Your experience here—what you are giving us as evidence—is a prime example of two companies working together to achieve a common goal, but this sharing of information—

Mr Cochrane—The information that has been gathered for the extraction of oil—exploration data and pumping rates and storage capacities and how it flows—has been used to extract the oil. Some of that information will also be valuable in being able to understand how the storage would work, but the key thing at the moment is that the areas that have been explored for hydrocarbons are potentially the best areas for storage. But a lot of work has been garnered over 40 years to understand what is there. Storing the carbon dioxide is going to become an increasingly urgent problem and we are struggling to get started on it, so anything that helps to make that happen sooner rather than later is going to be of benefit.

I do not exactly know what use the data would be in terms of the oil once the oil is all gone. When you look around Australia, the number of locations that are suitable and ideal for large-volume storage of carbon dioxide, which we must have, are not all that great. We have some very good reservoirs, and certainly the one that we are talking about in the Gippsland Basin is an excellent reservoir. We looked around the world for places where there might be a match between a fuel reserve, such as Victorian brown coal, and a reservoir so that we could obtain the benefits of the coal without putting the carbon dioxide into the atmosphere, and it is fair to say that that combination is certainly one of the top ones in the world, if not No. 1, 2 and 3. It is unique and unusual.

Mr PERRETT—How was the legal profession or otherwise able to assist in looking after confidential information? It was new territory, I suppose. Was it a painful process?

Mr Koppe—It was a two-part process. The first part was really at a technical level where the operators and the technical folk got together. I have to say that that was all generally very constructive and we had the same sorts of objectives. That was the case, too, with the Latrobe study with Exxon. Again, I would like to acknowledge the very positive contribution of Exxon's technical people to that work. The process did become a little more fraught when the commercial folk and the lawyers came in towards the end.

Mr PERRETT—There not being any lawyers here or anything.

Mr Koppe—In terms of protecting confidential information, there was some information which we just did not exchange. There was information in which we both had a common interest. There was information of theirs in which we had no interest and which was sensitive to them. Likewise, we had information that was to do with our product, that was sensitive to us and that we did not want them to have. But we did pool information in the areas of common interest. We even shared the costs of drilling holes, getting the information we wanted from those holes, and efficiencies of that kind. The confidentiality of information simply was not a real issue or a problem. We did not hand over—

Mr PERRETT—The contracts were sufficient to protect both parties, basically?

Mr Koppe—They were. But in truth we had already adopted an information-sharing regime before we came to negotiating the co-development agreement.

Ms LIVERMORE—I am trying to figure out where the requirement to bring the parties together would fit in with the current structure of the bill. Maybe it does not at all—I am just thinking out loud. At the moment you have a situation where there is a precommencement petroleum title and then a greenhouse gas proponent comes along and wants to get a licence to inject. Currently, the minister has to make the determination as to whether there is risk of a significant impact. If, on the one hand, the minister decides there is no risk of a significant impact, the greenhouse gas licence holder can go ahead and do whatever they like, presumably without reference to the petroleum licence holder. If, on the other hand, the minister decides there is risk of a significant impact and you then say, ‘But it could proceed under these commercial agreements,’ you are starting from the point where there obviously is evidence of a significant risk. How does that work when you are trying to bring your parties to the table at that point?

Mr Koppe—Rather than having interaction solely between the proponent and the minister, you can oblige the CCS proponent to provide advice as to their plans to the overlap party. You can oblige the overlap party to come back with a considered response to those proposals and any suggestions for amendments. It is not terribly difficult to build in a process of that kind, which requires interaction between the overlap parties directly rather than by recourse they might both have to the minister.

Ms LIVERMORE—So the requirement for the parties to get together should happen at the point where the greenhouse gas proponent is applying for an injection licence?

Mr Cochrane—I think that the important thing is that there needs to be a recognised right that you can extract the petroleum. There also needs to be a recognised right that you can inject and store carbon dioxide. They need to be on an equal footing to be able to do that otherwise the discussion over any kind of risk can be taken down to a molecular black-and-white debate saying that there is a trace of a risk, that it will never happen, that it is easily mitigated, and that it will not cause any damage—but it is a risk and we are not going to do it. Unless you have got some kind of equity about being at the table to talk through the information and have the plans, then you will not easily reach agreement and you will always end up with the minister having to make some determination. It is about time; it is about geological structure; it is storing and monitoring over long periods. It is not inordinately complex but it is quite layered in terms of what you are looking at—quantities of gas, where they are going to move, how you are going to

monitor them. You are certainly going to have interaction one with the other. You are going to be doing seismic through oil and you are going to be making computer models that have information about the structure and planning where the carbon dioxide will sit and how it will dissipate. There is a whole pile of interactive activities that the two parties could do quite complementary work with. They are always going to be there and you just need to be on an equal footing in having those discussions.

CHAIR—There should not be any precautionary situation with one side saying—

Mr Cochrane—Saying, ‘I do not like your argument so I am not going to do it. I have got the right of veto.’

Mr Sidebottom interjecting—

Ms LIVERMORE—If you are proposing that there is a statutory requirement for the parties to come together, at what point should that requirement come into effect?

Mr Koppe—I guess that it is whenever the proponent is seeking authority to do something which could have an impact on the other party. They would then have to provide advice to the other party about that and give them the opportunity to respond as a normal part of the process.

Mr Cochrane—Any development would involve an environmental assessment and approval and the other party would be in the same space. Those normal planning approval and assessment processes would engage the parties at that point.

CHAIR—We know that. The normal processes of the nation would come into effect and other legislation that needs to apply would apply.

Mr SIDEBOTTOM—It is affected by the draft we are looking at, because the draft bill does not encompass broader objectives. You are arguing for broader objectives. If that is not here, then what we are discussing, frankly, is completely different. Your whole argument about the broader objectives is the key to this. The co-development stuff has to be in the bill, and I think that is clear all the way through. We have just been looking at ways that you might be able to tackle it. Clearly, the objectives are not broad enough in this draft bill.

Mr Koppe—That is right.

CHAIR—Thank you very much for your evidence and your submission. You were very frank and forward—thank you for that. It is a complex issue we are dealing with and we have the draft legislation which is giving us a framework to start in that area. It has been around a while and nobody has kicked into it. We are starting to tackle that. Our committee will bring down a report that will make recommendations, hopefully to improve the direction in which we are going. Thanks again. If we need any additional information we will certainly write to you. We will send you a copy of the transcript of today’s proceedings and you can make editorial corrections to that if you wish.

Proceedings suspended from 12.25 pm to 1.41 pm

[1.41 pm]

SMITH, Mr Jeffrey Owen, Director, Environmental Defender's Office New South Wales

WALMSLEY, Ms Rachel, Policy Director, Environmental Defender's Office New South Wales

CHAIR—Welcome. Although the committee does not require you to give evidence under oath, I advise you that this hearing is a formal proceeding of the parliament and, therefore, warrants the same respect as proceedings of the House. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as contempt of parliament. The committee has received your submission. Would you like to make any corrections or amendments to it?

Ms Walmsley—No.

CHAIR—I now invite you to make a short opening statement before we go to questions.

Ms Walmsley—Thank you. The Australian Network of Environmental Defender's Offices welcomes the opportunity to address the committee on the proposed legislation. For those of you who are not familiar with us, we consist of nine community legal centres specialising in environmental law in each state and territory. Broadly speaking, ANEDO submits that Australia needs to urgently employ a range of measures to tackle climate change and that carbon capture and storage is just one option to explore, not the primary solution. I would like to briefly summarise our main recommendations. Regarding term of reference (a), further clarification is needed on property rights and injected and stored CO₂. ANEDO submits that the bill be amended to clearly stipulate with whom the ownership of the injected and stored CO₂ falls, which in turn would assist in clarifying property rights and associated responsibilities for both existing and future CCS projects. Additionally, ANEDO submits that the bill be amended to stipulate a mandatory monitoring, measurement and verification period following the issue of a site-closing certificate and the establishment of an ongoing trust fund for ongoing MMV and remediation works.

Regarding term of reference (b), we believe the bill in its current form does not enable management of greenhouse gas injection and storage activities in a manner which responds to community and industry concerns. The bill includes extremely broad ministerial discretion and very limited opportunity for community and industry concerns to be included in the decision-making process. We submit that the principles of ecologically sustainable development be incorporated into the objects of the bill to provide guidance in this highly subjective process. Additionally, we recommend the establishment of an independent expert committee to evaluate and respond to community, scientific and environmental concerns as this would greatly increase the transparency and integrity of the decision-making process.

Regarding term of reference (c), concerning pre-existing and co-existing uses and rights, ANEDO have concerns regarding the lack of consideration for interaction of CCS projects with protected and vulnerable environmental areas, such as marine areas and offshore islands. We

recommend that the bill include identified no-go zones and extensive environmental buffers to protect these areas of high environmental significance.

Regarding term of reference (d), concerning investment certainty, we recommend that investment should prioritise research and development of renewable sources of energy, such as solar and wind, as opposed to focusing on uncertain end-of-pipe responses to deal with the deleterious consequences of the fossil fuel industry.

Finally, regarding term of reference (e), we submit that the bill does not in its current form establish the legislative framework that provides a model that could be adopted on a national basis, due to the deficiencies outlined in our submission. Before the bill can be adopted on a national basis it is essential that there is consultation on the accompanying regulations which, as noted in the regulatory impact statement, will address the crucial areas of public interest tests, impact significance tests, assessments and approvals, monitoring and verification, financial issues and post-closure responsibility. These are fundamental.

CHAIR—I point out that this bill does not specifically deal with environmental issues, but all the Commonwealth laws would still prevail under this law, so the Environment Protection and Biodiversity Conservation Act would come into play and everything else that would need to monitor.

Mr PERRETT—Do you think carbon capture and storage works?

Ms Walmsley—I think that is yet to be proven. We have had a look at the pilot projects that are up and running in various states and some of the developments overseas, and there seems to be consensus that the technology is new and is yet to be proven. For that reason, certain safeguards should be put in legislation now. It is untested technology. The technology will not be ready for some time—estimates are around for 2015 for projects. As we have seen in Australia, the Western Australian Rio Tinto-BP project has ceased operations. Even though that was a \$2 billion joint venture, it has ceased because of the instability in the site. There is a lot of money involved. This is an untested area. Without that certainty, you need to make sure you have the regulatory safeguards in place.

CHAIR—What project are you talking about?

Ms Walmsley—The BP-Rio Tinto hydrogen power plant at Kwinana—coal gasification, hydrogen production and CCS—near Perth in Western Australia.

CHAIR—We have not had any evidence in regard to that, so I do not know why that has not gone on.

Ms Walmsley—Page 8 of our submission identifies CCS projects that have been trialled in Australia so far, and that one is in the Western Australian category.

CHAIR—CO₂ capture has been a part of the petroleum industry for 40 or more years. They capture CO₂ from their gas and resubmit it into the wells. That technology is pretty well proven. It is the capture at the coal or in other ways. Is that the technology you were talking about? I want to get your evidence right here.

Ms Walmsley—The injection technology has been around, as you say, for enhanced recovery purposes. What we are concerned about is long-term storage technology and leakage. Obviously, we are not engineers or economists; we are, from the legal perspective, getting those safeguards.

CHAIR—That is fine. Talking about the monitoring of the storage and the longer term liabilities associated with that, we need to deal with that and with the issue of who is liable et cetera in the longer term. We appreciate that. I do not want to ask you any technical questions that you do not have expertise in.

Ms Walmsley—That is okay.

Mr PERRETT—Further to my first question, obviously the science of proving the damage of greenhouse gases is not totally proven, but there is a fair consensus that they are doing some damage to the earth. There is a bit of a balancing act in eliminating the carbon dioxide going into the atmosphere versus the science of proving that storage of carbon dioxide in geosequestration does work. Do you want to comment on that balancing act? It is easy, obviously, to say, ‘The science isn’t proven; therefore we should proceed slowly,’ but would you like to make a comment on that balancing act?

Ms Walmsley—As noted in our opening address, the EDO supports a range of measures being put in place to tackle climate change, and we view CCS as just one part of that range. Through Garnaut and through the media, there has been a lot of emphasis put on CCS and the idea that it is going to be a solution for Australia and that we can be a leader in the field, but we want to emphasise that it is just one of a number of issues. As you say, it is a very difficult policy balancing act. We think it should be explored but, because of the uncertainty, there have to be safeguards put in place.

CHAIR—Your organisation does not have a view on whether, if we do not get greenhouse gas storage and carbon capture and storage right, we might have to go to nuclear energy?

Mr Smith—No, we have not looked at that. We do not develop policy positions on environmental issues as such. We come at things from a legal framework perspective.

CHAIR—Sure.

Ms Walmsley—Further to your last question, our position is that the priority for investment should be in renewable technologies, not end-of-pipe solutions. It is not a matter of, ‘If CCS does not work, we go nuclear.’ It is about getting the right incentives and the right regulation to really build our renewables industry as well.

CHAIR—So you do have a view.

Ms Walmsley—We have a pro-renewable—

Mr SIDEBOTTOM—That is a policy.

Ms Walmsley—Yes.

CHAIR—So you do have a policy position which favours renewables over and above other technologies. Is that correct?

Ms Walmsley—Yes.

Mr Smith—That is correct.

CHAIR—I do not want you to say anything that you are not comfortable with or whatever; I just want to get a true position on the record.

Mr Smith—Yes.

Ms Walmsley—That is right. As set out in our submission, we want the priority to be on renewables.

CHAIR—That is fine.

Ms LIVERMORE—You make a recommendation, and you repeated it in your opening statement, proposing that the bill should identify property rights in the sequestered carbon dioxide. Can you elaborate a bit for us on why that is, why you see that as so important and what the implications of not identifying the ownership versus identifying the ownership are?

Mr Smith—The issue there is essentially one about vesting the property rights in someone so that you can work out where rights and responsibilities flow from that. If there is no ownership or property rights vested, then it is very difficult to know where to go from that. It is really a preconditional point that you establish where the property rights are, and then you can make certain decisions from that about where liabilities flow.

Ms LIVERMORE—So it is not something that attaches to the licence conditions.

Mr Smith—It can. Property rights are a very difficult area. Sometimes they can attach to the substance, per se. Sometimes property rights can attach to those licences or permits, but generally they are vested in something rather than a regulatory instrument. The regulatory instrument, if you put that down in statute, can say the way that that works or not but, under the common law, property rights are vested in things.

Ms LIVERMORE—So it becomes important in terms of common-law causes of action.

Mr Smith—Yes.

Mr PERRETT—Further to that, let us look at the carbon trail. The hydrocarbon belongs to the state or the Crown. The miner/petrocompany extracts the hydrocarbon and at some stage—I am not sure exactly where—the property in the hydrocarbon passes to the miner. The electricity generator or petrol bowser or whatever burns the coal or the oil, the carbon dioxide is released into the atmosphere and the property becomes everyone's, I suppose. I am just unravelling this idea to get back to the previous answer. So if it is released out of a smokestack, then the property rests with no-one, I suppose, although I suppose you could sheet home damage by the electricity company, because of the pollution or something like that.

Mr Smith—Yes.

Mr PERRETT—If they capture the carbon dioxide, I guess the generator owns the carbon dioxide and pumps it to a company that is going to sequester it and it puts it in the ground. Do you think it is important that we clarify where the property rights for that carbon dioxide lie?

Mr Smith—Yes.

Mr PERRETT—Even though, to all intents and purposes, it would be as if it had been pumped into the atmosphere and given to the whole world? It would almost be an academic exercise to work out where the property rights lie because the carbon dioxide is in a seam underground. Could we explore that?

Ms Walmsley—Certainly. It is not quite comparable because it has been pumped underground and a company has made a profit from doing that as a commercial enterprise.

Mr PERRETT—The electricity generator would make a profit by pumping it. In fact, it would probably make more of a profit—

Ms Walmsley—Because they are selling their CCS—their permits.

Mr PERRETT—before today, anyway.

Ms Walmsley—I understand the amended New South Wales legislation approaches it by having a clear clause saying that the property of the CO₂ is with the Crown, and it is assumed it always has been. They deal with it that way. Our interest in the bill clarifying the property—

Mr PERRETT—And the liability would be with the Crown?

Ms Walmsley—Exactly. Our interest in clarifying this is that it has a lot to do with the liability. If the CO₂ leaks—and it is the CO₂ that does the damage—and it is vested in the Crown, then the Crown should be liable for it. Whereas, as you can see from our submission where we talk about liability, we do not want the liability to just go to the Crown as soon as there is a site closure. We think the corporation should have some responsibility. The importance of the bill clearly saying how the property rights work has a lot to do with liability, and that is our concern.

Mr PERRETT—Rather than having a two-dollar company having the liability, it could actually be a fund or something similar so that the liability could be addressed. What you are really talking about in terms of liability is that you want responsibility sheeted home to someone—

Ms Walmsley—Yes—and it does not automatically go to the Commonwealth and therefore to the public. We have suggested a fund in our submission.

Mr Smith—You could probably do the same thing legislatively by simply assigning liability. I do not think that anything necessarily would turn on whether you assign the property rights to A or B. That is why we are interested in that liability issue.

CHAIR—So you want a Commonwealth entity that had the responsibility for monitoring after-site closure, so long as a levy is paid to meet some of the costs—a trust account or something like that—a liable body which, from your point of view, is a legal entity and from which somebody who is affected by CO2 seeping from a storage could seek some legal redress. Is that right?

Ms Walmsley—Yes.

CHAIR—I did not quite pick up what you said about New South Wales—the state government accepts liability?

Ms Walmsley—I have not looked at it in detail but I understand they just have a clause explicitly stating that the property right in CO2 is with the Crown. That is how they have dealt with it.

Mr PERRETT—Further to that, I understand the property in the coal passes to the coal company, effectively, but you are saying in relation to the carbon dioxide that it is almost as if the property passes back to the Crown after the coal is burnt. It is like they have a lien on the carbon dioxide. This is a bit esoteric, but we will find out more about it later perhaps.

Ms Walmsley—Yes.

Mr PERRETT—My recollection is that once the royalties are paid in coal, or minerals, for that matter, the property then passes to the miner. They have got a right to mine it until the royalty is paid, at the bowser or pump or whatever it is.

Mr Smith—We could get back to you with more information on that if you like. Presumably that provision is simply about assigning liability, but we could check that out.

Mr PERRETT—Most of the generators are government owned corporations in New South Wales?

Ms Walmsley—The generators?

Mr PERRETT—The electricity companies.

Ms Walmsley—Yes, I think so. We can certainly find some further information.

Mr PERRETT—I heard there was a bit of argy-bargy at the New South Wales Labor conference, that is all.

Ms Walmsley—I imagine you would have!

Ms LIVERMORE—The question of property in the CO2 relates to your concerns about liability post closure. Once the statutory liability is satisfied or ceases under the post-closure certificate, or whatever it is called, you are not satisfied that the bill as it currently stands then lets common-law liability or the principles of common law take over. You want to have a statutory regime to deal with that liability going beyond the post-closure process.

Ms Walmsley—That is right, and more detail, for example, around time frames of activities post closure. There are no time frames for how long the monitoring, measurement and verification need to go on after a site closure, so there needs to be a bit more certainty around that as well.

CHAIR—Would you think 20 years or 50 years?

Ms Walmsley—We have got 60 in our submission.

CHAIR—Okay. Do you have any thoughts about the monitoring? This is another cost, of course. The monitoring off shore, which we are dealing with in this bill, is basically a ship doing seismic monitoring to see if there has been any shift whatsoever, and it will cost. Have you thought about that at all? I want to find out what you base the 60 years on. Is there a precedent in other legislation?

Ms Walmsley—In terms of our main concerns about the monitoring, our recommendations are to strengthen it. Firstly, there should be a defined minimum period for the monitoring. Secondly, we have suggested that an expert committee be established and that it has a role right from the beginning, in identifying the best sites and in the environmental assessment, but also for site closures. This expert committee is needed to provide advice on signing off and on what monitoring, measurement and verification are necessary for a particular site because every site will differ geologically and so forth. The experts could say what kind of monitoring was needed over the time frame and with what regularity, giving a bit of expertise and auditing of how the monitoring is done. Our third recommendation is the fund. Obviously there are costs in monitoring, but because this is an untested and uncertain technology we think it is really important that there is rigorous monitoring, especially in the first few decades, because we do not know the exact effects. So part of the fund would be to develop the costs for ongoing monitoring.

Mr SIDEBOTTOM—Part 5 of your submission includes the following headings: ‘Current inadequacies’, which we will come to; ‘Consideration of international obligations’, which I found particularly interesting; and ‘Consideration of state legislation and inclusion of state based moratorium’. I would like to ask you three questions. The first one is: why do you believe that the draft legislation does not provide a nationally appropriate model? Maybe I will just do them one at a time. Could you tackle that first one for us, just for the record.

Ms Walmsley—At the moment, as we see it, it is not a nationally appropriate model until it has the safeguards in place. As you can see from our submission, it is things like having objectives—that everything under the act is in accordance with the principles of ESD, you have the committee in place, and you have time frames. As I said in the opening statement, an awful lot of detail has been left to regulations, and those details are things like how the environmental impact assessment will work, the monitoring and evaluation, the public interest tests—a whole lot of the meat of how this is going to work we have not seen any detail of yet. It is very hard to be able to say, ‘Yes, this bill should be nationally adopted,’ when we have not seen the detail of how it is going to work. It could be strengthened by being clearer about property rights, developing this fund, developing an expert committee, just making sure that the architecture is up and running—like a publicly accessible CCS register to enhance transparency—and having more detail around the mandatory reporting. Before we can say this is going to be a nationally

appropriate scheme we would need to see more detail; it is of concern to us that so much detail has been left to regulations that we have not seen.

Mr Smith—Obviously in any legislative scheme it is appropriate that things are left to the regulations. But here our concern is that some of those things are quite crucial, in terms of environmental impact assessments, public interest tests and so on, and they are not the kinds of things that one would normally expect to be embedded in regulations. You would normally bring those up.

The other thing—and this is really just drawn out from one of Rachel's points about, for example, the independent committee and so on—is that a lot of the matters here are left to the discretion of the minister, and we think that it is more appropriate, when you are making these decisions, which are essentially engineering and scientific decisions, that a more independent body have a greater role in those kinds of decisions.

CHAIR—I think the minister would take advice from Geoscience Australia. I think that is the implicit view. But I take your point about the experts.

Mr Smith—Yes—to formalise those kinds of relationships; that is what we need.

Mr SIDEBOTTOM—I refer you to your statement:

An assessment should be conducted to ensure those environmental principles included in State legislation relating to CCS activities, are not undermined.

Do you believe that state laws are currently superior in terms of environmental protection? And, if so, which precedent should be followed?

Ms Walmsley—In terms of state laws specifically, a few states have done amendments to their own petroleum legislation specifically for this. But there is an article by Rosemary Lyster that I can forward to you that does an overview of all the different state laws as they currently are. That points out that there are a number of other environmental laws that apply in each state. Certainly, we can speak for New South Wales: some of our pollution laws are good in comparison to other jurisdictions'. So there are best practice elements in New South Wales law. We would not want to see a lowest common denominator approach. We would want to see the best elements of each jurisdiction being carried up to the national level. But, in terms of legislation from other states, we can certainly have a bit of a look and get back to you if you are interested in specific examples.

Mr SIDEBOTTOM—Finally—and this is a recommendation, so I just wanted you to flesh it out a bit more; it maybe follows on—why should the states be given the opportunity for a moratorium on environmental grounds?

Ms Walmsley—It is similar to the passage of the gene technology regulations. Some states wanted to be able to have at least an interim moratorium. Even though that was national uniform legislation that applied in each jurisdiction, there was still the option that, if they did not want to go ahead with it, they could have the moratorium in place. I think that, with an untested area such as CCS, a moratorium would give a bit of scope for states to gauge public interest and do a

bit more consultation on community concerns than has been done with this bill. So the moratorium option could just be an interim measure while states look into this. The precedent exists under the gene technology framework.

CHAIR—When you say ‘untested’, do you realise that there has been a Norwegian operation going on for 10 years? Sleipner has not shown any problems, and it has been monitored. As we said, on the storage side the petroleum industry has been at it for quite a long time. In the United States, they shift CO₂ around as a commodity to help them build pressure to get oil out of oil wells. You can use your terminology, but the evidence that we have received as a committee is a little bit more than that. It is new—I am not saying it is not—and we certainly need to monitor. We certainly have that firmly.

Ms Walmsley—We are aware of the Norwegian project and of projects where it has been successful, but every seam and every aquifer is slightly different, which is another reason why we are saying there is a role for an expert committee to be able to assess the variables, because each project is going to be slightly different. As I said at the beginning, \$2 billion was sunk into the Western Australian project yet they have now found that the site was unstable. So there are considerations like that.

CHAIR—The Gorgon project has had considerable environmental consideration, and that is happening on a class A reserve, Western Australia’s highest category of reserve. A considerable amount of environmental work has gone on there and is still going on, but there is certainly public interest. I guess that, when we start talking about moratoriums, that means a longer time frame. Do you have anything in mind about what you mean by that? You have put that in your submission; it is now public evidence. There is some urgency, I think, in the climate change debate to find some solutions.

Ms Walmsley—There certainly is urgency, and we have not recommended a time frame for moratoriums. What we are saying is that we need to get this right, so we need to do it urgently and explore whether it is going to be a viable solution. But, if you need a bit of time first to examine the environmental impacts and the community concerns, then states should not necessarily be forced into it if they want to hold off on the policy. I do not know if any states would adopt the moratorium option.

CHAIR—Is defending state rights another part of your—

Mr Smith—In this case—

CHAIR—It just sounds like a state rights issue to me. We are trying to come to grips here. We expect state legislation to follow in more detail, but this is federal legislation to help get the ball rolling and to find a legal framework for this to work.

Ms Walmsley—We certainly do not have a state rights soapbox. We are in favour of federal environmental laws. There are a lot of cross-jurisdictional issues. We think it is logical to have national laws in place. What we are saying is that they should be best-practice laws. They should not be the lowest common denominator. On a contentious and new issue, sometimes you can have the uniform law but you can have a function like a moratorium if a state wants time to get additional information and so forth.

CHAIR—But you think that sometimes timelessness is used to prohibit one technology over another?

Ms Walmsley—What do you mean by ‘timelessness’?

CHAIR—Moratoriums can set some technologies back while others have opportunities to come into play.

Ms Walmsley—That is possible. As I said at the beginning, what we would really like to see is incentives and a big drive on renewable energy and that kind of investment focus, but in the media we are consistently hearing that the money and the focus is all going to CCS. So, as I said at the start, we want a range of tools, and we particularly want renewables to be encouraged. There is a lot of evidence that the renewable industry in Australia has been held back itself, so there is certainly not a level playing field in the energy industry at the moment.

CHAIR—We are getting into another policy debate, but I would dispute some of that. On renewables there has been some reduction, especially under the previous government. The current federal government has set a target of 20 per cent by 2020, which I think is very ambitious. If you look at the figures on what renewables are contributing at the present time, I think there is also a bit of wishful thinking and philosophical thinking coming into that debate in terms of what is achievable. That is my personal view.

Ms Walmsley—A similar logic can be applied to CCS—that CCS will be ready by 2015.

CHAIR—Sure. But there is a logical situation of driving the energy needs for the current figures that we all see. It is said that other technologies can achieve this, but it is very hard to see those technologies. When you look at CCS, they say that, by storing CO₂, we can continue with the same CO₂ output. There is a slightly different emphasis in that debate.

Ms Walmsley—There is. I think that is why CCS is such an attractive policy option—because it essentially allows us to have business as usual. Our big picture thinking is that we really need policies in place now that reduce emissions and put the drivers in place to reduce emissions and not just deal with end-of-pipe solutions.

CHAIR—I take it that your submission is seeking world’s best practice as the best possible way of doing that.

Ms Walmsley—Yes.

Ms LIVERMORE—One of your recommendations is that the bill require extensive environmental impact assessments prior to the issuing of any CCS operations certificates. My understanding of this legislation is that it will act in parallel with or be overlaid by the existing environmental protection regime. Can you explain to the committee what specific concerns you have about the existing environmental regime not addressing concerns in this legislation?

Mr Smith—It is true that there is a link to the Environment Protection and Biodiversity Conservation Act. The link, however, needs to be through a matter of national environmental significance, of which there are six or seven identified heads of so-called legislative matters of

national environmental significance—things like threatened species, marine areas and so on. There has to be a significant impact or a likely significant impact on those areas, so you need those linkages. Climate change in itself is not a matter of national environmental significance, so you could not have that trigger. You would need to get in through one of those other triggers. If you can get in through one of those other triggers then that may well be enough. But we were thinking of the integrity of the system as a whole and a more direct way of ensuring that the environmental impact assessment happens as a matter of course.

Ms Walmsley—The regulatory impact statement to the bill refers to the EPBC Act. It says a CCS project could have an impact on a marine environment but that it is unlikely to trigger the EPBC Act because it is unlikely to be a significant impact. As Jeff said, that might mean that the EPBC Act is not fully triggered there.

Ms LIVERMORE—What kind of environmental impact assessment process do you want to incorporate in this bill?

Ms Walmsley—At the earliest possible stage, when you are identifying sites for CCS projects, we recommend a strong EIA process be put in place. Currently that is left to the regulations in this bill. We want to elevate that to the act itself to have a bit more rigour around that. That is also where we envisage a role for the expert advisory committee to assess the reports they have been given on the EIA for a potential site and do a bit of analysis. Right from the earliest stage through to the functioning and then up to the site closure, we would see a role for the expert committee to ensure that the environmental assessment is accurate. That would extend to the monitoring and verification—if there are any leaks and so forth—so that there is a proper environmental assessment of the impacts of those leaks.

Mr PERRETT—If there were leaks, who do you think would be the party most likely to be affected by them? Would it be the petroleum company?

Ms Walmsley—Affected financially or affected—

Mr PERRETT—Affected legally. In terms of damages and a chance to pursue damages, who do you think would be the one most likely to sue the GHG storage operator?

Ms Walmsley—Again that comes back to the liability issue and whether the bill actually—

Mr PERRETT—That is what I wanted to move on to.

Ms Walmsley—says that the company is liable for X years and then the Commonwealth assumes the liability. There is a lack of clarity around that. It would depend on the damage done.

Mr PERRETT—My line of thinking is that if it is a single entity it is more than likely to be the gas or petroleum company, because the leak moves their oil around or makes it unable to be accessed.

Ms Walmsley—It could be, for example, a fishing company. If there was ocean acidification near a leak and that impacted upon a fishery, then a fishing company might be able to take that

kind of action. If it impacted on a sensitive marine environment, again, there are actions that could be brought there—there are other competing industries, probably mainly fishing.

Mr PERRETT—So that would be a possibility. The CO₂ would turn the salt water acidic in that particular area. Sorry, I am not sure what the science is.

Ms Walmsley—Yes. We do touch on the possibilities of ocean acidification in our submission.

Mr PERRETT—Sorry. I have done a lot of reading on this!

Ms Walmsley—Again, what action could be brought would depend on the damage and who was affected by the damage. If it is all left to common law, then that would depend on who in the area could show a nuisance. It would depend on the facts of each particular project, the leaks, who was affected and so forth.

Mr PERRETT—So it could possibly be a fishery or an onshore entity of some sort. Would it be dispersed much by the time it came onshore?

Ms Walmsley—An individual could bring an action if they suffered damages due to a leak.

Mr PERRETT—If they had their ear against the aquifer!

Ms Walmsley—It could be an employee of a CCS project, so it would really depend on how the damages play out.

CHAIR—Thank you for your submission and for your evidence. If we need anymore information we will certainly write to you.

[2.24 pm]

CAUGHT, Ms Kellie-ane Michelle, Climate Change Policy Manager, WWF-Australia

TONI, Mr Paul, Program Leader, Sustainable Development, WWF-Australia

CHAIR—Welcome. Although the committee does not require you to give evidence under oath, I should advise you that this hearing is a formal proceeding of the parliament and therefore warrants the same respect as proceedings of the House. It is customary to remind witnesses that giving false or misleading evidence is a serious matter and may be regarded as contempt of parliament. The committee has received your submission. Would you like to make any corrections or amendments to it?

Ms Caught—Not at this stage, but I would like to make an opening statement.

CHAIR—Please do, and I am sure there will be some questions for you.

Ms Caught—WWF would like to thank the committee for the opportunity to provide a briefing and answer questions on our submission to the federal government's draft offshore petroleum amendment bill. As noted in our submission, to avoid dangerous climate change, the world must simultaneously reduce per capita energy consumption and become more energy efficient, halt and reverse loss and degradation of forest, and replace traditional fossil fuels with zero and low-emission technology, including carbon capture and storage. CCS, if demonstrated to work, can be applied to new coal and gas fired power stations, retrofitted to existing coal and gas fired power stations and fitted to industrial processes like cement, steel and industrial smelters. On that last point, WWF will soon be releasing research that points out that, if we want to make deep cuts, we will actually have to capture and store emissions from industrial processes.

WWF supports rapid demonstration of CCS to determine if it is going to be part of the climate solution. A range of measures are needed to support demonstration, including a national strategy to facilitate investment in demonstration and commercialisation if CCS is proved successful, and environmentally sound legislation and regulations on storage and monitoring of greenhouse gas emissions. To this last point, WWF welcomes the federal government's draft legislation and acknowledges the difficult task the department responsible for developing the legislation would be having in drafting what is essentially world-first legislation.

The creation of clear legal rights to explore for geological storage formation and to store carbon dioxide, as well as an efficient, transparent and credible regime for its assessment, approval and operation, are necessary for investment in CCS in the long term, and we recognise that. However, equally important is the creation of a clear framework for risk reduction, monitoring verification and point of liability for stored carbon dioxide. WWF believes that the draft bill, as it currently is drafted, puts more emphasis on the former rather than the latter, where equal priorities should be accorded to both sets of issues.

Given that the objective of injecting and permanently storing greenhouse gas emissions is to prevent these pollutants from entering the atmosphere and contributing to dangerous climate change is very different from the objective of facilitating the extract of petroleum, the bill must have a greater focus on environmental and public safeguards than it has at present. It is essential to provide confidence that CCS is safe and ecologically sustainable, which in turn are prerequisites to ensure broad public acceptance and support of the technology.

While the department may argue that many of our concerns will be dealt with in regulation, it is difficult for us in the community to have confidence in this statement without having seen the regulations. We would also like to further note that the Environment Protection and Heritage Ministerial Council and the Ministerial Council on Mineral and Petroleum Resources are jointly developing environmental guidelines for CSS which, as I understand, are yet to be completed or made public and to our knowledge have not been considered in the course of developing the draft bill and possibly the regulations.

While WWF supports the development of storage legislation to facilitate CCS demonstration, we need to balance speed with getting the framework right. WWF recommends that the debate of the bill be delayed until stakeholders and the community have had an opportunity to comment on the regulations and the environmental guidelines being developed by the ministerial councils. We would urge the government to provide the department with the necessary resources to facilitate this so that we can have it done in a speedy process.

In addition, the bill needs to be strengthened to provide greater certainty, clarity and transparency. In particular, WWF recommends the inclusion of objectives; guiding principles; definitions of 'public interest' and 'national interest'; clarity of liability; clearer requirements for monitoring, measuring and verification responsibilities; and the establishment of an independent expert committee to provide publicly available advice to the minister. Our specific recommendations are outlined in our submission.

I would like to seek the committee's leave or permission to put in a supplementary submission to support a number of the recommendations in other submissions that we have subsequently read and that we think are quite valid and important.

CHAIR—That would be fine. We might do that at the end of your evidence. Thank you very much. Who would like to kick off the questions? Mr Perrett.

Mr PERRETT—You were here for ANEDO's evidence, weren't you, Ms Caught?

Ms Caught—For most of it.

Mr PERRETT—So, without going back over some of the things that we explored with them, I would like to ask you about that same balancing act, where we have a world that currently emits carbon and we cannot change overnight. I think WWF have been very pragmatic in recognising that. Your submission recognises that there is no silver bullet, this ain't the silver bullet, and there are a lot of approaches needed. But you also seem to suggest, by saying we should wait for the Ministerial Council on Mineral and Petroleum Resources and the Environment Protection and Heritage Council to come up with these guidelines, that we

basically should be on hold federally until the states come up with the process. Is that what you are suggesting?

Ms Caught—My understanding is that those two ministerial councils that are developing the environmental guidelines will be reporting at the end of August, I think, and the guidelines should be ready to be made public around that time.

Mr PERRETT—Okay.

Ms Caught—So it is not like we are asking for months and months. We are actually suggesting that, before the bill is debated in parliament—which could happen in the first September sitting fortnight, given that it has already been introduced into the parliament—there be a couple of months delay until the regulations and guidelines have been made available, people have had an opportunity to comment and amendments to the bill can be made.

Mr PERRETT—But this year is still the appropriate time line for this legislation to go through the parliament, in WWF's view? Sorry to put you on the spot.

Ms Caught—I think it is feasible, although, as I mentioned, I think you would still need more resources in the department to help them facilitate getting those regulations ready and to consult more broadly with the environmental movement and other key stakeholders. I think it is still really important that that happens. So if more resources are made available and the proper consultations are undertaken then it is feasible for it to be done by the end of the year.

Mr PERRETT—Okay.

Ms LIVERMORE—I am interested in the comments you made about the Victorian model. I was not familiar with that at all. Can you talk us through that a little bit, because you are suggesting or proposing that that form the basis of the Commonwealth legislation. I think that is what you are saying.

Ms Caught—Sure. We have not seen the final legislation from the Victorian government; what they did was put out a discussion paper in which they basically said what their preferred position would be and asked for feedback. Given that some of the things they flagged included objectives, guiding principles, a definition of 'public interest' and clearer guidelines around environmental risks—and also, on the liability issue, they flagged the possibility of that liability being eventually transferred to the state—their preferred model, the model they had in their discussion paper, certainly meets a lot more of our criteria than the current draft national legislation meets.

Ms LIVERMORE—I have not read the detail of your submission to that Victorian process. So far in the evidence that we have heard yesterday and today there is quite a difference emerging between oil and gas producers who want to reinject CO₂ produced as a result of their operations versus the coal and energy generation sector. Can you see the Victorian model being applicable to those interests in the oil and gas industry?

Ms Caught—I actually cannot remember what the Victorian model said on the aspect of enhanced oil recovery. You are essentially talking about petroleum companies being able to

reinject. But I do know through informal conversations that jurisdictions—without naming them, because legislation is before cabinets and ministers in these various jurisdictions—are going to require petroleum companies that wish to inject CO₂ to fall under the same guidelines that other greenhouse gas operators will fall under as well.

Mr SIDEBOTTOM—Your responses to the discussion paper were really interesting and very relevant here. I just noticed that the Victorian model asked:

Allow for the compulsory acquisition of the interests of an existing titleholder to enable a CCS project to proceed;

What do you think the impact on the wider perception of Australia's sovereign risk would be if that were to go ahead?

Ms Caught—I noticed that quite a number of other submissions looked at this issue.

CHAIR—That is certainly true.

Ms Caught—What we are talking about in terms of the need to define public interest—and we have suggested a national interest test as well—is that global warming is a crisis for this planet and that we need to look at all sorts of solutions. It might be in the public interest that storing CO₂ has a higher priority—

CHAIR—Than the petroleum industry. We have had a lot of evidence on that. It is one of the conflicts that we have before us. The Victorian government's submission deals with that issue. I think you are coming at it from a different perspective, as you have just outlined.

Mr Toni—If I could come back to the point on sovereign risk, Australia is consistently in the top 10, usually in the top one or two, countries assessed as having what amounts to no sovereign risk. There have been cases, including in the Timor Gap, where petroleum licences were cancelled with no compensation paid because the High Court found there was no right to compensation. So those oil companies lost everything they had invested. In this case, there is an offer of compensation. Where a government is prepared to pay compensation for good reason and the companies involved are entitled to go to court to argue for how much they should receive, it is very hard to see that that would have any real risk to Australia's reputation.

In a sense, we have come to the nub of where Australia has a tremendous advantage here. The key thing that Australia can bring to this debate is a very rigorous, transparent regulatory system so that the rest of the world—I am not putting this too highly, and I am not going to beat the nationalist drum and make us all maudlin—can be confident that a trial that is done here is properly done and that the results are true. It is incredibly important that the national legislation that is introduced preserves that advantage.

CHAIR—When you talk about a national interest, do you mean the consideration of storage sites et cetera? Are you setting a standard or a benchmark?

Mr Toni—Yes. Really it is saying that the national interest in testing and ultimately using this technology should entitle the government to act to access the best sites and the shortest routes to them, and that might require the acquisition of property rights. There are analogous situations—

apart from general compulsory acquisition, which is of course a common power given to all governments. It is only the Commonwealth that is actually constrained by the Constitution to pay compensation.

CHAIR—We build roads, don't we?

Mr Toni—We do. It is the provisions of the Trade Practices Act that allow access to essential infrastructure, which gives private individuals the right to access other people's property. So this is not an unheard-of situation; it is just that it involves powerful vested interests, but not much more.

CHAIR—Just to make sure I understand exactly, your evidence to us is that, if there is a need to store CO₂ in the public interest, you believe that we should override any petroleum interests that may exist within the Gippsland Basin—because that is where the debate before our committee has been focused in the last day or two. You believe that it would be in the national interest to have legislation which allows that to occur.

Mr Toni—Yes. In fact, that is the clearest example of where there would be such an outcome.

CHAIR—We have had evidence today that it is probably the best site in the world, having generation of energy and really good storage sites within a close proximity, I understand from the work that has been done. Thank you for that.

Mr PERRETT—Flowing on from that, Mr Toni, obviously the legislation that you have considered does not have a special demonstration project section. What would be your thoughts on that? Because it is new technology, there are only going to be a couple of places around the world that will be able to kick it off, I suppose. What would be your thoughts on that? You have all but said it, but would there be an opportunity for a special-demonstration-project-type relaxation, almost.

Ms Caught—We have certainly indicated in our submission that we think that there should be special measures for demonstration plants, but that still takes into account environmental considerations and public safety as well. I notice that someone's submission—I think it was the Victorian government's; I cannot quite remember—suggested that liability should be shared between the government and the operator. We would support that as well. Monitoring and evaluation would be shared. We think that is important in these demonstration projects—not just so that the operator does not have as much up-front cost, although that is part of the consideration when we are trying to get demonstrations off the ground, but also because, we think, a lot of this information needs to be in the public domain in terms of what is learned. So that is why we would be looking at joint partnership with governments, and that would include monitoring and liability, and that information would be shared with the public as well.

Mr PERRETT—So you are really saying that there should be as much transparency as possible.

Ms Caught—Yes.

Ms LIVERMORE—I will just turn to the regime for closure of sites. You propose that there should be a term of 30 years prior to closure for monitoring and verification to take place. I noticed that in ANEDO's submission they were using a figure of 60 years. They were talking about 60 years post-closure, but the objective seems to be the same. Looking at those two different time frames, was there a reason that you selected 30 years?

Ms Caught—If you do not mind, I would like to expand a little on what we are talking about in the submission in relation to the 30 years and also the liability, because I realised when I spoke to a few people after we put in the submission that I probably had not made our proposed process clear. If I can speak to that I can talk about the 30 years as well.

The process we would be looking at is that, once injection has finished, all projects would be mandated to keep monitoring for an additional 30 years minimum. At the end of that 30-year period they could then apply for a site closure certificate. If that were successful they would get the certificate and, at the same time, liability would be transferred to the government. That is what we would suggest. Within that, if a project is in a really secure site, for example, and they have managed it well, we would suggest that perhaps every five years it is reviewed in terms of their monitoring and a decision could be made that, say, they did not need to report for another five years. They would still have to do the monitoring for 30 years but there could be variability, by project, on how much reporting was required.

I think that would provide an incentive for operators to manage a site quite well, and I know the department said the reason they wanted to make their monitoring period site specific, instead of mandatory, was so that there were incentives. So we are happy for incentives to happen within the minimum period. But given that this is such a new area and there are still so many uncertainties—and even though there have been a couple of projects proven, sites do vary—we think there should be a minimum period. Then you can have confidence after that period that liability can be transferred.

On the issue of liability, we still think that common-law liability remains, so that if in 50 or 60 years time there is proven negligence on the part of the operator, the Commonwealth or someone else can still sue for negligence. That is what we are proposing.

In terms of the 30-year time period, we have read a lot of the literature and people have been talking about a monitoring period but nobody has really been suggesting a time frame. The 30 years was something we came up with after we had consulted people in the industry and looked at the international literature. In terms of what could be reasonable, some people are talking about five years. We do not think five years is reasonable, given that the substance will be stored for hundreds of thousands of years—but asking a company to monitor for that period of time would obviously be too long. So we thought 30 years as a minimum that could be extended was reasonable.

CHAIR—Thank you for that. The liability issue is one that we have on the table. You said the 30 years could vary. As you said, these sites are all different and some may be more sound while others may have some risks. Is that your basic submission, that a variation can take place? You also recommend an expert panel to look at some of these as well.

Ms Caught—Yes, we support the Environmental Defender’s Office submission for an expert panel. We also note that the Victorian government is suggesting an expert panel be involved. On your other point, yes, there could be variation of the reporting requirements within that minimum period of time.

Mr PERRETT—But with the five-year lock-step time frame, basically.

Ms Caught—Yes.

Mr PERRETT—But they might be doing a seismic survey once every five years or once every year, depending on the nature of the geology.

Ms Caught—That is correct, and the committee would review and determine that.

Mr PERRETT—So the incentive is there for the greenhouse gas storage operator to find the one that will have the smallest ongoing costs after they finish injecting.

Ms Caught—Certainly.

CHAIR—Thank you very much for your submission and your time today. These are big issues that we are trying to grapple with. The Commonwealth has a bill out there to start to get some of this moving. We hope that we can play a part in the bigger picture that we are trying to deal with.

Is it the wish of the committee that the submission and any previously unpublished attachments tabled by the WWF today are accepted as evidence to the inquiry and authorised for publication? Ms Caught, we do have your submission?

Ms Caught—Actually, I have not written it yet. We are seeking permission to do it within the next week.

CHAIR—Then we will hold off on that resolution until we receive the submission. We do have a tight time frame, so if you could burn the midnight oil we would appreciate it. If we need any more information we will write to you, but send us the extra information you wish us to have. A copy of the *Hansard* will be made available to you for any editorial corrections.

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

That this committee authorises publication, including publication on the parliamentary database, of the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 2.51 pm