

PETROLEUM LEGISLATION AMENDMENT BILL 2023
PETROLEUM AND GEOTHERMAL ENERGY SAFETY LEVIES AMENDMENT BILL 2023

Second Reading — Cognate Debate

Resumed from an earlier stage of the sitting.

MS M.J. DAVIES (Central Wheatbelt) [3.58 pm]: I have just a few more remarks before I pass to the member for Cottesloe. I was talking about and reflecting on some of the high-level feedback that was received during the consultation period. Obviously, the weight on the industry side was “Hurry up, let’s get on with it”, and then the Environmental Defenders Office, the Conservation Council of Western Australia and the Lock the Gate alliance, as I think we could characterise it, all have serious reservations about the methodology. In fact, Lock the Gate states that carbon capture and storage is used to justify increased fossil fuel production, and that although CCS should be regulated, especially in terms of long-term liability for environmental impacts, it should not be supported by the government or enabled through regulatory amendments as a key decarbonisation strategy or used to support or enable the further expansion of fossil fuel mining in Western Australia. As I have articulated earlier, the alliance opposition has a view that this is one of the tools in the toolbox for us as a state and a nation to meet our decarbonisation requirements and commitments. Those comments from the EDO, the Conservation Council and Lock the Gate do not align with the views that we hold within our parties.

Given some of the challenges we have had with consultation with previous legislation, I suppose that we should note that consultation has been undertaken. There was some reasonably technical feedback in addition to that high-level summary that has been outlined from those involved in the industry, and I suspect prospective companies that will take advantage when acreage is released, and those with their own projects. I guess that we are not in completely unfamiliar territory, given that there is a project operating at present, but there are going to be a number of moving parts to bring this legislation to life.

In the minister’s second reading reply, perhaps he would like to comment on the skilled workforce and resources that the department will require. In the current environment, these workers are difficult to source, particularly in an emerging industry. I am interested in how the legislation and strategy outlined by the Premier last year will be delivered, and what conversations are being had with the Ministers for Training and Workforce Development and State and Industry Development, Jobs and Trade to ensure that we have a workforce that can capitalise on the opportunity. I presume that there are some transferable skills already in the petroleum, oil and gas industry, and that the regulatory environment will be the same, but no doubt there will be other new and emerging skills required.

I note that the government stated that it will prioritise the assignment of staff resources and systems development to ensure that there will be an effective and efficient approvals process; those were comments in the consultation paper that were attributed to the department. Maybe the minister can also advise what additional resources have been invested in developing those systems, and those that will be involved in the approvals. Have they poached staff from within other areas of the department, or are there new appointments? I guess I am really trying to ascertain exactly how much faith industry can have in those comments that this government will, in fact, place priority on this legislation and its enactment.

We are on a pathway to net zero by 2050. We need to meet a number of different milestones. As I have said previously, carbon capture and storage is just one tool in the toolbox to assist in the decarbonisation of some of the state’s most significant emitters.

As I conclude my remarks, I will perhaps stray a little from the bill, but only briefly; they remain in the ballpark, although transitioning energy system and economy. I would say, sitting alongside this, there is the discussion around renewables and storage and the energy system as we see it as an opportunity for our state and maybe some challenges. I say that my electorate is not a stranger to significant renewable energy projects. I have spoken previously in this place about the fact that we have in our electorate one of the biggest wind farms in the nation, several solar farms and an emerging hydrogen project. At present, when it comes to the transition of the south west interconnected system and incorporating more renewable projects, there are some tensions in the electorate, and I think they will be shared across some of the other prime agricultural producing areas of the state. That is because there is a growing competition for highly productive land in the midwest, the wheatbelt, the great southern and the south west. I would urge the minister and the government not to stick their heads in the sand when it comes to the challenges of this transition. We are talking about potential pipelines—the storage of captured carbon dioxide in aquifers or areas around the state. It will require infrastructure that will traverse private and government property, or crown land. No doubt, there will be an interest in exploration in some areas around the state, and that will bring some challenges where there are private landholdings, as well. I think that clear rules of engagement and a strategy and regulatory system that will prevent a haphazard approach and a crisscrossing of infrastructure across prime agricultural land and private landholdings will be essential.

Likewise, I also note as part of this debate, because it is another tool in the toolbox that some of our major emitters are using, that there is an emerging trend whereby major industry players like Woodside, Inpex Corporation and others pursue tree planting on what is considered—these are not my words but theirs—non-productive land in agricultural areas of our state. That is in addition to the sandalwood estate expansion that is being pursued by the state government. I can assure members that non-productive land is in the eye of the beholder, particularly in the wheatbelt. We have got very good at growing exceptionally large and very productive crops on what I would say is some of the worst soil in the world with very little water. We are masters of dry land farming, and we are rarely recognised for its significant contribution to the state’s economy and trade balance sheet. I think that during this energy transition, an emerging discussion is to be had about what exactly will be the impact on populated areas and agricultural land of our state, the ever-increasing competition for that land, how that will interact with the mining and exploration industry, and also how we will deliver this new energy around the state. We are probably a little bit behind in that debate; it is quite fierce in the eastern states. They have less prime agricultural land, so they are fighting over the same postage stamp and have been for some time. But it is coming in Western Australia, and I regularly have conversations with local governments and landowners about how this will progress going further, as everyone, particularly the major emitters in our state, looks to try to offset their emissions so that we can keep the lights on and create projects that will establish and underpin new and existing industry. It is not that we are saying “stop”; we are saying that we need to have a very serious conversation about what this will look like, rather than just rushing hell-bent into some of these projects. In parts of the electorate, there is a history around managed investment schemes. Going back to talk about the tree planting, that has left a very poor taste in many people’s mouths. As I say, I think that having a haphazard approach to any of this transition would turn people away from what it ultimately is that we are trying to achieve, which is to reduce our emissions and meet our state, national and international commitments.

I am very happy to say on record that I remain cautious and unconvinced about the merits of purchasing property wholesale to convert to trees. I do not know that it will make a significant amount of difference to what some of the major emitters in our state are trying to abate, and it is certainly a discussion that I am continuing to have with the sector. Perhaps there will be more upside to it than I can see at this point, but at present I think it is being viewed with caution, particularly in parts of my electorate.

I turn back to the bill. I only strayed for a moment, but it was worth having that little conversation, because at the moment, all those discussions are live. I reiterate that from the opposition alliance’s perspective, we support the legislation. I look forward to gaining from the minister a better understanding of how the development of regulations and all the framework that comes with the bill will be progressed. I am looking for time lines, because industry is asking for time lines, and how the government envisages this creation of a world-class carbon capture, utilisation and storage industry will be realised.

I want to put on record my thanks to the department for providing briefings, and, as I said at the beginning, for accommodating my absence from the chamber in the last session so that we could continue this debate today. I look forward to consideration in detail.

DR D.J. HONEY (Cottesloe) [4.10 pm]: First and foremost, I think these are the minister’s first bills.

Mr D.R. Michael: These are my first mining bills.

Dr D.J. HONEY: These are his first mining bills before the house—congratulations. We in this chamber all know that nothing is more important to the wellbeing of Western Australians than the health of the mining sector. I will say a little bit more about that in a moment.

The purposes of the Petroleum Legislation Amendment Bill 2023 and the Petroleum and Geothermal Energy Safety Levies Amendment Bill 2023 have been outlined, but I reiterate: they intend to amend the Petroleum and Geothermal Energy Resources Act 1967, the Petroleum Pipelines Act 1969 and the Petroleum (Submerged Lands) Act 1982 to provide a framework for the permanent geological storage and transport of greenhouse gases and for the exploration and production of naturally occurring hydrogen as a regulated substance. Of course, they also look at geothermal.

At the outset—I note some fine officers at the back of the chamber—what a wonderful regulatory framework we have in this state; we are blessed with superb regulatory frameworks in the energy sector. Although the former Minister for Energy and I might have had some interesting debates in this chamber, one thing I consistently championed and congratulated the minister for was his continuation of the excellent work done in this state on a regulatory framework for energy. Our regulatory framework for mining is certainly the envy of the world. I think it is fascinating.

I was recently talking to someone from India—a country with vast resources. Any geologically minded members would know that the south east corner of India and the north west coast of Western Australia were once one as one giant land mass. They pulled apart. In large part, India has the mineral reserves that we have, yet virtually none of

them are developed or they are developed in a haphazard way. One of the reasons for this is that if someone identifies a prospective mineral deposit in India and says, “Look, I think there are minerals here; I want to develop it into a mine or do more detailed exploration”, the government will then put it out to tender. Why would someone undertake exploration if they had to potentially inform their competitors? Of course, we have a very defined stepwise process. Yes, you have to get approval to explore, but once you do that, you have your foot on that lease. Provided you have met certain conditions, you can go forward. We have an excellent regulatory framework already in this state. As the lead speaker on our side has already indicated, this legislation will continue to improve that regulatory framework in a couple key areas—obviously, geosequestration being one.

As was pointed out, the changes in the bills were outlined in a similar bill in 2013 that was not progressed. Of course, these bills will extend the geosequestration to offshore carbon sequestration projects. The bills will make some minor changes to laws covering geothermal exploration and energy recovery, but the main changes relate to the inclusion of carbon sequestration and related activities. It is really fascinating to see how the carbon sequestration debate has progressed. Even going back a decade, carbon sequestration was seen to be a bit of a fringe suggestion; in fact, it was perhaps put in the basket of libertarian views around energy transition. It was certainly not seen to be a mainstream activity.

The state government did the Collie gas hub project. It might surprise the minister to know that I was on the industry advisory group for the Collie gas hub project under the umbrella of my work for Alcoa. At that stage, Alcoa was not interested in carbon sequestration; it was interested in potentially using some of the carbon dioxide. The proposal was for a pipeline from the Kwinana–Rockingham industrial area to further south, although not really to Collie, for sequestration. Alcoa was interested in using the carbon dioxide to neutralise the caustic in its residue deposits; therefore, rendering them more inert, if you like, in the long term. I got a bit of insight into it. When I looked at the costs involved, I formed the view that it was unlikely to happen. I am still uncertain about the idea of sequestering onshore into new wells—that is, sequestering into hypersaline deep aquifers and the like. The costs are huge, but the sequestration of carbon dioxide into expired gas wells definitely looks like a much more achievable project. Lights can now be seen in the eyes of gas producers. All of a sudden, something that was potentially a closure liability has become a second business opportunity for them. It has been a real revelation. Nevertheless, it is not cheap. I will not repeat the comments of the member for Central Wheatbelt. The fact that it will add significant costs to our industry needs to be considered. If we do this unilaterally, it could harm our economy. Nevertheless, this legislation is important to make that business opportunity a reality.

A good template in this bill is that the government in a sensible and cautious stepwise way is taking on the long-term liability for these sequestered carbon dioxide deposits. The biggest barrier to the secondary use of materials—that is, re-use of what is otherwise mine waste—is the fact that there is no regulatory framework for secondary use of products. Again, I hark back to my old employer. In its residue areas, Alcoa produces a sand material that is perfect and superb for construction. It then produces an alkaline mud that would be the most fabulous soil amendment for the coastal plain, particularly for the deep sandy soils in the wheatbelt. None of that material should be put into a deposit; to do so would create legacy issues in the future with it all concentrated in one place. Unfortunately, we do not have a regulatory framework that allows the passing on, if you like, of liability. I know when Alcoa was looking at a project around the re-use of that material—there were some very successful trials—lawyers in America would not progress it because they did not want to deal with the long-term liability issue. One of the key enablers to sequestration is that sensible stepwise approach, first, to ensure that the state is not willy-nilly taking on onerous liabilities for the future and that it is done in a proper way, and, second, that the state then picks up the liability so proponents can confidently embark on sequestration and their lawyers and risk people will not stop them. That is a very sensible move. I will not go through the steps outlined in the bills. As I have said, they represent a very sensible approach. As I understand it, something like a 20-year period will exist between cessation of injection and the state ultimately picking up long-term liability.

I find the issue of hydrogen and other gases and the roles they play very interesting. With some embarrassment, I remember a few years ago that a geologist from Russia, a lady I knew, told me about natural hydrogen deposits in the ground. I must say that I rather poured cold water on her assertions, and I am very embarrassed to say that she was completely right! I simply had not heard of that. There are hydrogen deposits. That is potentially a cheaper way to get hydrogen. I am interested in the bills. I asked at the briefing—I thank the minister for that; the staff were very good—how we can separate the hydrogen, because all natural gas has some hydrogen in it. What is the line? The gas is extracted now and often it is flared off and burnt. How will we decide that it is the abstraction of a secondary product?

Another thing I want to give a plug to is another secondary product, or “regulated substance”, as the bill describes it, and that is helium. Other than laughing gas, people might not think much of helium, but it is an incredibly important gas, scientifically. When things are done at very low temperatures, because hydrogen is potentially an explosive gas, helium is used instead. It is cooled and becomes a liquid. Boiling off that liquid reduces the temperatures down to near absolute zero. There is a shortage of helium in the world. Pretty much the only source of helium is

natural gas because it is a by-product of natural gas. I do not know what percentage of helium we capture, but once it has gone it is gone. Getting it from the atmosphere is prohibitively difficult and expensive. I know that this is not the purpose of the bill and I do not expect the minister to respond, but I think that he should have in the back of his mind whether we are wasting helium because, as I said, once it has gone, it has gone. For the future of humanity, helium will be important for science and for use on an industrial scale. That is a really important gas when we need to cool things to near absolute zero, which is -273.15 degrees Celsius. I would not expect members to think much about it, but it is very important. This bill will make sure that we do not lose sight of that.

Another area I am interested in is the storage of hydrogen. I can see in the bill that hydrogen is a regulated substance. Going through this bill in consideration in detail is a daunting prospect. I am sure that the minister will have spent many sleepless weeks poring through it to be on top of the detail. I cannot quote the section of the bill, but one part says that people cannot reinject a regulated substance. One of the big issues with renewable energy is the ability to provide a long-term backup when the sun does not shine and the wind does not blow. Batteries are important. I do not want to have a debate on energy or the energy transition. However, the truth is that although batteries are important, they do not give us long-term storage. At the moment, the only solution we have is to burn natural gas to generate electricity when we do not have wind and sunshine for extended periods. One of the potential solutions to that problem is to produce hydrogen when there is excess energy. Again, most renewable energy generation capacity is unused because we need multiple redundancies, but we can only use what is used at the time. If we have a four-gigawatt requirement in the SWIS, we probably need about 25 gigawatts of generation capacity and battery storage to provide something approaching stable power. We could produce and store hydrogen. The volume of hydrogen that we would need to store is large. If we could sequester hydrogen into natural gas deposits or suitable formations, that would provide the scale of energy storage that we will need to backup the power system. If we could store hydrogen at scale, we would have a secure and safe energy supply in the future based on renewables. I do not know whether the bill will ban that per se. Nevertheless, the ability to sequester hydrogen is important.

The key question is: do the petroleum industry and the potential carbon sequestration businesses support the bill? Yes, there is very broad support, as was pointed out in some detail by the shadow in this area. A couple of issues were raised but nothing that is fatal and that we will oppose. Do we align with existing federal legislation? The bill was specifically designed to ensure similar provisions to the existing federal laws to avoid confusion between jurisdictions. The bill certainly ensures clarity for project proponents and also, importantly, protects the interests of the state.

I want to cover geothermal energy in particular. The bill deals with geothermal energy. In fact, that was dealt with previously. There have been changes to that. Perhaps I will make a pitch for this, because I am concerned about what has not happened with geothermal energy in the state. When people think of geothermal energy, they typically think of something associated with a volcanic type of activity. They think of New Zealand's geysers coming up out of ground or of Yellowstone National Park where a hot magma body is not far under the surface that heats everything up and drives production.

Mr D.R. Michael: I am always concerned when there are geezers coming out of the ground.

Dr D.J. HONEY: There are geezers coming out of the beach down at Cottesloe.

Geothermal energy gets hotter the deeper it is into Earth's crust. It does not get hotter because it is closer to the centre; it is because of the nuclear energy. Primarily, it is the natural breakdown of radionuclides in the rocks that produce the heat that is trapped by the blanket of soil and rock above it.

[Member's time extended.]

Dr D.J. HONEY: Some members know that we get low-grade geothermal heat for swimming pools in Perth. For example, the Claremont swimming pool, which is where I go when the shark net is not up, has a geothermal system. That system goes down only a couple of kilometres. Effectively, hot groundwater is extracted. The water is pumped up and heat is extracted through heat exchanges and it is pumped back into a shallower, cooler aquifer so that there is no thermal mixing. Some six kilometres or so underground gets to very high temperatures of 400, 500 or more degrees Celsius. Many people do not think of Western Australia, and particularly the southern part of Western Australia, as being prospective for geothermal energy. However, the devil is always in the detail. Typically, geothermal energy is associated with hot rocks. They are granite rocks and similar types of rocks that have a high radionuclide content and are hotter. They are close to the surface and there is not as far down to drill to get to them. However, drilling through granite is quite hard—literally—and it is expensive. The harder the rock, the more expensive it is. The whole south west of the state is, effectively, layered sandstone and is a very easy material to drill through. Although the drilling must be deeper in the south west of the state compared with parts of South Australia or the Northern Territory to get to the temperatures we want to get to, it is a lot easier to drill to those depths. The beauty of geothermal energy is that on a human scale it is effectively inexhaustible. By the time those processes that generate the heat are gone, humans are likely to be gone from the surface of the Earth. I hasten to add that will be a long time! The beauty is that it is effectively an inexhaustible supply of energy.

Good Water Energy made numerous attempts to try to get approval to drill in Western Australia but it could not. It seemed to be frustrated at every turn. I will not repeat the discussions I have heard because I appreciate that there are always two sides to a debate, but that company has gone to the Northern Territory and is currently going through the process of drilling a well there to prove its technology. Its technology has an intrinsic advantage because it is single-well technology in which only one well is drilled instead of two, which is the normal approach for geothermal drilling. They were frustrated at every turn.

I am interested in the detail of the Petroleum Legislation Amendment Bill. There seem to be two approaches to geothermal exploration. Amended section 32A will allow the minister to, effectively, allocate a block for geothermal exploration, but section 33 involves a bidding process. The concern of Good Water Energy and other people who are interested in geothermal exploration, is that existing petroleum producers will always outbid a startup that is trying to develop a geothermal process. If we have a bidding process for a block, the existing petroleum producers could always outbid a geothermal proponent because no large-scale geothermal proponent has deep pockets. If a petroleum producer says, “No, we are interested in this too”, and renews that lease for a couple of terms, the geothermal producers will have gone broke and gone away. I am interested to understand the process a geothermal proponent will go through and whether they can be outbid as a usual occurrence when trying to get a footprint on a lease. Perhaps the minister’s folk could advise me of that.

Australian Energy Producers raised some concern around proposed section 62(6), which limits greenhouse gas injection to a single-block area. I know that the minister would be aware of this. Its concern was that when injecting geological formations, the producer does the best it can, but these things are kilometres underground and cannot actually be seen. One does not know whether the material is going off their lease area. I understand the feedback from government was that it recognises this is an issue, but it does not see it as a major roadblock or a risk to producers. Perhaps the minister could outline that in more detail. I am not seeking to cause any fuss over it. I think that this bill has been developed with very good intent and, as has been indicated, we are a strong supporter of the bill going through.

Overall, and as I have said, it is a complex bill. Nevertheless, it is a good bill, which is a continuation of the excellent, might I say, bipartisan regulatory framework that has been developed around mining. I congratulate the government for bringing this on. We will obviously go through consideration in detail, but we will be looking for a speedy progression of the Petroleum Legislation Amendment Bill 2023 through the Parliament.

MR D.R. MICHAEL (Balcatta — Minister for Mines and Petroleum) [4.33 pm] — in reply: I am pleased to conclude the debate on the Petroleum Legislation Amendment Bill 2023 and Petroleum and Geothermal Energy Safety Levies Amendment Bill 2023, noting that I was not the minister who brought it into this house. He has just made a brief appearance, but I congratulate the member for Cannington —

Dr D.J. Honey: Take all the credit because you will take all the blame.

Mr D.R. MICHAEL: Absolutely. I know that a large part of the bill came from the former government’s work as well, so I thank those involved at the time.

Ms R. Saffioti: This is all very friendly.

Mr D.R. MICHAEL: It is very friendly. I am very friendly, minister.

I thank members for their contributions. I might go through a few of them. A couple of weeks ago we heard from the members for South Perth and Swan Hills, who were both pretty passionate in their speeches. The member for South Perth talked on the bill but also some of the challenges we have in the electrification of the south west interconnected system, the energy requirements we will need, and the uptake of electric vehicles and those types of things and how this bill will relate to that. The member for Swan Hills is very much an expert on these issues and anything to do with energy. They both made excellent contributions.

Today, the member for Central Wheatbelt, as the shadow Minister for Mines and Petroleum and the lead speaker for the alliance, spoke about the importance of gas as a transition fuel that will help the globe, especially some of our major trading partners, in their transition away from coal as well, something for which all three parties in this place have a similar policy, noting the other views in the community. She talked about her past involvement in the process of carbon capture and storage and some of the challenges faced by Chevron. I, too, have been briefed by Chevron over multiple years in a row. It seems to be getting there, which is great, and it will hopefully be able to showcase that project to the world, given its planned size. It is, obviously, critical for the emissions reduction strategy that we look at these things and the opportunity that, as I said, arises with some of the major trading partners like Japan and South Korea that are looking for those kinds of things.

I have some answers to a few good questions. I have tried to pick up as much as I can from both members on the other side. If I have missed something, can we please deal with it when we are sitting around the table. In no particular order, I will start with the South West Hub carbon capture and storage project, which I think both members spoke on. This was an initiative to address greenhouse gas emissions in WA by establishing the feasibility of storing

industrially generated CO₂ deep underground in the Lesueur formation. Between 2011 and 2015, the hub collected data and core samples through seismic surveys and four stratigraphic wells north west of the Harvey town site. Three of the wells have since been decommissioned but one remains for ongoing research. The research work is currently being undertaken by CSIRO and Curtin University and is internationally recognised. That project has supported the recognition of Western Australia as a research centre for carbon capture and storage.

I think the member questioned why we landed on 15 years as the time frame for liability for the state. That comes from the 2013 bill, but it also matches the commonwealth legislation. It is important to know that 15 years is the minimum time frame. It has been explained to me that if a proponent were to come to us after 15 years and one day, and say that they wanted to really push their liability, the state has to decide. The liability time frame can be longer if we think it needs to be longer to protect the state's interests.

I agree with the member in terms of the skilled workforce. I have been told that this process is very similar in a lot of ways to the petroleum industry and it uses the same location, so many of the skills will be transferrable, but we will continue to look at that with the Minister for Training and Workforce Development and decide whether we need to offer bespoke training to Western Australians. The member briefly mentioned the approvals process. She would be well aware that the Premier made announcements in late December about the approvals processes. The Premier, as Minister for State and Industry Development, Jobs and Trade, the Minister for Environment and I continue to work on these things and we hope to update the community later this year on our progress with those initiatives.

In terms of adequate resourcing for the department, many of the skills required to successfully implement the CCS framework already exist within the department and include technical engineers, geoscientists, well-integrity engineers and environmental scientists. These are very smart people who have already assisted in the development of this bill and its subsequent regulations. Implementing a new regulatory framework will require additional resourcing as part of its commencement and we will consider those requests from the department once the regulations are in and the system is up and running. We look forward to WA being a world leader in this new technology and the department will obviously be a large part of that.

We covered a few property rights, even when the member veered off track a little. I am not going to get into that issue, but, more generally on property rights, the current regime in the petroleum and geothermal area has been replicated for greenhouse gas storage. These provisions are considered fit for purpose given the expectation that land access arrangements between operators and landholders are negotiated fairly and equitably.

I am aware of challenges that occurred prior to 2015; however, I acknowledge the good work that was done through the land access round table working group in WA that was chaired by Hon Hendy Cowan. The group developed policies and guidelines to ensure fair and sustainable access to land. I understand, through the department, that those arrangements are still in place today and are working well.

In answer to questions about the timing of the bill, in my short time in this role, a few people in industry have said to me that they thought the bill had gone through Parliament under the former government. It got so far, and a few people said, "Oh, did it not happen?". As the opposition well knows, it came to Parliament. Why has it taken so long? The amendments within this bill were originally contained within three separate bespoke bills. I am sure everyone knows that because that was consulted on. One was to introduce a framework for naturally occurring hydrogen; one was for greenhouse gas storage and transport; and one was for electronic transactions.

The amendments have been amalgamated to enable a response to several emerging industries simultaneously—namely, naturally occurring hydrogen and greenhouse gas storage and transport. Many of the provisions relating to greenhouse gas follow the existing petroleum legislative regime. That approach allows for the existing suite of petroleum regulations for each act to be amended to include greenhouse gas provisions due to the similarity of operations. If the greenhouse gas regime was introduced via a standalone framework, it would have to replicate most of the content of the current petroleum acts, which would mean an enormous amount of drafting and duplication.

The greenhouse gas aspects were based on the 2013 bill, which would have amended the Petroleum and Geothermal Energy Resources Act 1967 and the Petroleum Pipelines Act 1969. The Petroleum Legislation Amendment Bill 2023 will expand the amendments to the state's offshore legislation, the Petroleum (Submerged Lands) Act 1967. Following consultation, many stakeholder submissions were considered by the department—some of which the member went through—including policy considerations that were not raised in 2013 on the greenhouse gas storage and transport aspects. Most of this happened from April last year until the bill's introduction to Parliament in November. It is a complex bill with many clauses. Parts of it were from 2013, but, as members would know, we cannot bring in a bill that has sat around for 10 years. That is why we must go through the process again.

Due to the complexities of the bill, the Parliamentary Counsel's Office recommended administrative and minor amendments following its introduction to ensure the proper working of the bill. These were identified due to the complexity and scale of the amendments—namely, amending the three petroleum acts as well as making amendments across multiple divisions. It is a product of amalgamating three separate bills into one. Although there are numerous

amendments, some are duplicative and repeated across three acts and represent a small proportion of what is a very complex and lengthy bill. The number of amendments is not ideal; however, it is important that we get it right.

The member asked about the timing of the regulations. I agree: the sooner we can get the bills through both houses and the regulations done, the better. I am keen to see the framework implemented. I cannot give the member a detailed time line, but I understand the need to get it done. I understand the department has already commenced initial engagement with industry, which is keen to be involved and have input into the development. Industry and our very important peak bodies, the Association of Mining and Exploration Companies and the Chamber of Minerals and Energy, have mentioned to me that they would like to be part of an implementation co-design group. I think the department's intention is to bring them together with some industry participants. I think there is an international expert group that might come in for the very technical regulations that are needed. As soon as we can get the bill through both houses, the sooner we can get going on that. I will make sure we do it as quickly as we are able to.

The member for Cottesloe is obviously very knowledgeable about this, as is the member for Central Wheatbelt.

Ms M.J. Davies: I think we can agree that he has some industry experience!

Mr D.R. MICHAEL: He knows a few things! What is the temperature in kelvin again?

Dr D.J. Honey: It is that 273.15 kelvin is zero degrees.

Mr D.R. MICHAEL: I remember numbers pretty well, but that is ridiculous!

The member mentioned the excellent regulatory framework. I agree; it is something that has struck me since taking on this job. Multiple diplomats from other countries have approached me. Their mineral and resources industries are in a fledgling state, and they ask how we accomplished what we have here. I know that it is something the department will assist with to support our important international relationships. I think it is important from an Australian national security point of view, but also the right thing to do when they look at us and say, "You've done things the right way. How do we do it?"

The member mentioned natural hydrogen, which is an important part of the bill. We think we may have a bit of it under the ground here. It does not need a plant or anything; we can just dig it out of the ground, which would be great. He also mentioned helium, which is not part of the bill. I know we probably have reasonable helium reserves, and, as he said, helium and hydrogen come with other products as well. Several basins are pretty prospective. I think, from my briefings, that a lot of them sit under one of our deserts; however, new technology and new ways of doing things means that it could be economical—there is a worldwide shortage of helium. In the last week I think there have been discussions on mining news sites about helium in Western Australia, which I do not think there has been much of in the past.

The member had concerns about the bidding process for geothermal. I was told that the dedicated annual acreage release for geothermal will be driven by nomination processes from industry. If he needs to get into it later, we are happy to —

Dr D.J. Honey: By interjection, can I ask a question? Is geothermal somehow different? Do we go through the normal process of saying, "I want to do this", and go to the minister, and the minister looks at it and says, "Yes, I think that's reasonable", or if there are several proponents, decides and you can go through it, or does it cascade down to a bidding process, in which the deepest pocket can push people out? That was really my question there.

Mr D.R. MICHAEL: When we get into consideration in detail, we will get a proper answer for the member on that particular clause.

This bill is one of many actions the Cook Labor government is taking to support industry as it transitions to net zero by 2050. The Intergovernmental Panel on Climate Change has said that we cannot get to net zero without CCS. The bill provides the legislative certainty to encourage greenhouse gas storage projects and the development of the greenhouse gas storage industry. The bill demonstrates our commitment to utilising technology to address environmental challenges effectively. This bill allows WA to play a role in using CCUS to decarbonise industry.

The greenhouse gas storage and transport framework is pivotal in reducing carbon emissions and mitigating the impacts of climate change. These amendments are important for our state's future and will provide the resources and industrial sectors with opportunities to decarbonise. Without robust initiatives, Australia's efforts to combat climate change will be significantly hindered. Therefore, it is imperative to recognise the vital role that greenhouse gas storage and transport plays in our economy and our collective efforts towards a sustainable future—albeit, as the member said, it is not a silver bullet.

These bills will enable the exploration and production of naturally occurring hydrogen and address operational amendments relating to insertion of polluter-pays provisions, royalty metering, underground storage of petroleum and blending of additives in pipelines.

I thank all members for their contributions, and the support from the Liberal and National alliance, and I look forward to a further discussion on the bill during our process of consideration in detail.

Question put and passed.

Bill (Petroleum Legislation Amendment Bill 2023) read a second time.