



TRANSPORT AND RESOURCES COMMITTEE

Members present:

Mr SR King MP—Chair
Mr BW Head MP
Mr JR Martin MP
Mr LA Walker MP
Mr TJ Watts MP

Staff present:

Mr Z Dadic—Assistant Committee Secretary

PUBLIC BRIEFING—INQUIRY INTO THE INTO THE GAS SUPPLY AND OTHER LEGISLATION (HYDROGEN INDUSTRY DEVELOPMENT) AMENDMENT BILL 2023

TRANSCRIPT OF PROCEEDINGS

Thursday, 25 May 2023

Brisbane

THURSDAY, 25 MAY 2023

The committee met at 1.14 pm.

CHAIR: Good afternoon. I declare this public briefing for the committee's inquiry into the Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill 2023 open. My name is Shane King. I am the member for Kurwongbah and chair of the committee. I would like to respectfully acknowledge the traditional custodians of the land on which we meet today and pay our respects to elders past and present. Today Lachlan Miller MP, the member for Gregory and deputy chair, is an apology, so he will not be joining us. We are joined by: Bryson Head MP, the member for Callide; James Martin MP, the member for Stretton; Les Walker MP, the member for Mundingburra; and Trevor Watts MP, the member for Toowoomba North.

On 9 May 2023 the Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement introduced the Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill 2023 into the Queensland parliament. It was referred to the Transport and Resources Committee. The purpose of today's briefing is to assist the committee with its consideration of the inquiry. The committee's proceedings are proceedings of the Queensland parliament and are subject to the standing rules and orders of the parliament. As parliamentary proceedings, under the standing orders any person may be excluded from the hearing at the discretion of the chair or by order of the committee. The committee will not require evidence to be given under oath, but I do remind witnesses that intentionally misleading the committee is a serious offence. You have previously been provided with a copy of instructions for witnesses, so we will take those as having been read.

The proceedings are being recorded by Hansard and broadcast live on the parliament's website. Media may be present and will be subject to the chair's direction at all times. The media rules endorsed by the committee are available from committee staff if required. All those present today should note it is possible you may be filmed or photographed by media during the proceedings and images may also appear on the parliament's website or social media pages. I ask everyone present to turn mobile phones off or to silent mode.

LLOYD, Mr Kahil, Executive Director, Hydrogen, Department of Energy and Public Works

MESSNER, Ms Shoena, Acting Chief Inspector, Petroleum and Gas, Resources Safety & Health Queensland

REES, Mr Marcus, Director, Georesources, Department of Resources

STORY, Ms Bronwyn, Director, Policy and Strategy, Hydrogen, Department of Energy and Public Works

CHAIR: Welcome. I invite you to make a short opening statement, after which we will have some questions. If we could get any responses to questions taken on notice today by 4 pm on Friday, 2 June that would be appreciated.

Mr Lloyd: I would also like to begin by acknowledging the traditional owners of the land on which we meet and pay my respect to elders past and present.

Globally, demand for hydrogen is increasing, with growing international interest in its use as a future energy and fuel source to support decarbonisation and climate commitments. Countries such as Japan and South Korea have made commitments to net zero emissions and are looking to renewable hydrogen to contribute to meeting these targets. Japan, for example, has set hydrogen usage targets of three million tonnes per annum by 2030 and 20 million tonnes per annum by 2050. It is also now considering targets of 12 million tonnes per annum by 2040 along with significant government investment to support those targets. South Korea also has a hydrogen road map, and if it is fully realised it is expected that hydrogen demand will grow from 470,000 tonnes per year currently to about 1.94 million—or 2 million—tonnes in 2030 up to 5.26 million tonnes in 2040.

Queensland's wind and solar resources, port infrastructure and trade experience have contributed to growing international interest in investment in projects in Queensland. There are around 50 projects in various stages throughout Queensland, depending on the type of project. The renewable hydrogen industry is also expected to play a key role in supporting domestic decarbonisation as both an energy source and a potential future fuel source for hard-to-abate industries like heavy vehicles.

Independent modelling commissioned to support the development of the Queensland Energy and Jobs Plan, which was released in September last year, forecast that the state's hydrogen industry could be worth \$33 billion by 2040. The Queensland Energy and Jobs Plan included a range of actions to support the growth of the renewable hydrogen industry, including the preparation of legislation to support the effective regulation of hydrogen development and use. The first phase of this commitment, and the subject of this bill, prioritises amendments to provide a clear and effective regulatory framework for transporting renewable gases and hydrogen in pipelines. Pipelines will be essential for hydrogen production and export as they will facilitate the transportation of hydrogen and other gases to markets or large facilities—for example, transporting hydrogen from a production facility to an export terminal.

The Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill aims to provide a clear regulatory pathway for the transportation of hydrogen and other prescribed substances related to the storage or transport of hydrogen. The bill is intended to achieve this by amending two acts: the Gas Supply Act and the Petroleum and Gas (Production and Safety) Act 2004. In Queensland these acts currently provide the regulatory frameworks for proponents seeking to transport petroleum and gas through pipelines. Broadly speaking, the Gas Supply Act currently regulates distribution pipelines for the supply of processed natural gas to customers, while the Petroleum and Gas (Production and Safety) Act regulates transmission pipelines—the larger pipelines—which generally allow for the transportation of gases from the point of origin to market.

Safety requirements for both transmission and distribution pipelines and the reticulation systems are, and will continue to be, regulated under the Petroleum and Gas (Production and Safety) Act by Resources Safety & Health Queensland. The intent of this bill is to ensure there is a clear regulatory framework for authorising the construction, operation and safety management of hydrogen and other renewable gas pipelines and distribution networks. To achieve this, the bill extends the regulatory and safety frameworks currently applying to natural gas pipelines to hydrogen and other renewable gases. I will briefly discuss the amendments proposed to each of those acts in turn; first, the Gas Supply Act.

As I mentioned, the Gas Supply Act currently regulates the supply and sale of natural gas to customers through distribution pipelines in Queensland. This act is regulated by the Department of Energy and Public Works as the agency responsible for administering that act. The amendments in this bill aim to enable the distribution of hydrogen and other renewable gases in addition to processed natural gas so consumers in Queensland go through distribution pipelines authorised under that act. The bill proposes to achieve this through extending the remit of the Gas Supply Act from processed natural gas, which is currently what it is regulating, to also include hydrogen, hydrogen blends, biomethane and other covered gases.

In order to give effect to this, the bill before the committee includes the following definitions. The new term 'covered gas', which is defined in the bill as a primary gas or a gas blend and a primary gas, is then defined in the bill as well. That is defined as processed natural gas, hydrogen, biomethane, synthetic methane or a substance prescribed by regulation. The term 'gas blend' is defined in the bill as meaning primary gases that have been blended together and are suitable for consumption.

The existing term of 'processed natural gas' in the Gas Supply Act is retained. It is defined as a gas consisting of naturally occurring hydrocarbons and other substances where more than half its volume is methane and it has been processed to be suitable for consumption, and that is really important. Hydrogen is not defined in the bill and therefore has its ordinary meaning. Biomethane is defined as a gas which has been produced from refining biogas, and biogas is a gas made from organic matter other than fossilised organic matter. Synthetic methane, which is also defined in the bill, is a gas produced by the methanation of carbon dioxide, and that means it is an industrial process that combines hydrogen with carbon dioxide to create methane. Biomethane and synthetic methane must also be suitable for consumption. The requirement to be suitable for consumption in the bill is necessary to ensure that the processing requirements of those gases are suitable for end use, so suitable for the customers.

The bill also proposes a regulation-making power to add additional gases as covered gases under the bill. This is to allow for the ability to respond to any scientific or technological advances that may warrant further gases to be added to the definition of covered gas. The bill also includes a range of consequential amendments to the Gas Supply Act which are really aimed at extending the remit of that act to covered gases, so moving from processed natural gas to covered gases. This is effectively to ensure that all existing regulatory requirements under the act will apply to distribution authorities and pipelines for hydrogen and other covered gases.

The second act which is being amended through this bill is the Petroleum and Gas (Production and Safety) Act 2004. That act is administered by the Department of Resources and Resources Safety & Health Queensland. The Petroleum and Gas (Production and Safety) Act provides a regulatory framework for the petroleum and gas industry in Queensland and it includes a licensing regime for the construction and operation of transmission pipelines. It also addresses safety and technical issues related to the production, transportation and use of petroleum, coal seam gas and fuel gas, including distribution pipelines and distribution systems, so the safety elements from the Gas Supply Act are picked up under the petroleum and gas safety side.

Currently, hydrogen is not regulated under the act except to the extent that it is used or intended to be used as a fuel gas. The bill proposes to amend the Petroleum and Gas (Production and Safety) Act to provide a clear and effective regulatory pathway for a proponent to apply for a pipeline licence for the transmission of hydrogen and other hydrogen carriers. To enable this, the bill amends the definition of 'fuel gas' to include hydrogen or a hydrogen gas blend that is used or intended to be used as a fuel to produce heat, light or power. Hydrogen used or intended to be used as a fuel is already included as a fuel gas under the Petroleum and Gas (General Provisions) Regulation; however, the bill proposes to elevate this definition to the act. This will provide greater clarity about the regulation of hydrogen in Queensland.

The bill also inserts a new definition of 'regulated hydrogen' into the petroleum and gas act which includes hydrogen, a hydrogen gas blend or another substance prescribed under a regulation that is related to the storage or transport of hydrogen, which are substances known as hydrogen carriers. The intent of this amendment is to capture hydrogen carriers that are involved in, or produced for, a process related to the storage or transportation of hydrogen. The ability to prescribe hydrogen carriers by regulation provides the framework with flexibility to adapt as technology and industry knowledge about hydrogen and its carriers grows and develops over time. At this stage ammonia, methanol, methylcyclohexane—or MCH, which is an organic carrier—dimethyl ether and toluene are the substances intended to be prescribed. The intent of these amendments is to provide certainty to investors and industry that there is a framework in place to facilitate and regulate hydrogen pipelines in a way that is safe, effective and efficient.

The bill also provides for appropriate safety considerations to be undertaken through the pipeline licensing framework. Applying the pipeline licensing framework under the act to regulated hydrogen will change existing approval processes whereby a State Assessment and Referral Agency process and subsequent safety assessment will not be triggered. To ensure there is no diminution of safety, the bill provides for safety considerations, including the requirement for safety to be a mandatory consideration, when deciding whether to grant a pipeline licence. The amendments also ensure the safe and competent management of pipelines by requiring the location, design, construction and operation of a pipeline for all regulated substances.

Also, to ensure appropriate safety consideration prior to the construction of a pipeline the bill expands the existing preconstruction notification requirements to also require the licence holder to give notice to the chief inspector prior to the start of a safety management study. A safety management study is required under Australian Standard AS2885, which is the Pipelines—Gas and Liquid Petroleum standard. AS2885 is an existing mandatory requirement for pipelines under the Petroleum and Gas (Production and Safety) Act already. The notification requirement is intended to enable an assessment to be undertaken of the matters being considered within that safety management study. This is proposed to include identifying controls and threats to the safety and integrity of the pipeline and ensuring appropriate safety measures are being applied prior to the construction of the pipeline. This approach is comparable to that undertaken through the safety assessment process under the State Assessment and Referral Agency process. For pipelines, including regulated hydrogen, which are not within the scope of the Petroleum and Gas (Production and Safety) Act, the existing Work Health and Safety Act 2011 and the Planning Act 2016 will continue to apply.

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The bill also includes a range of minor and consequential amendments that are necessary to allow hydrogen and hydrogen carriers to be transported and regulated under the Petroleum and Gas (Production and Safety) Act and the pipeline licence that act will be expanded to.

I also want to briefly touch on consultation with stakeholders to date in developing the bill. There was broad support for the provisions of the bill with minor points of feedback received through the consultation process. We released a consultation draft of the bill on 6 March 2023, with submissions invited by April 2023. There were more than 125 stakeholders from industry, local government, the agriculture sector, the resources sector, environmental groups, government owned corporations and distribution authority holders that were targeted for feedback. We received 10 written submissions. Broadly, in terms of summarising the feedback that was received, there was general support for the intent and drafting of the bill. There was support for aligning regulations with reforms occurring at the national level.

Another element of this bill is that it will provide consistency with changes being progressed at the national level to the national gas law. There was also some minor feedback about how the draft amendments could be more closely aligned in drafting. There were also several points of feedback relating to matters beyond the scope of the current bill which will be considered through a broader regulatory review around hydrogen settings. There were also minor points of feedback and technical suggestions to improve the draft provisions—these largely were around the transitional provisions—which were received and helped to clarify those amendments.

This concludes the remarks I wish to make regarding the proposed bill. I would be very happy to take any questions or point you in the right direction as to which agency can respond.

CHAIR: Thank you very much. I understand that this legislation allows for hydrogen to be transported along with other gases. Are there any physical changes to pipes, with the pressure or volatility of hydrogen versus the others, that need to be made?

Mr Lloyd: I am very happy to take the first question and then hand to Shoena to provide a little bit more context around it. The intent in the bill is that you are not going to automatically have that authority to put 100 per cent hydrogen in any pipeline. That would need an appropriate amendment process through the Gas Supply Act. If it was being provided through one of those distribution authorities, they would need to apply for an amendment. There is already under the Gas Supply Act an ability for low levels of blending that could be captured, where you would be able to put that in, provided that it was still suitable for that end-use consumption. There are some trial projects potentially around Gladstone which are thinking through blending into the local distribution network. Under the existing authority they would be allowed to do that, because it is low-level blending, provided it is still suitable for consumption, but there are a range of safety requirements that go along with that as well. I am sure Shoena would be happy to provide more detail.

Ms Messner: AS 2885 is being amended to deal with hydrogen specifically. That work is being done in the Standards Australia committee. Yes, you are right: there is a known mechanism called hydrogen embrittlement which can affect pipelines, but that really depends on the actual working conditions. It is also worth noting that hydrogen already is in some of the pipelines. In fact, town gas has a significant amount of hydrogen in it as it stands. It is not a clear-cut answer of, yes, they can or, no, they cannot; it is very much dependent on the operating conditions. I am very happy to say that, given hydrogen has been used for over 200 years now in the industrial area, the science around the materials of construction is pretty well known.

CHAIR: It was more for my own interest.

Ms Messner: You cannot just change your appliance—your cooker—to hydrogen without making significant changes. That is one of the reasons we have included the safety components. That safety management study in particular is around how the design responds to where it is so that there is an acceptable level of safety.

CHAIR: Acetylene has to be stored in a bottle with porous—

Ms Messner: With acetone, exactly.

CHAIR: That was the line of my inquiry.

Ms Messner: Good question, and absolutely I hope that most people who end up using hydrogen realise that they need to think carefully and have appropriate safety plans in place.

CHAIR: With regard to the transport of hydrogen—you see trucks on the highway with all sorts of fuels and things in them—is it able to be transported by road currently?

Ms Messner: Yes, we currently have tube trailers that are on the road. The member for Callide has some in his area.

CHAIR: I thought he might be able to answer it as well.

Mr HEAD: This bill is relevant to a few different proposals happening around the place in Callide. If you had something that was called formerly a hydrogen plant that was making an ammonia product which can then be converted into a fuel for end use or fertilisers or explosives for agriculture and mining—currently gas gets turned into fertiliser—I want to understand how, if a company is selling a product that can be for a fuel or can be for other things, at what point does it go from being eligible under this act to not being eligible under this act for the purpose of pipelines because its end use is more for an agriculture or mining product that is not specifically a fuel?

Mr Lloyd: I will hand over to Marcus to answer that question, but from a high level what the bill is intended to do is create that framework to be able to transport hydrogen that is created from renewable energy or other hydrogen molecules, under the Gas Supply Act, to put it into distribution networks, if there was a customer who wanted hydrogen from a local level. Then under the petroleum and gas act, that is more around the bigger pipelines for export and those sorts of things around transmission pipelines. From a high level, what the act is doing is providing a pathway for hydrogen or hydrogen carriers to be able to go to major facilities. I will let Marcus provide a bit more detail around that.

Mr Rees: As Kahil has suggested, the intent of these amendments is really aimed at facilitating the hydrogen industry. We think there are pathways already under the planning frameworks that allow for approvals of pipelines that deal with chemical feedstocks and that kind of thing. These particular amendments, particularly the petroleum and gas ones, are really aimed at the transport and storage of hydrogen. End use is something that will have to be considered and discretion applied during the application and assessment processes.

Mr HEAD: That gives me a good start. I turn to land rights and issues around that. On my understanding, part of this is to make it possible for a lengthy pipeline in a particular area that might have, theoretically, thousands of landholders that could be impacted. It is just not possible for companies to have individual land access agreements with people on that scale. The act was perhaps originally built around the fact that there is only so much petroleum and gas we would extract in this country because of our limitations. We are now potentially expanding upon that with different hydrogen plants and it is opening that up again. Has the department considered wider impacts long term on a lot more landholders? Before hydrogen came in, the laws had a specific scope and a finite number of people who could be impacted. This significantly expands the number of people who might be impacted by this. I wanted a few comments on whether that has been considered more broadly.

Mr Lloyd: I will start with an answer and then hand to Marcus, who will be able to talk a bit more around the land access framework or what that looks like for pipeline licences under the petroleum and gas act. Generally under the Gas Supply Act, which is just those distribution networks, a lot of those pipelines are built on public land and would need the consent of the public land entity for that. If it is on a road for those distribution ones, they would need the relevant public entity to agree to that.

At a high level we have been thinking through that issue. There is already that kind of framework under the petroleum and gas act for existing pipeline licences. As you said, the intent there is more around the gas industry. That framework is one we have looked at as being able to be applied to the emerging hydrogen industry as well. A lot of the hydrogen developments across the state at the moment are closer to the coast. At Gladstone in particular, a lot of the development is being proposed within 20 or 30 kilometres of the port, so we are not envisaging that there would be a lot more pipelines in that particular area. Under the petroleum and gas act, the resource framework does have protections around how that works in terms of getting landholder consent or what that looks like. I might let Marcus talk to that.

Mr Rees: In terms of the land access or co-existence type requirements that will apply to any future pipeline licences for hydrogen, should the bill be passed, we have picked up basically the existing framework in the petroleum and gas act. In terms of that process, to be eligible to construct and operate a pipeline you have to obtain what is called pipeline land under the act. That means the land has to be land that you own or that you have a written agreement or an easement with the landholder who holds the private land. That is the formal agreement mechanism to get that land access agreement in place. It is a written agreement or the easement. That will entail compensation for any impacts on the land owner.

There are certain provisions in there that apply if that agreement cannot be reached. That is called a part 5 permission under the act. That allows the Minister for Resources to approve the operator to go on and construct and operate the pipeline for a period of time. If by the end of that period of time that agreement has not been struck and pipeline land has not been achieved, there is a process then that would result in compulsory acquisition of that area. That is the existing framework as it applies now. As Kahil said, most of these things at the moment we are envisaging are around those areas of Gladstone and Townsville, and we are not expecting a lot of lengthy pipelines. We know that there are people looking at that, though. This framework will facilitate both of those types of projects.

Mr WATTS: I am particularly interested in the safety and the property rights issues around land access and what it might also do to people with public liability insurance. I am interested in the stability and explosive nature in terms of exclusion zones. Once it is in the pipe, is it of a similar nature to what is already in our pipes or is it dramatically different, whether it be corrosive or explosive in nature, if something goes wrong? I am also interested in what experiences might have happened elsewhere in the world, whether that be in the States or interstate here, and any learnings we might have.

The final part of what I am after is: with a regulation being able to add different things in, and with the definition being quite broad at the moment—obviously there will be a lot of different chemical possibilities here—I am always concerned that that does not come back through a process of public scrutiny if it is just by regulation. What happens when you get a bunch of lay people here is that we ask stupid questions until we are all satisfied. As an MP, those are the same questions that will be asked of my office if someone changes a regulation. I am always interested in trying to understand why we cannot just put that in there and do it in a more publicly open process, rather than just a regulation process, if there is a new gas or a new chemical composition that has a different corrosive or explosive nature. There is a broad bunch of questions in there, but I think you can see what I am after.

Mr Lloyd: I will start with the last question, because it is fresh in my mind, about the rationale behind the regulation-making power. In terms of the Gas Supply Act, any future gas which would be prescribed through that regulation would be required to still be suitable for consumption. The intent would then be to align at the national level the gases which are being prescribed under the Gas Supply Act, which for those customers are aligning with the changes happening at the national gas level, which is also putting in place an ability for the regulation to add new substances or new renewable gases over time. That would still require us to be conscious that it is in line with the intent of the act itself. We envisage that we would be consulting as part of that process. The regulated hydrogen regulation-making power under the petroleum and gas act would still need to be tied back to hydrogen as the carrier there. It would still need to be a carrier which is associated with the hydrogen process itself. It would still need hydrogen as the feedstock for it to be prescribed under that framework. In terms of the safety element, Shoena, did you want to touch on a few of those?

Ms Messner: Yes, I totally agree and appreciate the question regarding safety. Yes, the challenge that we have is with the technical developments. There are a number of different chemicals that have been touted as hydrogen carriers and each of those chemicals has a wide variety of hazards associated with it, so how can we, right at this point in time, put in place a framework that will be sufficient for all of those variances? The way we are intending to do this is by specifying the methodology and specifying the Australian Standard. As I was saying, 2885 is the pipeline standard of choice that everyone has been using, even if it says that it is not to be used for that process, because the actual methodology works. It requires that there be a safety management study put in place which explicitly identifies those hazards and how they could come about, the controls and, again, how the design responds to those particular hazards.

By specifying the methodology, by strengthening the requirements within the act to state up-front that safety is mandatory—so at that broad level we have enough space, there are enough separation distances and we understand who could be impacted should the worst occur—by expanding that section so that safety is a mandatory consideration that has to be flagged up-front and then by specifying that the chief inspector is informed of when the safety management study is performed, that allows members from RSHQ to come in and, if necessary, be involved but definitely have information about what that study has uncovered. That will then allow us to design a monitoring process which really focuses on those particular hazards, because all of the hazards are completely manageable.

We have ammonia pipelines right as we have now. We also have pipelines, as it turns out, for acids. We know how to do that from an engineering perspective. What we need to do from a public safety perspective is make sure those engineering controls are in place and maintained, and the

changes in the act that we have proposed are giving us the opportunity to be aware when those particular cases are coming into place—the key thing being before construction, because obviously by the time it is built it is really too late to make wholesale change or to go, ‘No, stop. We don’t want it there.’ It is putting it back into that design area so that we can ensure appropriate design standards are put in place to deal with the variety of chemicals that may come up.

You are quite right: there is a big difference between methylcyclohexane, which is a liquid; natural gas, which is a gas; and toluene, which has some carcinogenic properties, and hydrogen, which, as you say, has very large explosive range. All of them are currently being used within industry. This is looking at it within the pipeline context. We can do this; we just need to have the right legislative framework to ensure safety in the initial design that is then maintained throughout the design life or operating life of the asset.

Mr WATTS: Are there any negative experiences, positive experiences, lessons to be learned or things we can apply from overseas?

Ms Messner: Yes: there is a wonderful book called ‘Pipeline disasters’.

Mr WATTS: I shall download it.

Ms Messner: Yes. Pipeline management is an international concern and, again, there are international associations and there are international standards. Standards Australia and in fact RSHQ are on an international standard committee associated with how we are developing the hydrogen industry within Australia and Queensland. We are definitely active. We are also a member of the Future Fuels CRC, so we are actively monitoring developments and, in some cases, helping to sponsor some research in particular areas.

In terms of lessons, yes, we know that it has a very high explosive range. We know the properties. As I said, we also have a lot of evidence in how we are to manage that safely, and the accidents are all when there is a level of unknown or systems change. Standard ones for pipelines are that a digger breaks into it. That is another one. There are also cybersecurity threats. There was a very large pipeline explosion in Russia that was from a cyber attack. All of these are known mechanisms and within RSHQ we, as I said, take an active effort to make sure that we are abreast of these and that the appropriate engineering standards are applied.

CHAIR: I did note that the United States has about 2½ thousand kilometres and I was just wondering, as a follow-up to that, if we have taken learnings from its experience.

Ms Messner: As well as in the wells space, we are constantly recognising that we are part of a global change and we are a part of a global industry and, yes, we must remain relevant and for the public to be safe.

Mr MARTIN: Mr Lloyd, you mentioned in your opening statement the independent modelling which states that the renewable hydrogen sector could be worth, I think it was, \$33 billion to the Queensland economy. I was wondering if you could expand on that for the committee and if you had a breakdown of what that might look like for Queensland.

Mr Lloyd: Yes. That was modelling which was done to inform the Energy and Jobs Plan that was released in September of last year. There is a range of projects occurring across Queensland, so we really do have 50 hydrogen and ammonium projects already underway in Queensland. There is a hydrogen conference happening across the road at the moment where we have more people in Queensland talking about hydrogen industry development and what that might look like as well.

In terms of those 50 projects, there are proponents that are currently undertaking their feasibility and front-end engineering and design studies and looking at final investment decisions over the coming years for these projects, and they will be made in due course. For example, and subject to final investment decisions, hydrogen projects in Gladstone have been estimated to represent over \$68 billion of investment potential to Queensland over the life of the projects. Pipelines, that being the main subject of this bill, will be essential for those projects to reach that capacity. They are an essential part of the hydrogen production and export industry being required to transport hydrogen to markets or large facilities, so putting in place the settings for that will enable those projects to reach those decisions. All of those projects largely will need a long lead time. Internationally that is what we are seeing—that is, there is a long lead time for these projects.

In terms of some specific projects that are happening in Queensland, the Stanwell-led, which is a government owned corporation, CQH2 project in the Gladstone region will include a large-scale renewable hydrogen production facility of, I think, around 3,000 megawatts for that project. It is expected to deliver \$12.4 billion to Queensland’s gross state product over its 30-year life and support almost 9,000 jobs. Again, for Stanwell’s project to be able to progress, they do need about a 15-kilometre hydrogen pipeline for that project.

There is a range of other projects as well. In North Queensland, Ark Energy is developing its Han-Ho hydrogen hub project, which is seeking to establish a hydrogen production facility in Collinsville and export around 1.8 million tonnes per annum of green ammonia to South Korea. As I mentioned in my opening remarks, that is around the targets. Again, for that project to succeed it would be looking at a pipeline to be able to connect to the export market as well. There is a range of hydrogen projects happening across the state. A lot of them are still going through their feasibility stages and reaching those decisions that they are making, but there is absolutely a lot of interest from a range of proponents.

Mr MARTIN: It looks like this bill is very significant for all of those projects to go ahead. You also mentioned that some of the hydrogen settings fell outside this particular bill. Am I right in thinking that we might need further regulatory change down the track as the technology progresses?

Mr Lloyd: Yes. In the Energy and Jobs Plan there was a commitment that the government made to prepare legislation to support the industry's development. We heard from industry that pipelines were a key issue, so that is the substance of this bill, but the department is working through that broader range of feedback into a range of issues and will be looking at developing some options papers and will go out and talk to industry around what those potential settings could be to streamline the framework and make these projects even easier to be able to get their approvals. We are looking at doing that work. Currently we are talking to industry and other stakeholders to make sure that we can get those settings right and then we would be looking at consulting, potentially in the latter half of this year, with stakeholders around what that could potentially look like.

Mr MARTIN: It sounds like a very busy time for the department.

Mr Lloyd: Definitely.

Mr WATTS: I have a question in relation to the \$33 billion potential for the industry. To what extent does the threat of export restriction from the federal government due to domestic supply needs and/or a domestic cap impinge on Queensland's opportunity for that \$33 billion?

Mr Lloyd: In terms of a hydrogen export cap?

Mr WATTS: Yes. If I am looking at it and I have just seen what has happened with coal seam gas, I am a little bit nervous about putting my money onshore in Queensland if I am from Japan or South Korea.

Mr Lloyd: I probably cannot talk to that to that extent—

CHAIR: It is a bit of a hypothetical, but if you can answer it.

Mr Lloyd: Yes. I could certainly say what the Energy and Jobs Plan from our side did in terms of hydrogen industry development with the hydrogen industry strategy. We are looking at reviewing and updating that strategy this year. As part of that work we have been asked to look into targets for hydrogen development in Queensland and what that could look like from a production level. The National Hydrogen Strategy is also being reviewed at the same time, and we understand that as part of when the National Hydrogen Strategy was released in 2019 there was not a commitment at that point to put in place targets, but the idea is that as part of this strategy update for the national work they would also be looking potentially at targets. We are working closely with the Commonwealth in terms of how they are developing that at an officer level to provide that input into the review of the national strategy.

At this stage we have not had any discussions with the Commonwealth around that sort of question which you have asked me there, but definitely hydrogen has a really big potential opportunity from the domestic point of view to support decarbonising hard-to-abate sectors such as transport and others. Fertiliser is a really significant opportunity for Queensland as well and having access to green hydrogen will be important for that. I think there really is that opportunity there for us to be looking into that.

Mr HEAD: You said that mostly these pipelines will be short and there are only a couple of known lengthy pipelines. Obviously there is the departmental scrutiny and other reviews, but does this bill theoretically allow a significant number of long pipelines of hydrogen in Queensland?

Mr Lloyd: In terms of the Gas Supply Act, there is a public consultation process that would be attached to any of those distribution authorities which will not be the kilometres that you mentioned there and that potential but as part of the distribution authorities. In terms of bringing that to customers in local areas and those sorts of things, there is a consultation process and the proponent that is

applying for that licence would need to respond to those issues and they would be considered by the decision-maker. In our case, under the Gas Supply Act, it is the Department of Energy and Public Works which is the delegate for those decisions. In terms of the petroleum and gas act, I am not sure, Marcus, if you wanted to add anything?

Mr Rees: Thanks, Kahil. Similarly, for every application for a pipeline there are notification requirements. One such notification requirement is to relevant local governments in the area and the other one is a broad notification via a newspaper article, and that has to state that the application has been made, the applicant's name, the proposed area for the licence and where further details about the application can be obtained. There is a period of at least 30 days during which anyone can lodge a submission which then would, as Kahil said, be considered by the decision-maker.

Mr WATTS: How does native title fit into that?

Mr Rees: A pipeline licence cannot be granted in an area where native title exists without having gone through the appropriate process.

Mr WATTS: Thank you.

Mr HEAD: Just on the newspaper notification, in the modern day a lot of areas do not have newspapers. Was that considered to address and improve upon that notification process?

Mr Rees: That is the existing one that is in the act at the moment, so we have not changed that. Obviously with online circulation and those sorts of things, that is not acceptable, I understand.

Mr HEAD: Should that be considered?

CHAIR: That is for us to review. That is what we do. Thanks very much for your time. Thank you all for coming. Before we conclude, during the course of this process we may have more questions, so if we can write to you or get you back before us that would be great. Once again, that concludes this briefing. Thank you again. A transcript of these proceedings will be available on the committee's webpage in due course. I declare this public briefing closed.

The committee adjourned at 2.00 pm.