

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

*Second Reading*

Resumed from 25 June.

**MR P. ABETZ (Southern River)** [12.25 pm]: I rise to address the Petroleum Geothermal Energy Legislation Amendment Bill 2013. This bill addresses the whole issue of geosequestration of carbon dioxide, and as a member who is keenly interested in environmental issues and with a background in agricultural science, I would like to make a contribution to this debate. This bill will regulate the geosequestration of carbon dioxide should that become necessary. It may also be that what the bill allows for may not happen to any significant degree, because although many people believe that man-made CO<sub>2</sub> is driving climate change—usually referred to as anthropogenic global warming—that hypothesis is far from settled scientifically. Many people will say that the science is settled, but as a person with a scientific background that statement rings alarm bells, because when one says the science is settled, one is saying that there is no room for debate on this issue anymore.

I would like to turn to the matter of greenhouse gases. Interestingly, water vapour is by far the principal greenhouse gas. I quote from “Mankind has an insignificant impact on the climate of planet Earth”, a paper by Dr Jay Lehr, which states —

... the portion of the Earth’s greenhouse gas envelope contributed by man is barely one tenth of one per cent of the total.

That is, the total of greenhouse gas. He continues —

Do the numbers yourself: CO<sub>2</sub> is no more than 4% of the total (with water vapour being over 90% followed by methane and sulphur and nitrous oxides).

**Mr C.J. Tallentire**: Have you got an Alan Jones quote coming up?

**Mr P. ABETZ**: No. The paper continues —

Of that 4%, man contributes only a little over 3%. Elementary school arithmetic —

**Mr C.J. Tallentire** interjected.

**The SPEAKER**: Member for Gosnells!

**Mr P. ABETZ**: This reflects the fact that scientific debate is needed. Name calling is not needed.

**Mr C.J. Tallentire** interjected.

**Mr P. ABETZ**: In that case, the member for Gosnells should listen.

**The SPEAKER**: I call the member for Gosnells to order for the first time. If he wants to make a speech, he can make a speech or he can ask questions.

**Mr P. ABETZ**: Thank you, Mr Speaker.

**Mr C.J. Tallentire**: The member should listen to what other people have said in this place instead of wasting the Parliament’s time.

**The SPEAKER**: I call the member for Gosnells to order for the second time.

**Mr P. ABETZ**: I listened in silence to the member for Gosnells’ speech last night so I would appreciate him doing likewise. Dr Lehr also states —

Elementary school arithmetic says that 3% of 4% is 0.12% and for that we are sentencing the planet to a wealth of damaging economic impacts.

My search for answers started when I was a student at the University of Tasmania in the early 1970s. At that time the big environmental issue, which was particularly interesting to me as an agricultural science student, was that if we kept draining swamps, we would head towards a new ice age because swamps produce a massive amount of methane, which is an important greenhouse gas, and if the gas was not produced, the world would get colder and colder. Dr Richard Jones told us back in the early 1970s that the science was settled. Was it? Obviously that settled science became incredibly unsettled. Whenever I hear that the science is settled, I always ask myself what is going on. One of the sad things in this debate is that it is so easy to label people as sceptics and deniers, which have very negative connotations. I put it to the house that all of us, particularly scientists, always ought to be sceptics. Although I certainly am not a fan of Stephen Hawking’s religious views, an excellent quote from him is —

The theory always comes first, put forward from the desire to have a beautiful and consistent mathematical model. The theory then makes predictions which can then be tested by observation. If the observations agree with the predictions, that doesn’t prove the theory but the theory survives to make

further predictions, which are again tested against observation. If the observations don't agree with the predictions, one abandons the theory and tries to find something different.

In March, the British Met Office called a conference to discuss the disappointing weather. It was disappointing because all their predictions about the winters for the past 10 years did not come true. One would think that a real scientist would ask whether the theory and the hypothesis were right and perhaps suggest that the models needed to be rejigged, but the British Met Office said that the weather was disappointing! I suggest that the hypothesis was disappointing. To highlight the quality of what has been going on, Tim Flannery, who was made Chief Commissioner of the Climate Commission, predicted in 2005 that Sydney's dams could be dry in as little as two years because global warming was drying up the rains, leaving the city facing extreme water difficulties. Sydney's water levels are not drying; in 2011, its dams were 73 per cent full. In 2008, Tim Flannery said that the water problem for Adelaide was so severe that it may run out of water by early 2009. In 2011, the dams were 77 per cent full. In 2007, Tim Flannery predicted that cities such as Brisbane would never again have dam-filling rains as global warming, he said, had caused a 20 per cent decrease in rainfall in some areas and made the soil so hot that even the rain that fell would not fill the dam and river systems. In 2011, the Murray–Darling Basin was flooding. Most of us remember the floods in Brisbane. The dams overflowed, yet they were never supposed to fill up any more. That is interesting.

**Mr D.A. Templeman** interjected.

*Point of Order*

**Mr J.M. FRANCIS:** I refer to standing orders 95 and 96—No noise or interruption of debate. Standing order 95 states —

Members will not converse noisily or otherwise disturb the proceedings.

And standing order 96 states —

A member may only interrupt another member to call attention to a point of order ...

Several members interjected.

**The SPEAKER:** Thank you, member for Mandurah. I call you to order for the first time. Continue with your point of order, member for Jandakot.

**Mr J.M. FRANCIS:** Just because members opposite do not like what the member for Southern River is saying, it does not mean they can continue to interject.

**Mr D.A. Templeman:** You're the biggest person who interrupts in this place.

**The SPEAKER:** Member for Mandurah!

**Mr D.A. Templeman:** You're a hypocrite.

**The SPEAKER:** Member for Mandurah, I call you to order for the second time.

**Mr J.M. FRANCIS:** The member for Mandurah just called me a hypocrite and he knows that is unparliamentary.

**The SPEAKER:** I call the member for Mandurah to order for the third time and I remind him of standing order 48, which I will read out to him if I call him to order again. Has the member for Jandakot finished?

**Mr J.M. FRANCIS:** No, I ask you to ask the member for Mandurah to withdraw that interjection.

**The SPEAKER:** I do not know what the member said.

**Mr J.M. FRANCIS:** He quite clearly called me a hypocrite. He knows that is unparliamentary and that it is not correct and I ask that you ask him to withdraw it, Mr Speaker.

**Mr P.B. Watson:** Settle down, you little sook.

**Mr J.M. FRANCIS:** Have the guts to withdraw it.

**The SPEAKER:** Member for Albany, I call you to order for the first time. This is getting out of order for no reason whatsoever.

*Debate Resumed*

**Mr P. ABETZ:** I thank you for your protection, Mr Speaker.

I will leave the failed predictions of Tim Flannery for now. We are continually bombarded with unsubstantiated predictions that have failed to come true. How many times were we told in the early 2000s that the dams in the Murray–Darling irrigation catchment would never be filled again? We were told that the whole system was dying but it has been massively flooding. Predictions have been made based on computer models that certain

people have developed. The problem with computers, as they say, is bulldust in, bulldust out. It is what is put in and the program that is run that is the problem. We must ask ourselves what is going on. This problem is happening in not only Australia, but also Germany. Parts of Germany have been flooded. The so-called climate change researchers predicted that Germany, and particularly East Germany, which has been flooded, was supposed to dry out and agriculture was supposed to fail due to a lack of water.

**Mr D.J. Kelly:** Are you saying there is no problem?

**Mr P. ABETZ:** I am just presenting the evidence and asking people to be sceptical and to think about what the data tells us. As scientists, we need to ask what is actually happening. Although people may come up with a hypothesis, if that hypothesis is no longer consistent with the data, we need to change the hypothesis until we come up with a model that explains the things that are observed.

Closer to Australia, David Evans wrote —

I devoted six years to carbon accounting, building models for the Australian Greenhouse Office. I am the rocket scientist who wrote the carbon accounting model (FullCAM) that measures Australia's compliance with the Kyoto Protocol, in the land use change and forestry sector.

He ended up leaving that office because he said that the greenhouse signature was missing. The fact that the climate is changing is not up for debate; that is something we can measure and see. We can see that we are getting less rainfall in the south west of Western Australia. That is measurable. That is scientific evidence. The question we need to ask is what is actually causing that. The popularised hypothesis has been that it is man-made CO<sub>2</sub> that is driving climate change. Sadly, the evidence for that is patchy at the very best. I was very interested to learn that CO<sub>2</sub> was driving climate change when it was first hypothesised. I must admit that I actually believed that was a reasonable explanation. The climate is changing but my question was always how we knew it is caused by CO<sub>2</sub> because it is not the sort of thing that can be measured in a laboratory because the climate has so many feedback loops and so on. What is driving climate change? That is a legitimate question that needs to be asked.

**Mr C.J. Tallentire:** Do you acknowledge that there are 400 parts per million atmospheric CO<sub>2</sub> content? That is an absolute record. In the history of humanity, we have never had to face that level.

**Mr P. ABETZ:** In the time of the dinosaurs, we had 4 000-plus parts per million in the atmosphere. The interesting thing is that was when plant growth was most prolific.

Because of the increase in CO<sub>2</sub> levels, it is estimated that there has been a five per cent increase in the productivity of our forests and wheat crops. Members may know that the Dutch glasshouse growers used to put bales of hay in their glasshouses and allow them to rot, because that would build up the CO<sub>2</sub> level and they would get a much better crop. So we could say that adding CO<sub>2</sub> to the atmosphere in a sense fertilises the atmosphere. That is part of what members need to understand.

**Mr C.J. Tallentire:** As an agricultural scientist, you would be aware that that experiment is a gross simplification of what goes on in the biosphere. But if you take that example, though, you do not get an increase in productivity for a wheat crop; you actually get a drop in the protein content.

**The SPEAKER:** Member for Gosnells, this is becoming a speech within a speech.

**Mr C.J. Tallentire:** The member for Southern River is wanting to debate it. He is asking for debate. He is saying we need a debate.

**The SPEAKER:** I am going to direct you, member for Southern River, to direct your comments to the Chair and to continue with your speech.

**Mr P. ABETZ:** Thank you very much, Mr Speaker; I shall do that.

To get back to David Evans, who was involved in the measuring of greenhouse gases, he talks about how the signature of a greenhouse effect is missing and says —

The signature of an increased greenhouse effect is a hot spot about 10km up in the atmosphere over the tropics. We have been measuring the atmosphere for decades using radiosondes: weather balloons with thermometers that radio back the temperature as the balloon ascends through the atmosphere. They show no hot spot. Whatsoever.

If there is no hot spot then an increased greenhouse effect is not the cause of global warming.

There is plenty of evidence that climate has changed. I am not saying there has been no change to climate. Indeed, there has been change to climate for centuries. Climate fluctuates. There was a warm period in Europe between the 1200s and the 1400s when wheat was grown on the highlands of Scotland. One of the reasons that

the Romans were said to have left Great Britain was because it started to get too cold for them. Climate keeps changing; there is no question about that.

Another interesting point is that those who argue strongly that man-made CO<sub>2</sub> is the driver of climate change have not addressed the fact that volcanoes contribute a massive amount of CO<sub>2</sub> to the atmosphere. According to a paper titled “Volcanic Carbon Dioxide” by Timothy Casey, who is a consulting geologist —

Deepening the apparent mystery of total volcanogenic CO<sub>2</sub> emission, there is no magic fingerprint with which to identify industrially produced CO<sub>2</sub> as volcanic CO<sub>2</sub> is isotopically identical. ... Furthermore, the discovery of a surprising number of submarine volcanoes highlights the underestimation of global volcanism and provides a loose basis for an estimate that may partly explain ... rising atmospheric carbon dioxide levels ...

He says also —

... we cannot glibly assume that the increase of atmospheric CO<sub>2</sub> is exclusively anthropogenic.

He goes on to say—I will not bore members with all the details —

Oldoinyo Lengai —

I am not sure whether I have pronounced that correctly —

is an example of a continental rift zone volcano, which has above average CO<sub>2</sub> outgassing at 2.64 megatons of CO<sub>2</sub> or 720 KtC per annum ...

That is just one volcano that is pumping out that amount of CO<sub>2</sub>. The figures indicate that volcanoes generate far more CO<sub>2</sub> a year than is generated by all of man-made activity. That helps to put things into some perspective.

Many leading climate scientists are beginning to admit that their worst fears about global warming will not be realised. I have a quote here dated 17 March, so this is very recent —

Academics are revising their views after acknowledging the miscalculation. Last night Myles Allen, Oxford University’s Professor of Geosystem Science, said that until recently he believed the world might be on course for a catastrophic temperature rise of more than five degrees this century.

The article goes on to say that Professor Allen now says that the odds have come down, and that warming is likely to be significantly lower, which means that the higher estimates are now “looking iffy”. The graph in the article confirms that there has been no statistically significant increase in the world’s average temperature since January 1997.

So the climate people agree that between 1997 and the present, there has not been an increase in world temperature. Yet CO<sub>2</sub> levels keep going up, little by little, because of what mankind does; there is no question that we contribute to CO<sub>2</sub> levels. However, most of the CO<sub>2</sub> comes from fossil fuels. Fossil fuels come from plant material that used to grow on the earth. Geologists tell us that in the days of the dinosaurs, the CO<sub>2</sub> level was around 4 000 parts per million and plants grew exceedingly well. So we certainly have some question marks around that theory.

That draws me back to this bill. Despite all the name calling that those who support the anthropogenic theory of climate change do of people who disagree with them, I believe the tide has turned significantly in the scientific community and in the wider community and that within five or 10 years, people will look back and say that this whole hype about how man-made CO<sub>2</sub> is driving climate change was one of the biggest cons that has been foisted upon us. I could be proved wrong. But that is the nature of science. We should let the science speak. We should not engage in name calling. We should get the facts and keep trying to work out what is actually happening.

[Member’s time extended.]

**Mr P. ABETZ:** As I have mentioned before, since 1997 there has been no significant increase in global surface temperatures. Professor Judith Curry, in her testimony to a United States House of Representatives subcommittee, said that the Intergovernmental Panel on Climate Change fourth assessment report, published in 2007, made the following key statement —

Warming of the climate system is unequivocal ... Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations ... For the next two decades, a warming of about 0.2°C per decade is projected for a range of SRES emissions scenarios.

But we then get the problem that there has not been any warming since 1997. Professor Curry’s credentials are unimpeachable. She is chair of the School of Earth and Atmospheric Sciences at Georgia Institute of

Technology. The lowest CO<sub>2</sub> levels that have ever been recorded—they get that out of ice cores—is 270 parts per million. We are now at 385 parts per million. So we have a long way to go to get up to the dinosaur age level.

**Mr D.J. Kelly:** It is 400.

**Mr P. ABETZ:** Okay. Perhaps this figure is slightly out of date. It does vary a bit, because the CO<sub>2</sub> does not mix all that evenly; over industrialised countries, it would probably be a bit higher.

One of the other interesting things is that the evidence suggests that CO<sub>2</sub> levels follow temperature, not the other way around. As the temperature increases, massive amounts of CO<sub>2</sub> that have been dissolved in the ocean are given off. For example, when a fizzy soft drink gets warm, it bubbles out. A slight increase in temperature results in a massive release of CO<sub>2</sub> from the oceans. Many volcanoes under the ocean spew out CO<sub>2</sub>, which is absorbed into the ocean, and if the ocean warms a little, there is a massive increase in the amount of CO<sub>2</sub> released. David Archibald, an Australian scientist, has also shown a remarkable correlation between the sun's activity and our climate over the past 300 years. David Whitehouse, an astrophysicist, stated the obvious when he said that, in retrospect, nobody predicted that in the age of global warming, the annual average global temperature would remain unchanged for so long.

Some interesting work is being done. The deeper green colour in satellite photos taken across the world since the 1980s shows that there has been a slight increase in the level of carbon dioxide in the air, and this has had a fertilisation effect. That is an interesting sideline.

Many members in this house would know David Bellamy, who frequently appeared in nature programs on the BBC. Have members noticed that he has not been on television for a long time? Do members know why? He tells us that his stance on climate change ended his television career. He was game enough to ask the question and to say that he does not believe the science that man-made CO<sub>2</sub> is driving climate change stacks up. So he was chopped. That is what has been happening, and that is not the way to do science—to silence people who have a differing view. I believe that truth always wins out; it may take a long time, but in the end truth wins out. If people are too scared to have their ideas tested in public debate and want to call other people names and not engage in debate on the issues, they certainly have something to —

**Mr D.J. Kelly:** There's a lot of name calling on both sides.

**Mr P. ABETZ:** I am saying that we need to discuss the science. I hope members have noticed that I have not called anybody a name; I want to deal purely with the scientific facts. Let us get to the facts. Science is one of those things that develop over time. There was an item on the news the other night about the researchers who are trying to develop drugs for the amyloids that form in Alzheimer's disease. They have now discovered that it is a dead-end alley. That is the nature of science. Sometimes we think we are on to something and we pursue it, but as we get more information, we realise that that is not the way it works, so we backtrack and try something else until we come to an explanation that does justice to all the facts. We cannot change the facts, but we can change our theory. Unfortunately, anybody who dares ask a question in the debate about anthropogenic man-made CO<sub>2</sub> driving climate change gets pigeonholed as a denier or a sceptic and is told that they are not facing reality. We need to take it seriously because many high-calibre scientists have put out papers and argued the case.

If CO<sub>2</sub> is in fact driving climate change and we believe that that change is deleterious, there are solutions. I am a keen advocate of one of those solutions. We could grow enough sugar cane and sorghum in the uncultivated areas of Australia to produce alcohol to fuel our national fleet and still have about 50 per cent left over for export, even if we had a bad season. With the fermentation process, the CO<sub>2</sub> could be bubbled through ponds with particular algae, which could then be harvested to produce biodiesel. There are lots of technologies that could be used to address the issue. These types of biofuels certainly have a great attraction to me as an agricultural scientist. I understand a little about it, and I think it is well worth pursuing.

The proponents of the hypothesis that man-made CO<sub>2</sub> is driving climate change say that it will affect poor people the most. Professor Imberger from the University of Western Australia, who believes that man-made CO<sub>2</sub> is driving climate change—he is not a sceptic—says that it is too hard to reduce it and that we would be much better off investing money in ameliorating the effects of it. One of the greatest benefits we could give to the environment would be to reduce poverty, because poor people are most worried about where their next feed will come from and what will happen to their kids tomorrow. If people are not living in poverty and have sufficient food and shelter, they are much more concerned about the environment. I believe that if the massive amount of capital that is being invested in climate change research—I do not want to in any way minimise the need for research—and the so-called mitigation strategies were invested in addressing world poverty, there would be a far greater outcome for our environment.

I support the legislation. I doubt whether it will be put to much use in the coming years, but I am glad that the bill does not commit our government to any significant expenditure.

**MR M.P. MURRAY (Collie–Preston)** [12.57 pm]: I am glad that the previous speaker clarified his position on the Petroleum and Geothermal Energy Legislation Amendment Bill 2013 in the end. With that much ranting and changing of direction, I was not quite sure of his position. He commended the bill to the house, so I will follow on and also support the bill, but with caution. As has been said, changes happen along the way and we must be able to change with a bill. In some cases, we have to change a lot quicker than happens in this place at times. Sometimes it takes many years to change legislation.

I will localise my support for this bill. I was chairman of the Coal Futures Group when Labor was in government and \$10 million was granted by the Gallop government to look at ways to reduce the carbon footprint of the Collie area and also to create jobs in the industry in that area.

**The SPEAKER:** Member for Cannington, can you just give the member for Collie–Preston a chance.

**Mr M.P. MURRAY:** That has been followed through. Unfortunately, when Labor lost government, the Coal Futures Group was disbanded by the Liberal government. The other thing that was very annoying was that the \$6 million left in the fund was put into general revenue. I see in the Speaker's gallery Dominique Van Gent, a departmental staff member who has worked right from the start on the South West CO<sub>2</sub> Geosequestration Hub project. There is an anomaly in the earth's surface in the form of a bubble towards the Harvey area that was picked up through drilling for water. The logs that were used were very handy, because it meant that we did not have to spend a huge amount of money in the first round of work on this bubble, which could be very acceptable for carbon storage in the future.

My concerns are about people who say we should not do anything about our carbon output. I think it is very important. The earth relies on us to be its gatekeepers and to make sure we reduce that footprint. We need this legislation so that that research is done. It is not new; geosequestration has been used in Norway. One of my colleagues told me that about a million tonnes a year are being captured and stored. I think that is great. I have a problem with people not being educated about it. It must be remembered that the carbon comes out of the earth and, under this legislation, it will be returned to the earth and stored again. As humans we have broken it out of the earth, and now we are looking at how we can store it in the earth again.

It is my understanding that once carbon is stripped from an industry, piped and put under pressure, it will turn into a fluid, which will then be injected into a saline aquifer between three and four kilometres below the earth's surface. The carbon then migrates in the water and moves across. Over a fair period, I believe, it will turn into carbon calcinate, which is very similar to limestone, and there it will stay forever, I think.

The people who oppose this have a view that it is like a big bubble under the earth and if there is an earthquake, it will crack and escape into the atmosphere. I do not see it that way. Once it has turned into carbon calcinate after many years, there is no opportunity for it to come back out of the ground, especially given it is four kilometres down. I believe that if there is an earthquake that big, a lot of other gases would get out and a lot of stuff on the earth's surface would be vaporised, so we would not have to worry about what is under it. As part of the work of the Coal Futures Group, we took a group to a town called Otway in Victoria to look at the research being done there. Some things are similar; they have a computer model and are looking at re-injecting into the earth's surface. The modelling was very good; the actuals were following the modelling very close to what they thought they should be. The people I took across included the then Harvey shire president, South West Development Commission people and industry people. They were very surprised at the size of the footprint on the surface—a very small shed and a donga with an injection compressor. They came back far better educated. Some of problems in the south west now involve educating people about how geosequestration will work. We need the legislation to enable us to move this forward.

Some of the dairy farmers in the area are concerned about the future generally and their future. I remind those people down there that their cows put out a far more dangerous gas in methane, which is more destructive of the earth's atmosphere than CO<sub>2</sub>. Are they doing anything about that? I am not sure how they can. I cannot provide any ideas for capturing methane from a cow. But they have to understand that carbon is only one of a series of gasses that affect our earth, and we must work towards improving things. If we can work this through, we can encourage industry into the south west—a large industry that will not have a big carbon footprint, something the world is really looking forward to, and that is how we can do it.

In his second reading speech, the minister refers to the South West Hub project, and I appreciate that. From a personal point of view, I have been watching the ups and downs of this issue and seen the federal government jump on board and provide nearly \$50 million to help this move forward. Again, it still comes back to the fact that we need legislation to control what happens in the future and who is responsible. The legislation is here, so let us get it through and be prepared in future, if it does not work, to amend the legislation to make sure people, including industry, do not try to cheat the system and are responsible for what they put underground. I must say that, at the early stage, industries have been quite good and put in some funding, although some have dropped off since then because the intensity of the worldwide debate on carbon issues has dropped off to some degree.

The other thing is the so-called carbon tax. People say, “I might be willing to pay this tax,” but when they realise the price, they think it might be far better to invest in research and ways to mitigate the carbon so they do not pay that into the future. Businesses are always looking for ways to reduce their tax bill. If along the way they contribute to this research they could reduce that tax bill. The carbon tax also reminds industry to make sure they do not disregard the pollution they are creating. Without being distracted too far, I have another theory that our developed world should put money and technology into developing or Third World countries at no cost. I believe we should go into those countries that are trying to develop and say, “Here’s the technology; you can have it for free.” That is far better than cross-subsidising and putting money where sometimes it is syphoned off, to say the least, on the way through. That is another way we can look at it, but we must do our best in our own backyards. We must do what is best for our world.

The issue of the environment is always on our lips, more so, as has been said, in developed countries. I got a very rude shock when I went to India and was talking to the minister for energy and I asked him, “What are you going to do about greenhouse?” He was a dark-skinned gentleman, but he went bright red and purple and just about jumped down my throat in reply, and said, “Why us? You in the western world have caused the problem; we are just now starting to develop, why don’t you fix it? You’ve got your cars; you’ve got your fridges. We haven’t got that far yet, but you’re blaming us for this pollution, which was created well before we started to develop.” There is a bit of sense in that and that is why I say we should be looking at how we can help the developing nations at the early stages.

Back to the hub system that is being developed in the south west. I support it very strongly and have had a close affinity along the line, and wish to see it come to its end. Remember, it is a trial, only a model, and over time we will see whether it really does work. The amount of carbon that will be put underground will not be earth saving in a sense, but there will be enough to give us an idea of what will happen. We can model it and work out how it can be utilised in the future or whether it will even be utilised in the future. We are not necessarily saying it will happen but we can at least support this bill and do the modelling, so that we can move forward and chase funding from other sources, including federal funding.

It is my understanding that four projects are being considered for the next round of federal funding. I am very hopeful that the one in the south west will be successful because of the drive to establish it. It has been driven and pushed through to make sure it will be successful. We do not know the end result at this stage but to get to an end result we must have funding and we must have the drive to proceed. I commend the people who have been working it through. Martin Ferguson came over here and announced the funding. I was a little disappointed that I did not get an invite to that \$50 million launch that was dropped on the ground.

**Mr M.J. Cowper:** It was in my electorate and I didn’t get an invite either.

**Mr M.P. MURRAY:** From that interjection, I know that the next member who will get up will probably talk against this. I know that he has not done his research because some of the comments he has made are very superficial. This is about research and how we go forward. If we do not have legislation to protect the entity and if we do not have the research first, the results will not be on the board.

I am a bit different from many of my colleagues, looking down the line at one of them as I say that. I strongly support this legislation because I think we need it to go forward and to understand how we will capture carbon and store it into the future.

**MR M.J. COWPER (Murray–Wellington)** [1.10 pm]: The Petroleum and Geothermal Energy Legislation Amendment Bill 2013 will accommodate the capacity of certain things relating to geothermal energy and petroleum to occur. I am very interested in geosequestration. When the bill was first presented to us, it came in a format with the word “geosequestration” in it, for whatever reason. I would like the minister to advise the house during his reply on the second reading why the word “geosequestration” was taken out. For the record, geosequestration is the capture of carbon, the refrigeration or condensing of it into a liquid form and then the pumping of it into an aquifer in this case but otherwise into some sort of void. The very interesting part of this whole process is that it was discovered as a by-product of the petroleum industry. I understand that two projects are underway involving geosequestration—one in the North Sea around Scandinavia and the other in the north west of the United States or the Americas. In both of those cases the carbon is pumped back into voided oil wells. The oil is extracted from underground and the voided area from the oil is used to pump CO<sub>2</sub> material back into the ground. I have had a briefing on the CO<sub>2</sub> capture at Barrow Island. It looks as though that is being administered very well.

I am quite excited about the theoretical use of that technology. But I am most concerned about where the rubber hits the road. The geosequestration project, or the Collie hub project as it was initially called, is of concern to me and my constituents.

**Mr M.P. Murray:** Not all of them.

**Mr M.J. COWPER:** I will get to that. I will set out why I am disappointed. When this project was first named, it was called the Collie hub project. One would have assumed that it might have been conducted up in Collie somewhere. I know that the member for Collie–Preston is passionate about his electorate and its people, and for that he should be respected. After scratching around a bit, I was trying to establish exactly where the project might be located. After some reticence, I managed to discover, through persistence, that it would be somewhere just north of Kemerton. Kemerton is an industrial estate north of Australind, a large centre in my electorate. It has been an industrial area for some time but it has not reached its potential. I thought this might be a pretty good use for that area. When we sat down and started to drill down and get people cornered as to where it was going to occur, it was discovered that the project would initially be cornered by Forestry Road in Harvey, Government Road, Riverdale Road and the Old Coast Road. That is in the heart of arguably the premier food-producing area of Western Australia. That is where Harvey Fresh and Harvey Beef are located. That is where the food that sits on the tables of Western Australians is mostly produced. All the market gardeners operate their market gardens in that area, including the Patanes, the Castros, the Dellas, the Galati boys—the Spudshed boys—and the Maiolos.

Beneath this area is the Lesueur aquifer, an old formation that is made up of basalt. The intention is to drill down to see if the Lesueur aquifer has the capacity to store CO<sub>2</sub>. Initially, the project consisted of seismic machines going up and down in a grid fashion on public roads, listening to signals sent underground through earphones, trying to get a picture or capture the underground formation, which in itself is not a problem. A significant amount of money was spent. The budget for this whole project at Harvey was \$52 million, of which about half has already been spent. Most of it was stumped by the federal government. Martin Ferguson came over here and announced this project in conjunction with the former Minister for Mines and Petroleum, Hon Norman Moore. What really does annoy me—I take the member for Collie–Preston’s lead on this—is that whilst I was trying to show some interest in this project, they were doing things without any regard for the local members. I want to put on record that at no time did I receive any correspondence from our federal or state colleagues on this proposal. The only way I was able to inform my constituents was through being persistent and persevering, and trying to get as much information as I possibly could about it. I took the view that we should have an open mind about this technology, notwithstanding that it is new technology, and see whether it can be applied.

A number of emerging issues are really quite disturbing to me and my constituents and I am about to highlight those. CO<sub>2</sub> was to be captured and put in a pipeline connecting Kwinana to Pinjarra alumina refinery to Wagerup refinery, also trunking in from the coal-powered stations in the Collie region, potentially Perdamon and a few others that were going to contribute to the project. In fact, there are about six or seven proposed partners in this project. The idea is to capture the carbon, make it into a liquid form, pump it some distance to an area just off Riverdale Road and then pump it into the Lesueur aquifer. The Lesueur aquifer has had a test drill put onto it. It is on Riverdale Road on a piece of Alcoa land. A big rig was brought in. I took some photos of the rig and followed its progression over a period of time. It drilled down about 4 000 metres, which is quite deep. They were able to get a bit of an idea of the formations and carry out some tests. After some considerable interest in this and interest from the local community, a consultative committee was established. Representatives from the Waroona and Harvey shires are on that committee. I had a representation on that committee. The federal member for Forrest, Nola Marino, has a delegate on that committee and a number of others are involved in tracking the development of this new technology.

One of the things of most concern, particularly to the people who grow food in that area, is that the Lesueur aquifer is seven times saltier than the sea. The fear exists that this salt could somehow escape from the Lesueur aquifer through this borehole into the Myalla water mound, which is where most of our market gardeners draw their water to grow the food that Western Australians predominantly eat. They have a great deal of investment in their farms. The market gardeners, the dairy farmers, the beef producers, the orange growers and the like are using water from that area. Their concern is that the salt water, which is seven times saltier than the sea, somehow merges into the aquifers. Whilst I am not a scientist, I am trying to get my head around how it works as best as I can: CO<sub>2</sub> mixed with H<sub>2</sub>O gives us H<sub>2</sub>CO<sub>3</sub>. H<sub>2</sub>CO<sub>3</sub> is H<sub>2</sub>O plus three carbons, which makes it an acid. It is rudimentary year 12 chemistry that that makes calcium carbonate, which, I am told, becomes a solid under pressure. That being the case, there is probably not a problem. I conducted short scientific experiments when I was around 17 years of age. I am sure the member for Collie–Preston and many others in this place have had similar experiences. On a Sunday afternoon we would get the old Swan Brewery keg, put in a spear and plug in a bit of CO<sub>2</sub>. I was always invited to these parties because I had a bit of a knack of being able to spear these things without the beer all frothing up and bubbling, and I did not allow everyone to put their greasy paws on the regulator that would have caused it to froth up and become useless. If it is done right, the beer comes out quite nice and cold. What concerns me is that in the North Sea and the north west of the United States they have pumped CO<sub>2</sub> into a void under the ground; we are pumping CO<sub>2</sub> into a saline aquifer, which is totally different. It is not a void; there is not a big cavity under there. I know that if something is pumped into something else, something has to give. Obviously, the scientists are better placed to be able to determine that than I am, but I am



concerned about what has already been established from the seismic testing, drilling and the information at hand. Plus, if we factor in that the carbon price in Europe is about 3c a tonne, how on earth are we going to capture, refrigerate, pipe, transport or pump it under the ground in an economically viable way? I know the member for Collie–Preston is interested in this for his constituency, but it is simply not financially viable. Currently, \$25 million is sitting in a pond, waiting to be expended by a bunch of very eager Commonwealth Scientific and Industrial Research Organisation scientists. I do feel for these scientists from time to time, because they have all this expertise but not much money to be able to go out and explore and do the things they are very much interested in. But if a project is financially unviable, I cannot see the purpose of the federal government partnering with the state Department of Mines and Petroleum in spending money that has been stumped up under the carbon tax. It beggars belief, and I still cannot get to the bottom of why the former minister engaged in this whole process. It is a mystery to me.

I understand that the Petroleum and Geothermal Energy Legislation Amendment Bill 2013 will pave the way, hopefully, for projects in other parts of Western Australia, and quite frankly I do not have a problem with that. But I have a responsibility to look after the people I represent, which I believe I have done quite well over a period of time. I had decided to be open-minded, and visited all the farms—I went up and down all the driveways and spoke to Mr Paravacina, the Capagrecos, the Sorgiovanis, the Halls and so on—and spoke to all the various people who have written to me, very upset with the fact that the government is now coming onto their land and doing things without any authority. A consultative company called KD1 or HD1 or something—I cannot remember the name now; it escapes me—was sent in to try to sign up the landowners or farmers to allow it to come onto their land and do seismic work. This is irrigated farmland that is very valuable. This is not some middle-of-nowhere wheat cocky land or land in the middle of the desert where nobody lives; this is the heart of the food production area of Western Australia. Next time members sit down to their bowl of Weet-Bix, they can think of Harvey Fresh milk and all the produce that comes out of that area. This is where Harvey beef comes from. Of all the millions of square kilometres of Western Australia where this could be put, it has been put right there, and it has been put there for a reason, which I will explain.

**Mr M.P. Murray:** Can I just very quickly interject? You have to understand that the earth's surface is different.

**Mr M.J. COWPER:** I understand that, and I am about to come to that.

Three places were identified as being suitable: an area just up near York; an area to the north of Perth—I think they call it Perth Basin or something like that, up towards Moora; and the other is underneath Harvey. Clearly, it has been worked out that the cost of trying to put a pipeline from Perth to Moora or Perth to York is not viable, and the only other option is to put it down Harvey way. I actually believe that, on a financial basis, it will not go ahead. I ask a rhetorical question: how many trees would \$52 million plant? It might be simplistic to say we are going to grab the CO<sub>2</sub> and get rid of it by putting it under the ground. But that is a bit like those cartoons we see on the telly, where they sweep the dirt from the floor under the carpet. No CO<sub>2</sub> will be reduced. The CO<sub>2</sub> emissions from our Alcoa plants and refineries and coalmines and all the rest of it are not being reduced; all that is happening is that it is being swept under the carpet.

The question is: will this project stack up against the possibility of planting \$52 million worth of trees? I understand that if this project, by some miraculous set of circumstances, was to go ahead it could attract up to \$1 billion worth of investment. How many trees would \$1 billion plant? Something we have in this state is water, albeit in the north, and another thing we have a great supply of is land—lots of land. Why would we not use water and land to grow trees and offset the carbon, if that is such an important thing to do? Members might say, “This is not going to bring prosperity to my community”, and perhaps it may impact negatively on my friend the member for Collie–Preston's electorate, but I worry, as do the landowners, that this is a piece of government legislation—I really take issue with this—the provisions of which allow government contractors or government-driven initiatives to go onto people's land and start drilling holes without the authority of the landowners.

One thing I raised with the minister—I am keenly awaiting the minister's reply—is whether the landowner has any rights. If a person comes onto their property and says, “We would like you to sign this bit of paper to allow us to bring our dirty great big six-wheel-drive trucks on and go tearing up the middle of your irrigated paddocks, and we are going to drill a hole in the middle of it,” is the farmer allowed to turn around say, “No, you can't cut my fences and you can't go through there. I've got breeding stock in there that is very important to my livelihood”? As members can appreciate, dairy farmers have been doing it tough for a number of years, and they are barely hanging on by the skin of their teeth. The last thing they need is more government intervention.

[Member's time extended.]

**Mr M.J. COWPER:** Although this may not be a big significant piece of legislation about access onto land and the rights of landowners, like the Peel regional scheme, it is one of a whole host of government legislation that is impacting on the rights of landowners in the electorate of Murray–Wellington and, for that matter, right across Western Australia. I know that not only is it happening in my electorate, but also a number of peri-urban

electorates are having very similar problems. I also note the prospect of a big onshore gas field in the Canning and Perth Basins that will affect number of electorates, particularly the Kimberley and the Pilbara, and the member for Moore will have to deal with some of these issues, such as whether to allow these big drilling rigs onto the land. The first two Australian-owned and operated rigs are being constructed in my electorate, and if anyone wants to look at them, the general manager there is a very decent man by the name of John Wells. That company is putting together these enormous derricks that are about 60 metres high. They are the first of their kind owned and operated by an Australian company, and they are under construction and about to be dispatched, and will probably be seen in the outback somewhere in Western Australia in years to come doing just this sort of work. I can understand the need for clarification. The member for Collie–Preston was correct when he said that we need protection for not only the operators, but also the landowners on whom this will impact. Whether it be a dairy farm on Riverdale Road in Harvey or a cattle station in the Kimberley, this will have an impact. In America, as members know, they have very similar sorts of access to land, but their land titles are different from ours; namely, a royalty is paid to the landowner. If a person were to go onto land in the US, I understand a royalty needs to be paid to the landowner. In this case, there is no such thing.

I ask the minister whether the landowner has a veto so that they can say to these people who are coming around, scratching around, looking for permission, “Please go away; we’re happy to be here. We’re not interested in your business, take it elsewhere.” A number of people who attended a meeting at the Harvey rec centre about two months ago told me that the contractors engaged by the government department were using some bully-boy tactics to get them to sign on the dotted line. I was a little sceptical when they mentioned this to me, but there was a very fine lady, I must say, who was the minister’s deputy director, Michelle —

**Mr W.R. Marmion:** Andrews.

**Mr M.J. COWPER:** Michelle Andrews—a very impressive lady. She stood there and listened to some of the concerns of my constituents, who stated that they were very unhappy about the manner in which these contractors went about their business. I have had a number of phone calls in recent weeks, and it would appear that this has been regenerated, because there is a matter of the \$20-odd million pool of money for this project. I think that that money can be better spent, given that we already know that it is not viable to proceed with this carbon capture project at Harvey. I am quite confident it will never be viable financially; however, it would appear that the government has a pond of money and that the scientists from the CSIRO have a head of steam. They are very excited about the fact that they have a project to do. I can appreciate and understand that, but it is at the potential expense of very profitable and iconic brands, such as Harvey Fresh, Harvey Beef and the like.

When the bill does come before the house, I will be seeking some sort of reassurance from the minister that there will be protection for my constituents—that this will not be just another piece of legislation.

**Mr M.P. Murray:** Are you going to vote against the bill?

**Mr M.J. COWPER:** I am going to do what is in the best interests of my community; that is all I am going to say. The situation is that I will be asking for some reassurance from the minister so that I can have some confidence and capacity to go back to my constituents and say, “This is how this is going to protect you as the landowners.” There have been property rights issues in my electorate for some time. Since 2005 the Liberal Party has given certain undertakings on property rights. This is something I have been bringing to the party on a regular basis. I think this is one of those issues that has been ignored by the Liberal government in the last four years. We gave an undertaking in 2005 that we would fix the situation. I know that a number of people in the member for Moore’s electorate have been impacted by this quite significantly over time. It is not just the case of geosequestration; there is a whole host of issues. A classic example in my electorate is the brand-new freeway, the new Kwinana Freeway–Forrest Highway, which now goes through the middle of the Murray–Wellington electorate. No-one will deny that it is a great piece of infrastructure, but it has a significant impact on the injurious affection of landowners. I am sure that members can appreciate what a road going down the middle of a 500-acre property does to the value of that property. Such a 500-acre property is now broken into two 240-acre properties, with 20 acres in the middle, for which the landowner is paid for. The landowner is paid, at a commercial rate, for the land that is taken for the road, although sometimes these values are subject to ongoing court battles. However, if someone wants to move their cattle from paddock A to paddock B, which is on the other side of the freeway, they now have to load their cattle up into a truck, drive five kilometres in the opposite direction, five kilometres up the road and 10 kilometres back across the freeway, and back down the other side to relocate —

**Dr G.G. Jacobs** interjected.

**Mr M.J. COWPER:** No, they did not. If they want to relocate and sell their 500-acre property on a commercial basis, it is now not worth anywhere near what it was when it was in one piece. They get paid for the piece that is taken out of the middle—that is acknowledged—but what that road does to the overall value and viability of that business is another matter, and they do not get paid for that.

We have seen the powerlines through the Murray–Wellington electorate; there are also the water pipes that are connected to the desalination plant, whereby Harvey water comes to Perth. Most of the water for Perth now comes from the Murray–Wellington electorate, whether it be from dam water or the desalination at Binningup. In addition to the roads, the transmission lines that carry power from Collie, the gas pipes and the water pipes, which I just mentioned, we are now going to make provision to allow another pipeline to be put through the middle of the electorate. It will not be an essential service or an essential piece of infrastructure; it will be a pipeline to carry CO<sub>2</sub>—carbon liquid or material, gas or whatever formation it might be. I can understand that we need pipelines, I can understand that we need the supply of gas, and I can understand that we need roads and the like. But a CO<sub>2</sub> pipeline? If I were a landowner and they were banging on my door, again, saying, “By the way, we’re going to whack another pipeline through the middle of your property. You shouldn’t mind too much because you are used to it by now; you’ve already got your powerline.”

**Mr M.P. Murray:** There are thoroughfares that are already identified on the maps for that.

**Mr M.J. COWPER:** Yes, but there was also some legislation that was supposed to come before this house to make sure that all these various utilities go through a corridor. That makes great sense. I note that in this particular piece of legislation the government is saying it wants to put the pipeline through the easement of the Dampier to Bunbury gas pipeline. The problem is that the Dampier to Bunbury gas pipeline is at capacity. There is some talk of making that corridor wider. Therefore, there is already a 30-metre corridor for the gas pipeline running through the middle of someone’s property. The landowner obviously cannot build on that property in the future. That property no longer has the potential to become an urban development. Now that the government wants to build another pipeline, it will extend that easement by another 15 metres, so that instead of being 30 metres wide, it will be a 45-metre easement through the middle of their properties. Now the government is talking about putting in CO<sub>2</sub>. How about we build a pipeline and pump milk from Brunswick to Perth? We will put another pipeline in!

**Dr G.G. Jacobs:** Are there many dairies put down there?

**Mr M.J. COWPER:** Very few, because they are finding it increasingly hard to be sustainable. I say to the minister and to the house that I am very, very cautious of this legislation. I am very keen to hear from the minister how he is going to negotiate something agreeable that will provide comfort to the people of my electorate that they will be able to go about their business without being impacted by some emergence of saltwater into their water aquifers, which are important to their business. I want to know that the people in other parts of Western Australia will not be continually impacted upon by these innocuous-looking pieces of legislation that have a significant impact on people’s capacity and rights to enjoy their own properties.

**MR W.R. MARMION (Nedlands — Minister for Mines and Petroleum)** [1.37 pm] — in reply: I will deal with each matter in order of each speaker. I thank everyone for their contribution to the debate on the Petroleum and Geothermal Energy Legislation Amendment Bill—that is, the members for Cannington, Gosnells, Southern River, Collie–Preston and Murray–Wellington. I will deal with some of the points each member raised so that they are on the record. The member for Cannington made a good point about the bill not necessarily being the final word as it will probably be amended over time as things change; that was also raised by the member for Collie–Preston. The member questioned the wording of proposed section 6AB(1). The word “particular” was mentioned often. He did not mention that is also the case in some of the proposed subsections. There are a lot of “particulars”. Although wordy, the proposed section describes what needs to be done and described the amount of greenhouse gas; the type of greenhouse substance, such as incidental greenhouse gas-related substance, carbon dioxide or methane; the place and the formation; and the duration of time over which it will be injected.

In regard to the member’s comment about two dollar companies, the legislation provides, as currently applies to both petroleum and geothermal exploration permits, that at the time of application for an exploration permit, the applicant has to demonstrate its financial and technical capacity to carry out a six-year work program, which will form a condition on the title. The cost of exploration, which could start at \$10 million and go to hundreds of millions of dollars, would, as I said before, preclude smaller explorers. The proof is that the only players that have been involved in greenhouse gas worldwide so far are Shell, BP, Total, Statoil, Apache et cetera. The potential greenhouse gas storage industry is not for small players from either a financial or technical perspective. The current operations, as the member for Gosnells mentioned, are In Salah Gas, BP, Weyburn, Apache, Snøhvit, Statoil, Total, Zeus and Hess. Proposed and planned operations are in Quest in Canada and with Shell, Gorgon and Chevron.

The member for Gosnells also raised some points about the definition. It is interesting; I learned something on this one. A seal is a relatively impermeable rock—commonly shale, andradite or salt—that forms a barrier or cap above and around the reservoir rock so that fluids cannot migrate beyond the reservoir. The seal is a critical component of a complete petroleum system and the permeability of the seal, and whether it is capable of retaining fluids through a geological time, is measured. I do not have the information on this measure, but it has

to be between  $10^{-6}$  to  $10^{-8}$  darcys. I am not sure whether it is a pressure measurement. I will get the answer. Yes, it is. One darcy equals the flow of one cubic metre per second with a viscosity of—I cannot read the writing very well—one centipoise. I do not know whether that is right, but basically the viscosity of the fluid will affect how it can be pushed through an impervious or very slightly pervious membrane. A reservoir is a subsurface body of rock having sufficient porosity or permeability to store or transmit fluids. Obviously, sedimentary rocks are the most common reservoir rocks because they have more porosity than igneous and metamorphic rocks, which the member has probably learned from members of his family.

The members opposite referred to urgency and that nothing is proceeding with the South West Hub. The pre-competitive work, which is currently underway, is being conducted by our geological survey branch under section 115 of the Mining Act. To go to the next stage of acreage release, which the member mentioned, requires the passage of the bill.

**Mr W.J. Johnston:** There is nobody seeking acreage at the minute.

**Mr W.R. MARMION:** We never know. Someone could knock on the door tomorrow and say, “We think this is a good idea.” So it is a possibility, but I take the member’s point.

I turn to the definition of “permanent”. It is a bit tricky. For the purpose of this bill, permanent means the period for the state assuming long-term liability is a minimum of 15 years after the issue of the site closure certificate. That period will be as long as it needs to be before the state is comfortable that the stored greenhouse gas is behaving as modelled. Once they have permission and the work program, it will be monitored and the modelling will, hopefully, show that it will be retained. If the monitoring shows that it is not quite performing to modelling, they will have to keep doing work.

**Mr W.J. Johnston:** So “permanent” means 15 years.

**Mr W.R. MARMION:** At least. It is a minimum of 15 years. The member for Gosnells also raised a few points. He asked how many other sites there are in WA. There are possibly many. It would require detailed work, like the work that is being done on the South West Hub. We are not even sure whether that is a good site or whether it is a site. It has good prospectivity. There are obviously others with good prospectivity. That is why it includes the small players; there is a fair bit of work to be done to model to show that it is a prospective site for geosequestration. That is a good point.

The member for Gosnells asked about the value of using the release of acreage system for greenhouse gas. It is a proven regime for petroleum and geothermal. It also allows people to bid for acreage. There are probably other ways we could do it, but we have a pretty good scheme in Western Australia. It has a good reputation worldwide and I think it is a good way to go. The member for Gosnells mentioned that the aquifer is saline. The member for Murray–Wellington suggested that the salinity was seven times that of seawater. The notes I have suggest that the salinity is 50 parts per million. That is less than double the salinity of seawater, which is around 35 or 36 parts per million. Nevertheless, the aquifer is very saline.

The member also mentioned bio-storage. I agree it is great and another good way to sequester CO<sub>2</sub>. The project up at Karratha is doing some work on that and I think the member for Southern River, who has an interest given that he has a PhD in that area, also supports that, as we all do. There are lots of options for minimising CO<sub>2</sub> and that is a good one, but this bill is about having a legislative framework around this option. We are not debating all the options; we are saying, “Let’s have a framework.” I think everyone understands that and, perhaps bar one member, thinks it is a good idea to have legislation around the possibility of someone wanting to sequester CO<sub>2</sub> in the ground. Obviously, bio-storage is another way. The member mentioned the Lesueur aquifer.

**Mr C.J. Tallentire:** I think the member for Murray–Wellington touched on that as well, that you get that calcium carbonate formation.

**Mr W.R. MARMION:** That is part of the modelling. Everyone has suggested different reactions with the CO<sub>2</sub> going into the aquifer. That is why we have to do the modelling; we have to take the cause, find out what it will react—that is why the member mentioned the salinity, of course. The chemical reaction depends on what the material is. If it is shale or if it is a limestone —

**Mr M.J. Cowper:** It’s limestone.

**Mr W.R. MARMION:** The member for Murray–Wellington mentioned H<sub>2</sub>CO<sub>3</sub>, and my understanding is that that is carbonic acid. That is part of what we have to do when we are modelling and put our proposals through. If the reaction is not conducive to storage, it obviously will not get approved. I know we are talking specifically about the South West Hub. We are putting in legislation, a framework. I have not even raised a specific project, but apart from going through the rigorous Department of Mines and Petroleum process of doing the modelling—what will happen if the CO<sub>2</sub> goes in, how we get it there et cetera, if it is a big project—it will also go through the Environmental Protection Authority process. I will get to that point later. Lots of controls are in place for

those people concerned with specific projects. I will talk a tiny bit on the liability side. The member for Cannington might be fairly interested in the options.

**Mr W.J. Johnston:** I am riveted!

**Mr W.R. MARMION:** I know. He might be interested in options for the long-term liability. Basically, there are two options. One is that we have common law liability and we let them —

**Mr W.J. Johnston:** Go for it.

**Mr W.R. MARMION:** — go for it. Without looking at my notes, we know what the reality will be. At the end of the day, especially over the long-term life of these sorts of projects, invariably, I would have to say there is a high probability—I would not want to say 100 per cent, but it would be pretty close to it—that the government would have to step in anyway. The option we have chosen, which is in line with the commonwealth legislation, is probably the right way to go. Certainly, I support it.

I now turn to some of the comments made today.

**Mr W.J. Johnston:** You should precis the member for Southern River's comments.

**Mr W.R. MARMION:** I will go with the member for Southern River's comments because that will be a quick one. I acknowledge the contribution of the member for Southern River. I will highlight some of the things he said. He acknowledged that there is climate change, but I guess, from what he said, that he doubts that the man-made contributions are significant. I think that probably sums up what he said. Regardless of that, as I keep saying and as the member also acknowledges, if someone wants to put CO<sub>2</sub> in the ground, this bill gives the framework around it. That is all we are doing here with this bill.

**Mr P. Abetz:** And I'm okay with that.

**Mr W.R. MARMION:** The member is okay with that. So he supports the bill.

The member for Collie–Preston, who has left the chamber, made a great contribution; it was fantastic. He had obviously done a lot of homework. He has obviously been involved with the South West Hub project over many years and knows intimately the way it has been put together. I was very impressed by his contribution. He is very supportive of the legislation, but he added that he did so with caution, which is valid, because the project is only in its exploration stage—he understands that—and there is a lot to be proved about it being a positive project.

**Mr W.J. Johnston:** In respect of the member for Collie–Preston's contribution that you just lauded, did you agree with his comment about the reduction in the Coal Futures Group—the budget cut for the Coal Futures Group?

**Mr W.R. MARMION:** I am not across that, member for Cannington. That was well before my time.

The member for Collie–Preston basically supports the hub. He made some positive points in the debate. He referred to the benefit for his area if we wanted to reduce the CO<sub>2</sub> emissions in Collie and increase the industrial activity at, I guess, the Shotts industrial complex. This is obviously an option that could be considered in reducing the CO<sub>2</sub> emissions in that area. Obviously, Alcoa and other industries in Kwinana are looking at this project.

The member for Murray–Wellington, who has disappeared from the chamber, has some concerns with this bill. His concerns are about the farmers in the area, and that is due specifically to one project. He focused on the fact that the South West Hub project is in his electorate and that a percentage of farmers in his electorate are concerned about what might happen if this project goes ahead. His first concern was why the name of the bill was changed. That does not have any effect on the content of the bill. The reason is that we are amending a current act, so we have left the act with the same name. We could call it whatever we like. If it were the geosequestration amendment act, it would just do the same sort of thing; therefore, I do not think the title is very significant.

The member made some comments about the current activity being undertaken in the South West Hub and the lack of consultation. I draw the attention of members to the Department of Mines and Petroleum's website. Quite a lot of information on the South West Hub is available on the website. It is quite detailed. Currently, they have just finished the 2D exploration and they are going to 3D, which will require seismic testing. Obviously, the department needs the consent of owners if it wants to go onto their land. A nice pamphlet has been put out for all the farmers so that they know what is going on. I picked up the pamphlet that I have in my hand when I was in Bunbury last week. It is a concise little booklet. It says that the department will not enter a person's property without the person's consent. So I can allay the member's concerns. This bill gives owners far greater negotiation ability than they have currently without this legislation being in place.

I suppose it is probably best to try to carry on. I will move to some other notes. I have just turned the page and found another page of notes on the member for Murray–Wellington's contribution that I had not seen. The

member was concerned that either the saline water in the Lesueur basin would flow through and mingle with the potable water further up or there could even be a chemical reaction. As part of the modelling, we will make sure that that does not happen. As we have said, the permeability of the strata around the Lesueur basin will have to conform to certain darcys; and, if it does not come under the right darcy measurement —

**Dr K.D. Hames** interjected.

**Mr W.R. MARMION:** It is 10 to the minus six and 10 to the minus eight darcys, Deputy Premier. It was a new thing for me, too. I did not know until this morning that the measure for permeability is darcys. In fact, just on that point, since the Deputy Premier interjected, the viscosity of the fluid and the amount that we can get through the permeability is also a factor at play in how the darcys are measured.

I go back to the points made by the member for Murray–Wellington.

**Ms R. Saffioti:** Shall I interject?

**Mr W.R. MARMION:** Yes; okay.

**Ms R. Saffioti:** Resign; resign!

**Mr W.R. MARMION:** Okay; thank you.

Because the Minister for Transport is in the chamber, I will say that the member for Murray–Wellington raised the problem in his area of governments coming in and cutting off pieces of land. He was concerned about the Forrest Highway going through his electorate and the fact that it makes land less valuable. When I was with Main Roads and was in a position in which I resumed land from farmers down Augusta way, some farmers asked me to take more land than Main Roads wanted. One reason was that they could get a bit more compensation, but another important factor was to get two titles. If we put a road through farmland, the owner can get separate titles, which, on my understanding, adds value to the farm because the owner can sell one title and retain the other. I am just putting a counterview to that of the member for Murray–Wellington. In my little bit of experience of dealing with farmers and resuming land from them to widen roads or to put roads through the middle of their property, all the farmers I dealt with saw a benefit in getting remuneration for the land that was taken by the road, albeit only at the rate for rural land, and they also got the benefit of possibly having two titles. While we are digressing on that point raised by the member for Murray–Wellington, one farmer made a lot of money out of this with the deviation around Dunsborough. The road used to go into Dunsborough and then people could turn left and go down Caves Road. A nice big curve was put in the road, and the farmer was quite happy for the curve to have a very large radius, because the larger the radius, the greater the amount of land that was cut off and the greater the amount of land that could be zoned industrial—or, in that case, I think it was zoned and became the Dunsborough hotel, for those people who know the area well. There are a lot of benefits sometimes in the state government resuming land of people. That was a digression by the member for Murray–Wellington. His other concern was —

**The SPEAKER:** Members! Carry on.

**Mr W.R. MARMION:** Which clock, Mr Speaker?

**The SPEAKER:** You are living in hope, minister! Carry on.

**Dr M.D. Nahan:** Thank everyone for their contributions!

**Mr W.R. MARMION:** Can I thank everyone for their contributions—well done, minister!—and I look forward to consideration in detail.

Question put and passed.

Bill read a second time.

Leave denied to proceed forthwith to third reading.