

**PETROLEUM AND GEOTHERMAL ENERGY LEGISLATION AMENDMENT BILL 2013**

*Second Reading*

Resumed from 12 June.

*Declaration as Urgent*

**MR W.R. MARMION (Nedlands — Minister for Mines and Petroleum)** [8.33 pm]: In accordance with standing order 168(2), I move —

That the bill be considered an urgent bill.

**MR W.J. JOHNSTON (Cannington)** [8.34 pm]: The Petroleum and Geothermal Energy Legislation Amendment Bill 2013 is the eleventh bill introduced into Parliament and I understand that this bill is also being declared urgent. I acknowledge that the Minister for Mines and Petroleum and I had a conversation about this bill. I also spoke to the Leader of the House 10 days ago when the bill was introduced and said that if the government were to declare it urgent, it should not do it the next week—which was last week—because it is highly complex legislation and there was no way that we would have been able to deal with the bill if it had been brought on. Thanks to my good friend the minister and to the Leader of the House, the bill was not brought on for debate last week. As it happened, Parliament had work for every day of last week. We sat late on Wednesday night, which was interesting because on Tuesday of the previous week we went home at 8.30 pm. Having said that, that does not mean it is good practice to declare this bill urgent. If the bill had not been declared urgent, I would not have had to plead behind the Chair to the two ministers to have at least a week to come to terms with what is—I think the minister would have to agree—very complex legislation. Obviously the question of geosequestration is well understood in industry, and over the past 10 years I have had lots of conversations with people in various industries and industry organisations about the issues of geosequestration. However, the simple facts are that I have had no opportunity to consult industry participants on this legislation. I am lucky that I had a detailed briefing prepared for me by an undergraduate student. That has provided me with quite a good deal of understanding. I have also had the opportunity for a briefing from the minister's department, which was just for me, and a second briefing today for the party when the member for Gosnells was able to join us. We have had a better opportunity to get to terms with the bill than has been allowed with those other 10 bills that have been declared urgent. However, at the end of the day, the standing orders provide for a three-week gap between the bill being tabled and debated to allow for that broader debate.

I also make the observation that no geosequestration projects are about to commence. It will be quite some time, perhaps years, before the provisions of this bill will impact on anybody in industry. Again, there is no urgency. When we get to the bill, we will explain the Labor Party's position on it. It will not delay the house extraordinarily at any stage of the debate. We will go into consideration in detail because there are a lot of questions to be asked. We would expect that on a bill of this nature. But there is no reason to declare this bill urgent.

**MR M. McGOWAN (Rockingham — Leader of the Opposition)** [8.38 pm]: I join the member for Cannington in expressing our disquiet on the record once again on another piece of legislation being declared urgent. Thus far, nine pieces of legislation in the past few weeks of this term of sitting have been declared urgent—the City of Fremantle and Town of East Fremantle Trust Funds (Amendment and Expiry) Bill 2013, the Insurance Commission of Western Australia Amendment Bill 2013, the Rates and Charges (Rebates and Deferrals) Amendment Bill 2013, the Duties Legislation Amendment Bill 2013, the Hospitals and Health Services Amendment Bill 2013, the Queen Elizabeth II Medical Centre Amendment Bill 2013, the State Agreements Legislation Repeal Bill 2013, the Supply Bill 2013 and the Natural Gas (Canning Basin Joint Venture) Agreement Bill. That is nine already and tonight's Petroleum and Geothermal Energy Legislation Amendment Bill 2013 makes it 10. Ten pieces of legislation have been declared urgent, and the appropriate time to consider each of those pieces of legislation has not been set aside for Parliament. It must be some sort of record when every single piece of legislation the government introduces is declared urgent because of the mismanagement of the timetable of the house.

**Mr C.J. Barnett:** It is not mismanagement.

**Mr M. McGOWAN:** It is mismanagement of the timetable of the house. Otherwise —

**Mr C.J. Barnett:** You need to work hard like the member for Cannington.

**Mr M. McGOWAN:** There is nothing wrong with my work ethic, Premier.

**Mr C.J. Barnett:** The member for Cannington is a standout. I can't believe I'm saying that.

**Mr M. McGOWAN:** He is a standout?

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**Mr C.J. Barnett:** He's worked harder than any other member on your side of the house.

**Mr W.J. Johnston:** Doing you over on Muja, mate; that's what I've been doing.

**Mr C.J. Barnett:** You have! You've worked hard; you've kicked a couple of goals. Won't win the game, but you've kicked a couple!

**Mr W.J. Johnston:** Anyway, it's still not an urgent bill, Premier. There is nothing urgent about this bill.

**Mr M. McGOWAN:** The point I was making is that it must be some sort of record to have 10 pieces of legislation at the start of a parliamentary term declared urgent—in fact, every single piece of legislation. We saw the consequences of the mismanagement of the house borne out last Thursday evening in the events that transpired, which were sad but relatively amusing in the way they took place. The government, in effect, lost a division on a piece of legislation last Thursday evening despite having 28 votes on the floor of the house. I think that was perhaps a great example of where mismanagement of the house leads; it was an example par excellence of mismanagement of the house to get to that point. All I will say to the Leader of the House is that it does not always have to be thus; he does not have to manage the business of the house like that. But the thing I get about the Leader of the House is, likeable as he is, that he does not actually much like the house and he does not actually much like the role that he has. My advice to the Leader of the House in that role is to come down to the front so that we can talk to him and we can engage. Having the overview from the navigator's seat is not the place to be; the Leader of the House needs to be in the pilot's seat. The Leader of the House needs to come down the front and take a bigger, better and stronger role in the house. I do not think that the Leader of the House likes the management of the house, because it is intense and there are lots of things going on all the time. In that role, a person has to be involved at all points in time and has to be engaged. What we saw on Thursday was a lack of engagement and a lack of control with spectacularly devastating results for the government on that piece of legislation. It was spectacular! For people who watch this place, it was spectacular.

**Mr J.H.D. Day** interjected.

**Mr M. McGOWAN:** It was not a little hiccup; otherwise, would the Premier have yelled at me, "We'll be back on Friday"—that is, the next day? "We'll be back tomorrow", the Premier said to me. On Friday, I was in lots of places, but I was not in this place. Then the Premier said, "We'll be back the week after next." As far as I am aware, we will not be back next week.

In any event, the Leader of the House needs to take a greater role in the management of the house. He needs to step up and show some interest in it and he needs to run things. More importantly, certainly in terms of the urgency of these bills, the Leader of the House needs to structure the sittings of the house and the introduction of legislation so that we do not all the time get ourselves into this predicament in which legislation that is not actually urgent is made urgent. If the Leader of the House does that, he will have a more cooperative environment with the opposition and he might avoid the situation that he caused last Thursday evening.

**MR D.A. TEMPLEMAN (Mandurah)** [8.42 pm]: I highlight to the house, particularly new members of the government, just what situation we are in. We have just passed the City of Fremantle and Town of East Fremantle Trust Funds (Amendment and Expiry) Bill 2013 and we are now onto the Petroleum and Geothermal Energy Legislation Amendment Bill 2013, which the government is attempting to move as an urgent bill. Only one other bill has been listed as government business on the notice paper—that is, the Criminal Investigation (Identifying People) Amendment Bill 2013. Let us just think about this. When do members think the opposition was briefed on that bill, which, if this bill falls over or is passed tomorrow, the government will be back in this place declaring urgent as well? That is flagrant, appalling management of this house because the government will actually rely on the opposition to keep the debate going, just so that we will have something to do on Thursday.

I guarantee that the Petroleum and Geothermal Energy Legislation Amendment Bill will be brilliantly handled by our shadow Minister for Mines and Petroleum, the member for Cannington, who has already been endorsed by the Premier as the hardest-working member in this place, which is great; I agree with him. But we are now in the situation that this Parliament, having not even concluded its first day of the final sitting week before the recess, faces the prospect, after the petroleum and geothermal energy bill is debated, of another bill being declared urgent. The next bill to be declared urgent—I do not think that many members on the other side have read or understand it—is a significant bill that deserves careful consideration and careful forensic scrutiny. But when was the opposition officially briefed on the Criminal Investigation (Identifying People) Amendment Bill? Today—this afternoon! That is when this opposition was offered to be briefed on it. It is very significant that another bill is quite likely to be declared an urgent bill. The Minister for Police was probably told that the government will rush it in, that it might be needed, because it is going to run out of bills to debate before the end of the week. The Leader of the House is not in his seat, but he might indicate by way of furious nodding of his

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head that if the petroleum and geothermal energy bill concludes, the government will seek to declare the criminal investigation bill an urgent bill.

**Mr J.H.D. Day:** A bill that was introduced and I think passed through this house last year.

**Mr D.A. TEMPLEMAN:** Yes, but the government has introduced it to a different Parliament, so it has introduced a new bill. Will the Leader of the House seek to declare the bill urgent?

**Mr J.H.D. Day:** I think the member for Cannington has a strong interest in this particular bill we're debating at the moment, so let's get past that point first.

**Mr D.A. TEMPLEMAN:** The Minister for Local Government foreshadowed today that tomorrow he will move the second reading of the Dog Amendment Bill 2013. I assume that that also will not be declared an urgent bill. I expect that that is not going to be the case.

In my remaining time—less than a minute—new members, particularly on the government side, need to understand how poorly this house has been managed. This is the ninth bill —

**Mr M. McGowan:** Tenth!

**Mr D.A. TEMPLEMAN:** This is the tenth bill to be declared urgent and we face an eleventh bill, the criminal investigation amendment bill, being declared urgent either tomorrow or on Thursday. This is not how to run a Parliament and this is not how to demonstrate to the people of Western Australia that the government has a handle on a legislative program.

**Mr J.H.D. Day:** We've actually been pretty efficient in getting through legislation, haven't we?

**Mr D.A. TEMPLEMAN:** Yes, but by declaring everything urgent. It is a debacle! It is appalling, and the new members in particular should be ashamed.

**MR P. PAPALIA (Warnbro)** [8.47 pm]: I was not going to speak, but noting the contribution from the Leader of the House, I felt obliged to respond. It is not efficient to make every bill urgent and to constrain consideration of those bills by the opposition on behalf of the Western Australian public. That is not efficient; that circumvents the parliamentary process. That is undermining democracy; that is not efficiency. It would be efficient in the government's view to have a dictatorship, because that is efficient! It would be efficient to not have a Parliament at all; to ignore it completely and enter this place every now and then to declare the laws that have been passed according to the "Emperor's" edict. That would be far more efficient than going about this process —

**Mr C.J. Barnett:** Who's the "Emperor"?

**Mr P. PAPALIA:** An emperor's edict. That would be more efficient than going through this process.

I take up the theme that was addressed by the member for Mandurah in speaking to the members of the backbench and the new government members in this place: this is not normal practice. Just in case the new members are listening to the Leader of the House and are tempted to believe that this is efficiency in action and it is the appropriate way that Parliament should be conducted, it is not normal; go ask the member for Hillarys. As much as I criticised the member for Hillarys when he was the Leader of the House and the Minister for Police, and as much as I found a lot of what he did to be not what I would have wished, particularly in his role as Minister for Police, I tell you what: he ran the house far more efficiently. Compared with what has gone on in the last few weeks, he ran an efficient Parliament. There is no way that one could sit on the government benches and criticise the former Leader of the House for the manner in which he ran Parliament.

**Mr J.H.D. Day:** Obviously I am constrained by when legislation is available to be introduced to Parliament. The opposition, understandably, has been critical of the government for Parliament returning a bit early and for our parliamentary sitting schedule having been somewhat ahead of our legislative schedule. But I think members would have to agree it is very unusual for an opposition to be criticising a government for causing Parliament to sit. Usually oppositions want Parliament to be there so that they have the forum to question the government —

**Mr P. PAPALIA:** That is true. But normally —

**Mr J.H.D. Day:** — and keep the government accountable.

**Mr P. PAPALIA:** But normally —

**Mr J.H.D. Day:** We have been here and been prepared to front up.

**Mr P. PAPALIA:** I do not want to interrupt the minister! Normally, oppositions would be given the opportunity to contribute to the debate. Not every clause is gagged in a rapid circumvention of the process that results in not only a gag, but also a guillotine of the entire process and the rushing through of legislation that should not have

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been introduced in the first place and that certainly should not have been introduced in a fashion whereby it is declared urgent. That is not the normal process. We are not criticising the fact that the government caused us to come to Parliament to sit. Rather, we are criticising the government for the duplicitous nature of the announcements it made prior to the election. The Western Australian public was told about the Liberal Party's priorities. It was told that it was ending the last Parliament early and proroguing Parliament early for a reason, while acknowledging that there were urgent matters like prostitution.

**Mr C.J. Barnett:** That's not urgent.

**Mr P. PAPALIA:** The Liberal Party declared such issues urgent at the time. It said that those issues would be brought back, that it had an agenda, and that if re-elected, it would return with an agenda and bring those bits of legislation straight back to Parliament. We have not seen that. There is no indication of them either. Half the Liberal Party's campaign was run on a law and order agenda, but nothing from that agenda has been introduced. No such business has been put on the notice paper, nor has it been suggested to the Western Australian public that legislation is anywhere near being ready to introduce to Parliament or whether it is ever going to be introduced. We are pointing out the deceitful nature of the Liberal Party's behaviour prior to the election and the disorganised nature of its conduct of this Parliament since the election in a desperate attempt to cover up the fact that the emperor has no clothes and certainly has no legislation.

*Withdrawal of Remark*

**Mr C.J. BARNETT:** I assume the member is referring to me as Premier. I ask you, Madam Acting Speaker, to rule on whether the term "emperor" is appropriate in this Parliament.

**The ACTING SPEAKER (Ms L.L. Baker):** Premier, I do not agree that you can assume that.

*Debate Resumed*

**Mr P. PAPALIA:** The phrase "the emperor has no clothes" is a fairly commonly used expression. As much as the sensitivity of the Premier indicates that it is perhaps appropriate, it does not identify the Premier as the subject of that observation. The point is that there is no legislative agenda, which is shameful. The management of this Parliament has been shameful from day one. It has become clear that the government came into this place without any plan or program and no intent of keeping its promises to the electorate.

**MR W.R. MARMION (Nedlands — Minister for Mines and Petroleum) [8.54 pm]** — in reply: I think I have 55 seconds in which to speak.

*Point of Order*

**Mr M. McGOWAN:** As I understand it, four speakers are allowed on an urgency —

**The ACTING SPEAKER:** Member, we have only one minute left on the clock.

**Mr M. McGOWAN:** Yes. The point I am making is that four members in total are able to speak on a matter that is being declared urgent. I might be incorrect, but that is my understanding of the standing order.

**The ACTING SPEAKER:** To clarify the matter, 20 minutes are allowed on the debate, with a maximum of five minutes per speaker. There can be as many speakers mathematically, but within that time constraint.

*Debate Resumed*

**Mr W.R. MARMION:** In the few seconds I have left, there is some urgency about this bill. At the moment we are conducting a trial in the South West Hub of the south west. We are doing some testing of geosequestration. Currently there is no legislation relating to that. By putting this legislation in place, we can provide some certainty around the framework for industry and any scientists working in this area. At the moment the legislation is void in this space. There is some urgency. When there was geosequestration on Barrow Island, we had to put a special bill through Parliament. By putting this legislation in place, there will be certainty for industry as we move forward.

Question put and passed.

*Second Reading Resumed*

**MR W.J. JOHNSTON (Cannington) [8.57 pm]:** I will now speak on the Petroleum and Geothermal Energy Legislation Amendment Bill 2013. I only have a cool 60 minutes to go. I believe the Leader of the House may adjourn the place when I sit down, so everyone will be saying, "Go short; go short!"

I will firstly outline the Labor Party's position on this legislation. We will not oppose the legislation; rather, we will support it at each stage. We have a range of questions to ask. We might even suggest that the government look at changing some of the specific wording in the bill. We foreshadow for those in this space that this

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legislation will need to be modified as time goes on because as this activity of geosequestration becomes more common, we will learn more about the effects it has on the environment and about potential approaches to the industry sector. Therefore, in the future there will need to be legislative change to the regime that will be established by this bill. I flag that for everyone dealing with this industry, because we do not want there to be any confusion in the future that because this legislation passed, that is the final word on the matter. We do not think that is right at all. The Minister for Mines and Petroleum will speak later, but I imagine he will say that the government shares our view that we will learn over time.

I have some detailed questions that I will keep for the consideration in detail stage because they relate to quite technical issues about particular words in the bill. I will raise one thing straight up as I did the other day with the minister's advisers. I refer to proposed section 6AB(1), which reads —

For the purposes of this Act, an eligible GHG storage formation is a part of a geological formation that is suitable for the permanent storage of a particular amount of a particular greenhouse gas substance injected at a particular point or points into that part over a particular period.

The word “particular” is mentioned four times in the one sentence. I understand from the minister's advisers that the wording is taken from commonwealth legislation, which just means that the commonwealth legislation is difficult to understand!

**Mr W.R. Marmion:** It is a lot easier to read than some of the other bills!

**Mr W.J. JOHNSTON:** I am new to this game. I understand the intention of drafters of legislation is to try to use words that a layperson can understand. The wording of proposed section 6AB(1) is on the limit of the capacity of a layperson to understand. I will provide an example of the problem we will all have. It is my understanding that only for the purpose of this act, a GHG storage formation, which is what we are talking about and which is defined elsewhere, is part of a geological formation, with geological formation given its common meaning, that is suitable for permanent storage—what does that mean?—of a particular amount of a particular greenhouse gas substance injected at a particular point. The substance is injected into a formation; and it specifies a quantity of substance and the term over which it is done. I wonder whether there is a better way of laying out that clause so it is clearer. I raised it with the minister's advisers today. I do not know whether they reported back to the minister.

**Mr W.R. Marmion** interjected.

**Mr W.J. JOHNSTON:** It is one of those things. It is not as though the minister's guys actually did the drafting, and I understand that. I raise this because it has been pointed out to me that this clause is referred to everywhere else in the bill. Obviously this is the guts of the bill: we are potentially storing greenhouse gases in rock formations. This clause actually specifies what we are talking about, and that is why it is then referred to in all those other places in the bill. Maybe we could have a look at a better definition. I am advised that it is about the eligibility requirements.

I refer to the definition in clause 6(2), which reads —

*geological formation* includes —

- (a) any seal or reservoir of a geological formation;
- and
- (b) any associated geological attributes or features of a geological formation;

I must admit to not being a geologist—I will get that on the table straight away! Given that “geological formation” are the words used in proposed section 6AB(1), it is probably worth getting on the record what is meant by “seal or reservoir”. I will not go extensively into individual words in the bill at this stage, but a question has been raised with me about a geological formation that is part of a larger geological formation and it would be worth getting a bit of commentary from the minister on that. I do not know whether the minister will respond tonight—I do not think so. If the minister responds tomorrow, he might get some information so we can get on the record what is meant by those particular things. It is important to clarify that in the second reading debate, because at some future time people may be trying to work out what we were talking about. I will talk about quite a number of individual provisions when we get to the consideration in detail stage.

I take up one comment by the minister. I do not like to be disagreeable, but the minister commented that the bill is urgent because of all the work that is going on in the south west. However, that shows this bill is not urgent. If this legislation was required for that work to be on foot, the work would not be happening—QED! It was a noble effort by the minister to try to defend the strange behaviour of the government in declaring every single bill coming before the house urgent. But if this bill were urgent, nothing would be proceeding in the south west. The

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minister may argue that things have got to the stage at which they are ready to be taken to the next step and the next level, and something may be injected there, rather than just drilling holes to see what is down there, which is what has been happening up until now. That is being very flippant to the geologists who are doing a wonderful job in the south west. That involves a lot of technical work that I have no chance of understanding. The point is that this bill is not required for that work, and we know that because the work is going on. Even if the government wanted to introduce the opportunity for companies to bid for acreage, which is one of the principal issues we are dealing with, that is not of itself urgent, because that could happen in July, September or in three years' time. It will not change things; it is not a question of urgency. The fact that nobody is bidding or coming into anybody's office asking to bid on this tomorrow shows that the Parliament has an opportunity to try to get things right. We have already acknowledged across chamber that it is probable that even when the legislation is passed, it will be amended at some time in the future—it could be the distant future or sooner.

I appreciated the opportunity to talk to the minister's advisers and I am pleased to have received a document headed "Greenhouse gas site closure and long-term liability". Given that I cannot table these types of documents, it is probably worth the minister's while to table it for the benefit of *Hansard* when he responds. I point out that there are nine steps and potentially 76 years as an indicative time frame for each of those steps, so we are talking about very, very complex issues.

What forms the guts of geosequestration? It is capturing carbon dioxide as part of the industrial process and injecting it into a rock formation and, hopefully, stabilising it in the rock formation, which means it is not then being vented into the atmosphere. In that way we can potentially set aside some of the greenhouse gas effects we are having with the warming climate. The south west of Western Australia is one of the parts of the world most severely affected by the greenhouse effect. There has been a significant decline in rainfall. Two desalination plants have been built in response to that. The farming sector is suffering from declining rainfall and less reliability of rainfall. Therefore, abating greenhouse gas emissions is very, very significant for Western Australians. The costs involved in greenhouse gas abatement processes is sometimes pointed out to Western Australians, but rarely in the last few years has there been much discussion about the costs of not abating greenhouse gases. The farming sector should, of course, be on the front line of the campaign to support greenhouse gas action, because it carries the biggest burden, in my view anyway, of the problems in the south west of the state due to the effects of climate change brought on by greenhouse gas emissions. There are many ways of abating greenhouse gases. One of the good things about a position, such as the Premier's, of supporting a cap-and-trade system is that the most cost-effective abatement process is achieved. If the total amount of emissions is capped, the highest value business will create the greenhouse gas emissions because it has the highest value. Therefore, if two industries work alongside each other and one has a higher level of profit than the other, the one with the highest level of profit will survive in a carbon-constrained environment because it is prepared to pay a higher value for the right to emit carbon. Greenhouse gas sequestration allows a larger number of industries to emit carbon, but some of it is stored in the earth. The biggest problem for this process is the cost; I think \$70 was the estimate that was given to us this afternoon. We do not know whether the technology will work, but if the technology does work, abating carbon through geosequestration will, according to the advice we got today from the minister's department, cost about \$70 a tonne. Given that the current carbon tax is \$26 a tonne, one can see that a company will actually be better off paying the tax than sequestering carbon. If we had a cap-and-trade system and a free market for the carbon credits, the chances are that the carbon cost will equal roughly the European cost, which is about €5 or \$8. Again, the company is going to be much, much better off paying the \$8 than potentially paying the \$70 cost of going with the greenhouse gas sequestration project. This means that there will not be a rush to do sequestration projects, simply because nobody is going to invest in it if the cost of sequestration is too high compared with the cost of carbon.

The Barrow Island legislation is stand-alone legislation specifically for the Gorgon project; that is a project-specific issue, and whether the sequestration part of that project ever goes ahead does not relate to what we are doing here, because that is a specific agreement entered into by the lead proponent at the time, Chevron, and the state government. The benefit to Chevron was the use of Barrow Island, which it said at the time was important to it. That is actually a different issue, and Chevron's costs were not only related to the costs of sequestration, but also about access to the island. It argued that it would be able to generate savings by using that site for its LNG project rather than coming onshore.

I want to talk about something that we raised yesterday with the minister's advisers—I keep saying yesterday because it feels like such a long time ago! It was actually only one o'clock this afternoon! I refer to the question of a two dollar company and the future liability. This is a nice complex one, but it is not about the technology; it is about economics. I am sure the minister is very familiar with the mining sector, being Minister for Mines and Petroleum, and he would know that there is a whole series of companies—600-odd mining companies—but only 200 of those have income and the other 400 are operating on capital. They float themselves on the market

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because they have some target out there in the east or north of Western Australia. They say, “This is what we’re going to do; we need the money.” They go out and drill some holes, dig a bit of dirt, and say, “Look, we found this reef” and then they go back to the market and say, “Now that we’ve got it to this stage of the proposal, we need some more money.” They get more money, they go out, they drill it up, they prove a reserve, and they sell it off to somebody big who has the capital, and the big company then does the project. The example I always think of is the Ravensthorpe nickel project. When I was state secretary of the Labor Party, a company called Comet Resources Ltd used to come and talk to me all the time about that. Comet proved it up and sold it to BHP Billiton; BHP Billiton spent \$2.5 billion and then sold it for \$500 million to the current company—who has it now? I cannot remember; the Canadians picked it up. Is it Galaxy Resources Limited?

**The DEPUTY SPEAKER:** First Quantum Minerals Ltd.

**Mr W.J. JOHNSTON:** First Quantum; that is right. I should have remembered. I always get Galaxy and First Quantum mixed up. First Quantum bought it. That is a typical mine project. Look at what we did the other day with Buru Energy Ltd under the Natural Gas (Canning Basin Joint Venture) Agreement Bill 2013. Buru Energy goes out, drills some holes and gets everybody excited, and then Mitsubishi comes into the project and fires 50 per cent for whatever it paid; last time I saw, it had about \$130 million left in its bank. At some point it is going to go out and get some more people to put some more money in and eventually it will prove up a project. It will probably sell out to somebody else that has enough money to actually do the project properly.

**Mr W.R. Marmion:** This is a bit different because geosequestration is a huge risk.

**Mr W.J. JOHNSTON:** That is right; this is a bit different, and that is the point I am getting to. I am happy for the minister to respond on this one. What will happen is that we will have small players going out to bid for the acreage. I know they are restricted because they have to have a source of carbon; we do not want them just warehousing the land. I understand that, but the way that they will get the source of carbon is to do a side deal with somebody that produces carbon—for example, the consortium that is currently looking around the south west. Alcoa is involved, as is Perdaman Industries. I mention Perdaman because it is really just a shelf company. There is nothing wrong with shelf companies; in fact, Burrup Fertilisers was a shelf company. There are actually no assets in that company, and why would there be? It is only a proposal. If a two dollar company comes to the minister and says, “We want this acreage and our carbon source is this other two dollar company that has a major industrial project; if only a bank would give them \$1 billion, they would produce a hundred thousand tonnes of carbon a year”, we would then have two shelf companies with \$4 of assets between the two of them. Is the minister going to say no to them getting acreage?

**Mr W.R. Marmion:** They’ll need a lot more money than that to drill a hole.

**Mr W.J. JOHNSTON:** Sure they will, but the point I am getting to is: will they get the acreage? They have the carbon source and they have all the technology because they have John Smith who used to run something else and knows what he is doing, and they can get a PR consultant in to give a nice presentation. I cannot think of any PR consultants with an engineering bent that I used to deal with as state secretary; I am sure the minister could think of a company that I dealt with once or twice. So they come to the minister with the full package for their bid, but they are still only two dollar companies.

**Mr W.R. Marmion:** If they’re bidding and a big company like Woodside is bidding, you know who’s going to get it.

**Mr W.J. JOHNSTON:** But the thing is, minister, why would Woodside bid? Why would it take the risk on bleeding-edge technology like geosequestration when its investment choices are the Leviathan field at offshore Israel, the Pluto field or —

**Mr W.R. Marmion:** Let’s use Alcoa then.

**Mr W.J. JOHNSTON:** Okay; let us use Alcoa as an example. Alcoa is paying Buru Energy for the exploration being done in the Canning Basin—looking for gas—by pre-purchasing the gas, but Alcoa is not a shareholder in Buru. That is the point I am getting to. What is likely to happen—because it will behave in the same way it does in other sectors—is that the big company is not going to take the technical risk of the geosequestration project because that is bleeding edge; one does not know what is going to happen. If former Minister for Energy Peter Collier had listened to this speech before he made the decision to invest in Muja AB, he would not have put the money in. Big companies protect themselves from technology risk by having someone else do the project; they are a client of the project, not the project proponent.

So what will the minister do? I do not know what answer he will give me.

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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**Mr W.R. Marmion:** I'll tell you later, but just to give you a titbit of a response, there will be a whole lot of conditions you've got to meet before you even start injecting, and there will be a considerable amount of capital cost before you even get there.

**Mr W.J. JOHNSTON:** That is right.

**Mr W.R. Marmion:** If you can't perform, you won't get —

**Mr W.J. JOHNSTON:** This is not about the end. I understand; I cannot say that I have read every word of the bill, but I sort of understand the process we are setting out here. I understand that before they get to sticking stuff in the ground, the minister will want them to have done all sorts of things, but this is about the exploration permits—about going out to find the appropriate geological formations. No big company is going to invest in that bleeding-edge technology, because that is not what they do. They have to answer to the quarterly report and this will cost them a lot. They might fund somebody to do a bit of this work, but it will not be them doing it. What are the procedures that the minister will have? There are consequences. If we look at what happens in the mining sector, we see that everything is getting traded up; but here, we are giving a right at the exploration level that ends with the right to inject. Yes, we have all these hurdles on the way through, but it is still the two dollar company that has the right to do the injection. The minister might say that the company will not get permission to do the injection, but that is a different issue. It might not get approval to do it, but it will still get the right to do it, and that is a big question that I have. I think the minister will be glad if the Leader of the House adjourns the debate so that he can go away and have a think about the issue I have raised and make some comments about it tomorrow.

**Mr W.R. Marmion:** The other comment is that they have to prove financial capacity. I could refuse them on advice by the department that they do not have the financial capacity. In fact, I have been advised that the only players that have been in the marketplace in this space are Shell, BP, Total, Statoil and Apache.

**Mr W.J. JOHNSTON:** I make the point that none of those companies has any proposal in Western Australia.

**Mr W.R. Marmion:** True.

**Mr W.J. JOHNSTON:** The only one that has a proposal in Western Australia is Chevron for Gorgon.

**Mr W.R. Marmion:** It's new.

**Mr W.J. JOHNSTON:** That is right; it is new.

**Mr W.R. Marmion:** It's interesting that those companies around the world that are in this space are those that I just mentioned.

**Mr W.J. JOHNSTON:** But they are not doing projects; they are doing investigations of this technology. Why is Bell Labs the world's largest source of Nobel prizes? It is because Bell Labs lets its employees go to the extreme edge of technology to see what happens. Chevron has a technology centre in Perth that is doing very much leading-edge work. But that is different from having a proposal to inject something on a large scale. They are funding these projects because it is in their interests. They are all carbon-producing companies. But the idea that they are doing the projects is just not true; it simply is not the case. They are doing the research. It is like the project that the department is working on. The department is doing the research with its partners, but if there were a project, it would never do the project itself, would it?

**Mr W.R. Marmion:** Chevron is doing the project on Barrow Island.

**Mr W.J. JOHNSTON:** Yes, that is right, because of the particular economic circumstances of that project.

**Mr W.R. Marmion:** But it is still doing it.

**Mr W.J. JOHNSTON:** Yes, but that is because it has a particular regulatory and financial problem and it is overcoming that.

I want to know from the minister when he will apply the financial straitjacket. Is he saying that he will reject a two dollar company seeking an exploration lease, because that potentially gives it the right to ask to inject. Obviously, the minister can say no. The legislation will work in a very different way from the way it does in the mining sector, where these small players with no income go out looking for stuff. I do not mind if the minister says that he is going to take a different approach; that is cool by me. In fact, I think a better way would be to have the assessment of the financial capacity of the firm at the front, because then there is less trouble at the back. But the minister might tell me that that is not what he is going to do. I do not mind the answer; I am just saying that I would like to know the answer. The minister can tell us tomorrow, if that is what the Leader of the House lets him do, rather than the minister trying to come up with an answer on the run, because it is a critical issue. I will not detain the house much longer; the minister will be very happy about that.

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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If this technology works, that will be really fabulous, because it will put us into a new environment with greenhouse gas effects. Of course, nobody knows whether it will work. We do not know whether it will work on a technological scale. We might find problems with the technology later on. There might be problems with finding a site that works in Western Australia. There might be impacts that we have not foreseen. All those things could happen before we get a project. We could get a project and then find that something goes wrong. One of the questions I will ask during the consideration in detail stage is what will happen if they miss their target when they are injecting. People miss targets all the time. We will need an explanation of that.

I want to get on to the issue of the technology itself. It offers great opportunities, but there are also great costs. We have talked about the \$70 that we were advised is the expected cost of transport and injection. The other question we have is about carbon capture and the costs of that. There are two ways that people talk about capturing carbon. The first is what they call pre-combustion carbon capture and the other is post-combustion. With pre-combustion—this is what Perdaman Industries hopes to do—effectively coal is heated and separated into its chemical components and, at that stage, carbon is stripped out and then the hydrogen that is left over is burnt. Obviously, hydrogen burns without carbon. The hydrogen can then be used; it is either burnt or processed. That is called pre-combustion. The other way is to take the carbon out of the exhaust stream. Both of those have costs. When the now Minister for Energy, the member for South Perth, the member for Collie–Preston, the now Minister for Police and I were on the committee that did the gas inquiry, we asked Shell—this is in the transcript, so I am not breaching any confidence—about the chances of its technology being applied in Western Australia, because Perdaman has licensed Shell’s technology. The representatives from Shell would not answer that question, but they said that they did not have any project of their own in Australia; in fact, they said that they tried to do a project in Victoria but it did not work. It is very complex.

**Mr W.R. Marmion:** You’re talking about carbon capture.

**Mr W.J. JOHNSTON:** We have to get it from somewhere. The minister can see that these things are very complex. Even before we get to the complexity of this bill, there are all these economic complexities about making it work for a proponent to do the proposal. That is why I am very confident that even if we had not had this debate until 5 December, which is the last sitting day of the year, we would not have held up any projects. In terms of the urgency of the bill, I do not think we would have done that. The other thing is that in terms of the community’s expectation, people should not think that there will be significant change very soon.

I want to finish with a quick discussion about the liability. I think the minister will issue a closure certificate; is that the right term? Fifteen years after the closure certificate has been issued, the liability will transfer to the state. As the department has pointed out, that could be up to 75 years after the start of injection, so it is a very long process. Of course, the liability for any future leakage will move to the state. We do not know whether it will work. The people who talk to me think they know what will happen.

**Mr W.R. Marmion:** It will depend on where they are going, what is proved up, sedentary layers and stratification.

**Mr W.J. JOHNSTON:** I do not know what all those big words mean!

**Mr W.R. Marmion:** You do know what they mean.

**Mr W.J. JOHNSTON:** I barely know what they mean. If something goes wrong, the liability will transfer to the state. There is a question about how quickly that will happen. A date has to be picked, because in the world of geology, 20 years is a blink of the eyelid. In formations that have taken millions of years to be created, what happens in 20 years is almost irrelevant. The bill refers to “permanent storage” a number of times. The question is: how permanent is permanent? I am not quite sure that the word “permanent” is defined in the act. It has to have a common meaning. It will be interesting to look at that issue when we get into consideration in detail because I do not know whether permanent is permanent when the minister and I are talking about this bill compared with when Mother Nature is talking about the geological life span of the earth. I raise that because there is a debate about how long that period should be and whether 15 years is enough. The problem is that very few companies last a century. If the liability lasts for thousands of years but the company has gone within a period of time, that is just a fact that we have to cope with. Companies will come and go and be long forgotten and the liability will still be hanging around. There is the question of how we ameliorate those risks.

I am told by people in the nuclear industry that financing the cost of nuclear waste is quite small and does not have a big impact on the cost of generating electricity using nuclear energy because the liabilities are so far in the future that compound interest looks after us. That sounds wonderful. I wonder what mechanisms we could look at to ameliorate the future risks for those liabilities and whether there is any way we can do something different from what is proposed in this bill.

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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**Mr W.R. Marmion:** Are you saying the net present value of something 100 years away is close to zero?

**Mr W.J. JOHNSTON:** Yes. In one of my favourite books, *Hitchhiker's Guide to the Galaxy*, particularly the third book, *The Restaurant at the End of the Universe*, the way one gets to pay one's bill at Milliways, the restaurant, is to put one cent into a bank account and then a billion years of compound interest pays the bill at the restaurant. It sounds quite attractive.

**Mr W.R. Marmion:** Very clever.

**Mr W.J. JOHNSTON:** It is very clever. We do not have time travel in this world, even if they did in the four books of the *Hitchhiker's Guide* trilogy. Maybe we should be thinking about some system to look after this liability, much the same as the minister has done with the mining tenements. That would fix the problem because it would not necessarily be a large additional cost on the proponent but the benefit in the out years would potentially be quite large. Maybe there is a good reason not to look at that proposal but it is an idea that I am sure we will explore at length further.

**MR C.J. TALLENTIRE (Gosnells)** [9.32 pm]: I am pleased to speak on the Petroleum and Geothermal Energy Legislation Amendment Bill 2013. I have reservations about this bill being made urgent, although it is perhaps a positive sign that the government sees that an action against our rising greenhouse gas emissions should be brought on urgently. In that sense, I agree that there is an urgency about this kind of legislation. However, the fact is that this is complex legislation. It relates to a technology that is very much in its trial phases. It is something that people around the world are only slowly learning about and it is something that I would have liked to have talked to colleagues about. I would have liked to consult widely and spoken to those in the non-government sector and those in the industry, yet I was only briefed at one o'clock today. The caveat I put over my speech this evening is that I would have liked much more time to properly research the bill. That seems to be the nature of this Parliament so far; we are rushing legislation through and not giving members adequate time to reflect and seek expert advice from elsewhere. Members opposite have sometimes criticised members on this side for not researching adequately. That is not our fault. If there is a lack of research, it is simply because the government does not give us the time to do so.

**Mr W.R. Marmion:** We did the second reading about two weeks ago. There was an opportunity for you to do a bit of research before the briefing.

**Mr C.J. TALLENTIRE:** That is possible to do but we get a briefing when we are offered it, and for me that was at one o'clock today. Following that briefing we really have a sense of what the legislation is about. Between one o'clock and now—9.30 pm—I do not think I have had adequate time to really check the details of the bill. That said, I will make the following remarks.

Obviously, this legislation is about the transfer of liability—the liability that goes with the risks associated with carbon capture and storage. That is a vexed issue. We do not really know how likely it is that the state of Western Australia will be lumbered with the burden of a carbon capture and storage project that has some deficiency and that fails us in some ways, yet the way things are going, as a state we might have to pick up that liability. I realise that this legislation is designed to avoid that problem. That is commendable. In trying to design a system, we have to be sure that we have it right. Clearly, research is occurring. I am pleased to hear about the South West Hub project along the borders of the Shire of Harvey and the Shire of Waroona. A well has gone down there already and there is examination of the Lesueur formation, the target formation for the CO<sub>2</sub>.

**Mr W.R. Marmion:** Lesueur, for the benefit of *Hansard*.

**Mr C.J. TALLENTIRE:** Yes, it was obviously named after the naturalist who was on Nicolas Baudin's mission in 1801—Charles Alexandre Lesueur, the artist from that mission.

**Mr W.R. Marmion:** It was from 1801 to 1804.

**Mr C.J. TALLENTIRE:** That is right. Leaving aside the name of the saline aquifer—I understand that it is a saline aquifer but I would like the minister to confirm that—the idea is that we pump carbon dioxide down to that aquifer and, as is the nature of these things, a plume will form some 2 000 to 3 000 metres below the surface of the earth. This plume will move and we hope that it will be contained. We are also saying that we want to sell off acreage. This is an important part of this legislation. It is something that I am still coming to terms with. In effect, we are selling off storage space. How well do we understand the value of that storage space? We do not really know how many of these storage spaces we have in Western Australia. Perhaps it is the case that this is fairly limited space. I note that we have a capacity for 260 million to 280 million tonnes of CO<sub>2</sub> at the South West Hub site. That is the limit. Other pockets may be located around the area. I understand that this geological formation is quite unique. We have a very unique and precious space. We might be selling it off too cheaply. That is one train of thought.

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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The other issue—this is something that the member for Cannington dealt with very well—is that the process of getting the CO<sub>2</sub> down to this formation is very costly. As the member indicated, from our briefing earlier today, we are talking about a minimum of something like \$70 a tonne. I had time to consult the Global Carbon Capture and Storage Institute's website. This body is somehow affiliated with the South West Hub carbon capture and storage project. It is a reputable organisation. I will quote from part of its website, which refers to the relative costs of carbon capture and storage. It states —

This analysis shows that for avoiding CO<sub>2</sub> emissions, CCS is a cost-competitive technology with other future large-scale abatement options in the electric-power generation sector. For example, the CO<sub>2</sub> avoided costs for CCS used in coal-based generation and natural gas-fired generation range from US\$68 to US\$123 per tonne, and US\$108 to US\$224 per tonne, respectively. In contrast, solar photovoltaic (PV) and solar thermal systems have cost of CO<sub>2</sub> avoided ranging from US\$184 to US\$307 per tonne ...

That is very interesting because obviously these are large amounts, but we are all aware that at the moment in Australia we have a carbon tax that is \$23 a tonne. That is comparable with the rate that we normally associate with biosequestration. I know members opposite who represent rural electorates will be aware of plantation situations with oil mallees and other biosequestration projects. They are much talked about and to some extent even embraced by some sectors of the rural community, but they provide us with information as they progress that suggests that biosequestration would be a much cheaper option. We are talking about a \$23 per tonne CO<sub>2</sub> equivalent, and I have heard some people talking about \$10, \$15 to \$20 per tonne per annum rates with biosequestration projects; I will come to per hectare rates in a moment. The fact is that carbon capture and storage looks pretty expensive. Nevertheless, I acknowledge that the South West Hub attracted \$48.6 million in research investment from a federal government agency. I guess that is to be commended as well. We want to research this option, to test it out and to see its viability, but all the indications at the moment are that it is a fairly expensive means.

Members have indicated already that the minister has suggested that other projects are going on around the world. Certainly, I am aware of the Sleipner project off Norway involving sequestration at the rate of about a million tonnes per year. I understand very careful monitoring has taken place on how the plume there has moved and what shape it has at the moment. I am also aware of another million-tonne-per-year project in Algeria with the In Salah Gas CO<sub>2</sub> storage project. Again I have some information from the Global Carbon Capture and Storage Institute. It advises that, in fact, that project is now suspended. The information outlined states —

In November 2012, BP announced that CO<sub>2</sub> injection at In Salah had been temporarily suspended pending a business decision on whether to continue the commercial operation of the storage program at the site.

Some questions should be asked right now about the financial viability of this type of greenhouse gas emission abatement. Of course, I am fully supportive of greenhouse gas abatement. When we have Australia's emissions rising up to about 600 million tonnes per year, of course we must do something. I hope the minister can tell me what Western Australia's annual emissions are at the moment. The best figures that I could see from a quick search of websites was around 70 million tonnes at the moment, and I think it is rising. Although I note that thanks to the carbon pricing system implemented by the federal government, we are already seeing our national emissions, especially in the electricity sector, reducing. In fact, since 1 July last year when the carbon pricing system was introduced, we have seen emissions reduce by about 8.6 per cent. That is very interesting. I know that members opposite are often quick to decry the federal government's initiative when it comes to the carbon tax and carbon pricing.

**Mr A.P. Jacob** interjected.

**Mr C.J. TALLENTIRE:** At the moment, we have about a 7.6 per cent component in our power bills.

**Mr A.P. Jacob** interjected.

**Mr C.J. TALLENTIRE:** If the minister wants to engage me on a debate about carbon pricing, he is welcome to—bring it on! I am making the point that we have seen a reduction in our emissions; that is undeniable. If the minister wants to provide information that goes against that, he should produce it.

**Mr W.J. Johnston:** The problem with the minister's position is that we do have cost-reflective electricity prices. The problem is the rip-off by the government taken out of the energy system. I refer to some \$320 million for the tariff equalisation fund, which is not an electricity related cost, and the profits. I ask the minister: How much is it? Some \$2.4 billion over the next four years?

**Mr C.J. TALLENTIRE:** I thank the member for Cannington. Clearly, the understanding opposite of the purpose of carbon pricing seems to be very limited; that is why we have this denial of the facts.

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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Since the introduction of carbon pricing, we have seen an increase in the amount of renewable energy generation by 30 per cent. Some important facts need to be weighed up. If the government does not support national action on emissions trading and the moves to an emission trading scheme, it has to come up with a cost-effective means of reducing Western Australia's emissions. Otherwise, the government is betraying our contribution towards the global effort that will make a difference to sectors such as our agricultural sector, which is already suffering a 20 per cent decline in annual rainfall. Our Australian contribution needs to be reflective of our need for action in reducing greenhouse gas emissions.

I think geosequestration is an expensive means; there are cheaper means. Certainly the move towards an emissions trading scheme would provide the most cost-effective means of reducing our emissions. The introduction of other technologies would make a huge difference. Instead, though, with this approach of carbon, capture and storage, we seem to be looking at the equivalent of using landfill sites for our waste; that is, we are looking to bury the problem, put it underground and then hope that we know what will happen underground. With carbon, capture and storage, certain chemical processes must take place. We know with the Barrow Island situation, the Gorgon project, Chevron is planning to sequester about three million tonnes per year into the Dupuy saline aquifer. I am not sure why all these saline aquifers have French names; it is a curiosity. There is a hope, as I understand it, that the CO<sub>2</sub> will be taken off that gas that comes from the Gorgon gas field. We know that the Gorgon gas field has a CO<sub>2</sub> content of about 14 per cent; it is very high. Other gas fields have a much lower CO<sub>2</sub> content. The hope is that the CO<sub>2</sub> will be taken off and pumped down to the Dupuy saline aquifer, and there, when it meets the saline aquifer, it will solidify. When it mixes, it will solidify and form limestone. That is the chemistry that is anticipated, but we do not know whether it will work. I think there are indications that companies that have made commitments towards carbon, capture and storage and the use of saline aquifers to store CO<sub>2</sub> are backing away. I cite again the Algerian example where BP was very proud of its commitment, but it has since November last year backed away.

A range of questions arise there. Of course, we should do anything we can to ensure that Australia plays its role in reducing global greenhouse gas emissions. We had a historic moment just a couple months ago—one never before faced during the history of humanity. We never had atmospheric CO<sub>2</sub> content reach 400 parts per million. Humanity has never had to deal with that level of CO<sub>2</sub> in the past. That is the current level. Some people opposite might say, "Well, 400 parts per million—okay, it was 300 parts per million before. It doesn't sound like a dramatic increase. How quick will the impacts be in terms of temperature rise? What are the implications?" To those members opposite who have that line of thinking, I point things out to them. We are talking about parts per million, and backers of members opposite like Gina Rinehart and Alan Jones say, "Some 400 parts per million—it sounds like a very small amount. If we go up to 450 parts, what would be the difference?" I will try an analogy on members opposite. We talk a lot about blood alcohol levels. We are talking about exactly the same scale of units. When we talk about .05 per cent blood alcohol level, that is the same as saying 500 parts per million blood alcohol level.

We know what happens when someone's blood alcohol level increases. The way the human body reacts and behaves when someone's blood alcohol level reaches .08 per cent or 800 parts per million is dramatic. We know that those seemingly small amounts can have a dramatic impact on the human body and its maintenance of cognitive behaviour and homeostasis. The maintenance of body temperature, homeostasis, is very similar to our world's maintenance of a stable climate. There is a parallel there that I hope helps explain why seemingly small changes in the composition of the atmosphere are very significant.

[Member's time extended.]

**Mr C.J. TALLENTIRE:** The whole issue around this legislation turns on the liability. Work is going on down at Bunbury and Harvey to look at this issue of the medium-term and longer-term liability; it is the one that has to be resolved. It is possible for the companies to maintain liability and responsibility of an aquifer of a CCS project. If we were absolutely sure that the formation or geology was such that there could be no leakage and the seal would stay intact, there could be a case for handing over that liability to the people of Western Australia. However, if we have any doubt, I do not think that handover should occur. I am looking to the minister for some reassurance that the mechanisms in place would mean that there are no means by which he would have to contemplate receiving that liability. We might be talking about 50, 60 or 100 years and those sorts of time frames. If the minister or his successors are concerned at all, they need to leave that liability with the company. But there is the problem; those companies may not still be here. The member for Cannington touched on this. In the corporate world, things move on; companies become shelf companies. There are all sorts of corporate mechanisms for removing liability, putting liability at arms-length, and for putting shareholders in a place that is safe from that sort of liability. I have that concern.

**Mr W.R. Marmion:** Do you have a better solution? Do you have another solution?

Mr Bill Marmion; Mr Bill Johnston; Mr Mark McGowan; Mr David Templeman; Mr Paul Papalia; Mr Chris Tallentire

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**Mr C.J. TALLENTIRE:** I have outlined, minister, that I am concerned about the cost-effectiveness of this solution and I have talked about some of the other options. I have made that comparison between biosequestration and carbon sequestration. Just on cost-effectiveness grounds, at the moment we would have to say that biosequestration is ahead of CCS.

**Mr W.R. Marmion:** I get your argument, but either you rule it out or you rule it in. If you rule it in, how do you deal with the long-term liability that might be 100 years away? Do you have a solution better than the one we have put forward? That is the question.

**Mr C.J. TALLENTIRE:** I see; the minister is not asking about a solution that is better than carbon capture and storage, but about a solution that is better than this liability shifting solution. In the time that I have had to contemplate this legislation since the briefing at one o'clock, no, I have not come up with a better solution. Give me time though, minister.

I return to the issue of biosequestration, because there is a huge issue here about capacity. We have already said that the South West Hub has a capacity of 260 million or maybe 270 million tonnes. That is not a huge amount. My understanding is that if we take 18 million hectares or so of the wheatbelt, ideally we would look to revegetate three million hectares of the wheatbelt. That would be an ideal scenario. Some of the estimates I have seen, using a range of different species to do this revegetation work, show that potentially we could have a capacity—there is always a capacity; none of this is limitless—of about 600 million tonnes of storage capacity in biosequestration in the wheatbelt. I have to say to the minister that when it comes to cost per tonne, the biosequestration approach beats carbon capture and storage. We have to acknowledge that when it comes to the capacity of available land in the state, biosequestration just using the wheatbelt—we have not even looked at the rangelands and potential for biosequestration there—beats the CCS model if we are limited to only a few sites where carbon capture and storage is really feasible and reliable. After all, the minister has said that he thinks that this is an area within which we can credibly take on the liability; in the south west of the state with the Lesueur formation we can accept the liability. How many other places around the state can we do that? We have a site off Barrow Island, but how many other sites are there?

I return to that point about the capacity in the state for carbon capture and storage. I imagine we need to have a host of things to assess the viability of these things. One would be proximity to the source. As the member for Cannington and I heard in a briefing earlier today at one o'clock, the transport costs \$10 to \$12 a tonne. That is just the transport from those emitters that are fairly close by to this well area in the Harvey–Waroona area within which we would possibly be looking at CO<sub>2</sub> piped in from the Collie power stations, the Kemerton Industrial Park, Alcoa and other areas. We might well find that there is suitable geology, but many, many kilometres away from the source of emissions. That would rule out the viability just because of the transport costs.

I look forward to learning more about the release of acreage. Traditionally, when we have talked about the release of acreage in the petroleum world, it is about prospectivity for oil and gas reserves, and that is something that makes sense. We have designed an acreage system that works for the exploitation of oil and gas. But here we are looking to hand out acreage for the sequestration of carbon dioxide and, I think, methane. If that is the case, is it right to use the same approach? I am not convinced that it is. I can see that the acreage system works well when we are looking to exploit reserves, but I am not certain that this acreage approach will work when getting rid of a waste. Certainly there are issues around the boundaries and how we design those. We have the means to deal with that. When there are boundaries on an acreage and we get into a neighbour's acreage, there are ways of dealing with that. However, when handling something for which a liability might be involved, things are much less clear.

Given the lateness of the hour, I will conclude my remarks, but say that while I am prepared to support this legislation, I have grave concerns about it. I can only echo the comments made by the member for Cannington that as things evolve and we learn things from this trial at the South West Hub and from international experience, be it Sleipnir, Norway, the site in Algeria or elsewhere in the world, it will be highly likely that we will have to revise this legislation. Perhaps at the minister's request we will have to come up with a better means to deal with the liability issues.

Debate adjourned, on motion by **Mr J.H.D. Day (Leader of the House)**.

*House adjourned at 9.59 pm*

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