

**ECONOMICS AND INDUSTRY
STANDING COMMITTEE**

**INQUIRY INTO THE ECONOMIC IMPLICATIONS
OF FLOATING LIQUEFIED NATURAL GAS OPERATIONS**

**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
FRIDAY, 1 NOVEMBER 2013**

SESSION ONE

Members

**Mr I.C. Blayney(Chair)
Mr F.M. Logan (Deputy Chair)
Mr P.C. Tinley
Mr J. Norberger
Mr R.S. Love**

Hearing commenced at 9.18 am

Mr STEDMAN ELLIS,
Chief Operating Officer, Western Region, Australian Petroleum Production and Exploration Association, examined:

Mr ADAM WELCH,
Senior Policy Adviser, Western Region, Australian Petroleum Production and Exploration Association, examined:

The CHAIR: Good morning. On behalf of the Economics and Industry Standing Committee, I thank you for your appearance before us here today. The purpose of this hearing is to assist the committee in gathering evidence for its inquiry into the economic implications of FLNG. You have been provided with a copy of the committee's specific terms of reference. At this stage, I would like to introduce myself and the other members of the committee present today. I am Ian Blayney; I am the Chair. Next to me, is Hon Fran Logan who is the Deputy Chair. Our other committee member with us at the moment is Shane Love, the member for Moore.

The Economics and Industry Standing Committee is a committee of the Legislative Assembly of the Parliament of Western Australia. This hearing is a formal procedure of the Parliament, and therefore commands the same respect given to proceedings in the house itself. Even though the committee is not asking witnesses to provide evidence on oath or affirmation, it is important that you understand that any deliberate misleading of the committee may be regarded as a contempt of Parliament. This is a public hearing and Hansard is making a transcript of the proceedings for the public record. If you refer to any documents during your evidence, it will assist Hansard if you would provide the full title for the record. Before we proceed to the inquiry's specific questions we have for you today, I need to ask you the following. Have you completed the "Details of Witness" form?

The Witnesses: Yes.

The CHAIR: Do you understand the notes at the bottom of the form about giving evidence to a parliamentary committee?

The Witnesses: Yes.

The CHAIR: Did you receive and read the information for witnesses sheet provided with the "Details of Witness" form today?

The Witnesses: Yes.

The CHAIR: Do you have any questions in relation to being a witness at today's hearing?

The Witnesses: No questions.

The CHAIR: Do you have a brief statement for us?

Mr Ellis: Thank you, Chair. I have a brief opening statement. APPEA is the peak national body for the oil and gas industry in Australia. Its members account for 98 per cent of the oil and gas production in Australia, the vast majority of exploration undertaken and a range of specialist services. I am the chief operating officer for the western region within APPEA, responsible for our activities in WA, South Australia and the Northern Territory. We welcome the opportunity to appear this morning, and hope to provide some comments on the industry view on some of the issues to which the committee is inquiring to complement the project specific advice the committee has sought from individual project proponents.

I would like to start by making three points. Western Australia needs to grasp firmly the opportunity to get a share of the next wave of global investment in LNG. WA has got a head start on the competition, but we could blow it if we do not get costs under control and deal with regulatory complexity. One important avenue in addressing that challenge is to embrace innovation and technological innovation, like floating LNG. There is an opportunity for industry and government to work together to build the skills and capacity needed to make the most of this next phase in the evolution of the oil and gas industry.

Firstly, what is the opportunity for Western Australia? As the committee will be aware, there is in the order of \$200 billion worth of LNG projects currently under construction around Australia. Nearly half of those are in Western Australia. That is providing significant benefits in terms of jobs, revenue and research to the state and the nation. Importantly, the revenues from these projects will be spread very widely. APPEA has provided in its submission to the committee reports from McKinsey and Company, which indicate that 69 per cent of the revenue from this new set of LNG projects is likely to be distributed to governments, communities and local companies.

There is still enormous demand for gas-based energy in Asia, and it is estimated that another \$180 billion of projects are under assessment in Australia today. This has led some experts, such as Deloitte Access Economics, to suggest that the natural gas industry will be one of the most important engines of economic growth for the nation for the next two decades, if we can capture that kind of share of global investment in the industry. WA is in the box seat to benefit from this situation. It has significant natural gas resources, both onshore and offshore, and it has nearly five decades of expertise in the oil and gas industry. In addition some of those potential investment opportunities represent expansions of existing construction projects where there would be an opportunity to maintain momentum.

I said at the outset that WA has a head start in this race but we could blow the opportunity. High costs, uncertainty and complexity in regulation are big barriers. The committee has heard specific evidence from project proponents about cost pressures in their projects, and I want to add some general comments to that. McKinsey and Co reported that the cost of building LNG projects in Australia is 20 to 30 per cent higher than comparable projects in North America and Africa. The International Energy Agency recently reported that the current round of LNG projects underway in Australia are near the top of the global cost curve. The World Economic Forum, in its annual Global Competitiveness Report, ranked Australia outside of the top 20 countries for the first time.

The CHAIR: Sorry to interrupt; is that just in gas or competitiveness across all industries?

Mr Ellis: Competitiveness across all industries.

To pick one example of one the culprits in Australia's decline in overall competitiveness: the World Economic Forum ranked Australia 128 out of 148 countries for the burden of government regulation. This compares to a ranking of 96 last year and 60 the year before. Addressing competitiveness and the high cost of doing business in Australia will be critical to WA capturing a share of that next potential round of investment in global LNG.

How can WA realise its full potential? We believe that WA needs to embrace innovation and technology, like floating LNG, to grasp this opportunity. To start to identify the skills and capabilities needed to maximise the opportunities, and work with industry and the federal government to capture this opportunity. It is worth recalling that the oil and gas industry in WA over the past five decades has embraced a good deal of successful innovation. In particular, and pertinent to this inquiry, floating LNG is an evolution of two well-established technologies employed in recent years. One is floating production, storage and offloading facilities at Exmouth that provide the larger part of Australia's oil production today. The other is modularisation that has become a feature of all of the recent LNG projects in Australia as a measure to contain cost and schedule.

In this context, FLNG simply adds another string to the bow. It is particularly important for field development of projects that would not otherwise develop. It brings with it different but significant opportunities in construction, operations, maintenance and research. For example, evidence presented to the committee by Woodside indicated that the subsea opportunities associated with the Browse project alone amounted to around 57 subsea wells, over 190 kilometres of flow line, 70 kilometres of umbilicals and 12 subsea manifolds. Shell presented evidence that the Prelude FLNG project would offer long-term highly skilled positions over a project life of 25 years for 1 000 operational and support staff. In addition, evidence was presented by a number of our member companies of specific opportunities to advance training, research and small-to-medium enterprise development related to the oil and gas industry. These examples illustrate an opportunity to build on clusters of existing capability and competitiveness in WA, and would help further the state's position as a centre in the global oil and gas industry.

In conclusion, APPEA's view is that the opportunity for further growth in the LNG industry to benefit WA and Australia is great, but cost concerns need to be addressed. One important way to address those concerns is to embrace innovation and technological development like FLNG and leverage the opportunity associated with WA having a first-mover advantage in this area.

Thank you for the opportunity to make these opening remarks, and I welcome questions.

[9.30 am]

Mr F.M. LOGAN: The APPEA submission points to inefficient approvals and regulatory processes, and you have just referred to those again, Stedman, as one element of the high cost of Australian projects. Can you provide specific examples at both federal and state level about how they impact on the cost and what are those regulatory burdens?

Mr Ellis: The Productivity Commission has undertaken a detailed review of the regulatory burden on the oil and gas industry in Australia. Some of the specific areas they have identified are the area of overlap and duplication both within commonwealth agencies—for example between NOPSEMA, the national regulator, and the national environmental agency—but also duplication between the state and the commonwealth and approval processes. In regard to the latter, the commitments by the incoming federal government to pursue a one-stop shop for environmental approvals for projects like large oil and gas projects would provide a very important avenue to reduce some of that duplication that projects experience.

Mr F.M. LOGAN: What specifically in the area of state and commonwealth approvals are you talking to? Because from my understanding as a former minister, there were no hold-ups. Remember, Stedman, we had a government in Canberra in the day that was not a Labor government; it was a conservative government. Nevertheless, we worked very closely together to ensure approvals went quickly and smoothly, and they always do. Can you point to exactly where those hold-ups are?

Mr Ellis: I can again point to the very detailed report by the Productivity Commission, but perhaps to try to draw to the committee's attention some specific examples I would point to areas such as the use of the EPBC act by the commonwealth in recent years to require a duplicate of approval, which effectively mirrors and requires companies to not just meet the approvals threshold of the state, but to achieve the same thing through a separate process through the commonwealth. In that regard I point to the lack of progress in the past in accreditation of state environmental approval processes, such as control by WA's EPA under the EPBC act. This is one of the specific areas we think would be of very significant value to projects in the oil and gas area.

The CHAIR: In your submission you spoke about a table of competitiveness, and how we had gone from 60 to 140 or something in the last couple of years. That seems quite amazing to me. Is that because we changed or other countries changed? That is a huge difference. If you had moved, say, 10 up or down, it would not surprise you, but if you have moved, sort of 80, it would. I would be

interested to see at 140 who else we are with in that sort of club. What has caused that? It seems just an extraordinary shift in the table.

Mr Ellis: The areas that seem to stand out as areas that have contributed to Australia's fall in competitiveness compared with other countries have been in a couple of areas. One is in terms of productivity measures. I mentioned the World Economic Forum; that again saw a slip in the comparative ranking of Australia's productivity compared with other countries. Another area I mentioned in my opening statement is the assessment of regulatory complexity and burden in Australia compared with other jurisdictions. Probably the third area I point to is stability of taxation arrangements. The investment decisions in large, long-term oil and gas projects require confidence in the taxation regime, and we have been through a period in Australia recently where we have had significant uncertainty of the taxation regime. I think all those have found expression in the slipping ranking of Australia in competitiveness.

The CHAIR: But just remind me: the taxation arrangements for oil and gas have not changed in the last quite a few years, have they?

Mr Ellis: The only significant change that has come out of the recent period of political and public debate about taxation has been the extension of the offshore PRRT regime onshore. Mr Chair, I think it was the uncertainty created during a period of significant project construction about whether the taxation regime would change that created that concern, which is one of the factors reflected in a ranking of competitiveness of Australia and WA.

The CHAIR: So when you talk about this competitiveness table, it is actually about perception rather than actual rules that are in place?

Mr Ellis: Fundamentally, Western Australia is seeking to be an attractive place for investment. What has underpinned the development of both our mining and petroleum sector has been attracting large scale, long-term investment. I think there is a measure of people's perception, and they are perceptions of things like do they have confidence in the stability of the taxation regime. But there is also, I think, quantitative measures of project delivery time lines—how long does it take to go through the approvals process in Australia compared with other jurisdictions. I think we are seeing a more competitive environment for the oil and gas industry at the moment. We are seeing North America, Africa and other countries really looking for the opportunity to provide that gas-based energy into Asia, which has been the traditional customer of WA and Australia.

Mr R.S. LOVE: I am just wondering about APPEA's position on the domestic gas policy in Western Australia and what part that plays with competitiveness; we have been talking about our competitive position. Another aspect of regulation that I think you have stated in your submission certainly, and in other places, is that the policy does tend to discourage investment in exploration and development. At the moment, I think it is set at 15 per cent, or at least you have stated it is set at 15 per cent, but of course that is the maximum; it is negotiable down. I think Gorgon is less than five per cent or thereabouts. So perhaps you might just like to expand on how it is that you see the domestic gas policy, which is quite flexible in some aspects, being such a disincentive to Western Australia's gas industry.

Mr Ellis: I make two points. Firstly, the domestic gas reservation policy, which Western Australia alone across Australia has introduced, appears unnecessary on the evidence. The evidence of the state's Independent Market Operator in its assessment of supply and demand shows that there is more than adequate supply in the market to meet demand. It also appears to be unnecessary on the evidence of what we have seen happen in recent years in the local gas market. Both at Devil Creek and Macedon we have seen projects developed completely independent of domestic gas reservation, focused on the domestic market. That reflects the market working. So it is an unnecessary policy based on the evidence, but it is also a disincentive and a cost for project proponents looking at remote fields that may be able to be commercialised by FLNG. So it represents an additional regulatory burden. It is unnecessary.

I will make one final point. I think from the state's point of view it is also a counterproductive policy as the oil and gas industry and the market has matured here. It does not make sense for Western Australia to keep all its eggs in the offshore basket. It really needs to look to its onshore gas resources. Uncertainty about government regulation rather than market forces bringing gas from offshore into the domestic market will be a disincentive to the business case for investment in some of those onshore gas resources.

Mr F.M. LOGAN: Are you saying, Stedman, that basically what the domestic supply should now focus on is onshore gas, and just leave the upstream offshore players alone? Because there was a previous argument put by the upstream industry to domestic gas proponents, who said, "Don't concentrate on the large offshore gas fields for domestic gas supplies; go and look for the more remote stranded ones, which are more suitable for domestic gas supplies." Now you are suggesting that because the upstream players can get them by FLNG, well then just stay out of the water altogether and just go onshore and get your gas from onshore. Is that what you are suggesting?

[9.40 am]

Mr Ellis: No, it is not. Thank you for the opportunity to clarify it. What I am suggesting is that what seems to be happening in the Western Australian market as we evolve is that gas from offshore is coming into the domestic market by market forces alone. Macedon and Devil Creek are significant investments. Those projects have come into the market based on how market forces are working. I am also suggesting that the state needs to make sure it has a focus onshore, as well as offshore. If we are starting to see market forces rather than regulation bring gas into the domestic market from the offshore resources, the state's interest is, I think, with a far more immature sector onshore, in making sure that it sees development there facilitated.

Mr F.M. LOGAN: If that is such a disincentive, as you say, why would Woodside not walk away from its Leviathan field in Israel, where it can access only 50 per cent of it for export?

Mr Ellis: Mr Logan, I think the —

Mr F.M. LOGAN: It is a competitive international market, as you have said.

Mr Ellis: It is a competitive international market in which Western Australia and Australia sit right at the top of the cost curve and are at risk of not attracting a share of the next round of global investment. So additional regulatory burdens, which impose costs on projects, particularly when they appear to be unnecessary and the market is working effectively in WA as it is, are a disincentive for investment. The oil and gas industry globally is able to demonstrate an ability to work in a range of regimes. I think the important thing is that, at the start, the understanding of the regulatory regimes and the objective of governments are clear and those can be accommodated in project development and execution.

Mr R.S. LOVE: Just to follow up, Stedman, I am at a loss to understand from the discussions I have had with members of the gas industry just how the domestic gas reservation policy imposes a cost burden on the industry given the fact that the contracts are negotiated commercially, so there is no requirement to sell at a subsidised price or anything like that. Could you explain exactly how there is a cost burden on the industry from a policy that merely sets out to ensure that there is a gas supply to the state?

Mr Ellis: Thank you, Mr Love. Again, if I can make the point, the state's gas supply, on the evidence of the state's own Independent Market Operator, is being met by the oil and gas industry in Western Australia today without government intervention. The burden imposed by a government requirement to reserve a portion of gas resources in commonwealth waters for delivery to the Western Australian market, albeit on commercial terms, simply is an additional and unnecessary regulatory burden, and I think it encourages a degree of lobbying and advocacy from industries that want to be subsidised and seek subsidised gas to pursue government to pressure project proponents in the oil and gas industry to develop their projects in that way. I think the lesson, when I listen to

our members, is that to develop the kinds of projects that have occurred in Western Australia in the oil and gas industry and in sectors like iron ore, what is critical is that customers are prepared to commit to long-term contracts. I think government regulatory frameworks that encourage customers to stand back and wait to see whether governments can force gas into the market on non-commercial terms are counterproductive in attracting investment.

Mr R.S. LOVE: So it is more of a perception of the future than what has actually taken place in the past, because there really is not the evidence to back up the assertion that there is a cost burden as such on the industry from delivering gas to the domestic market in this state.

Mr Ellis: I think for government to be intervening in the way that projects are developed when there is no evidence that the market is not working is unnecessary regulation, which imposes a burden on companies.

The CHAIR: Maybe the market sort of is working because that regulatory burden is there. It seems to me that one of the conditions for financing these projects is long-term supply contracts. That almost has to come first. If the people who are doing these projects do long-term supply contracts, even at a lower price but it gets them their financing, they are not going to be interested in supplying, or maybe not even be able to supply, any gas into the domestic market because it is all committed; it is all contracted; it is all signed away. In one case, the shareholder of one of our gas projects is the single-desk importer for that country, so obviously that is not going to be a free market and their interest is going to be in securing the gas supply for their country. The domestic Australian market is not going to factor in their equations at all.

Mr Ellis: Thanks, Chair. I would simply say that, as you would be aware, the nature of the gas market in Australia is very heavily biased to large industrial users of gas, and they have demonstrated in the past an ability to enter into large, long-term gas supply contracts, which have underpinned the development of oil and gas projects. That is the basis. There is no reason why large industrial users will not have the opportunity to enter into large, long-term contracts in the same way as overseas suppliers. I just point to the development of projects like Macedon and Devil Creek as evidence that where there are local users of gas prepared to enter into those kinds of contracts, projects are being developed.

Mr F.M. LOGAN: Stedman, can I just take your argument on domestic gas supply one step further? If a state government was to walk away from the 15 per cent reservation policy, as you are suggesting it should, could you advise the committee where the future domestic gas supply would come from, given that most of the projects offshore that are being promoted at the moment are all FLNG and Browse has been cancelled? You referred to Macedon and Devil Creek, which are relatively small suppliers of domestic gas and have already been committed anyway, and the Woodside contract is coming to an end. Could you explain to me where the new supplies of gas are coming from without a 15 per cent reservation policy?

Mr Ellis: Thank you, Mr Logan. APPEA's position is that the state strategic energy initiative, as one of its recommendations, recommended a review of the domestic gas reservation policy in 2014–15. We think that is very appropriate, given the way the gas market has evolved. I think it is appropriate that it is subjected to rigorous assessment. Certainly, our view would be as you move to a future in that Western Australia has not just the existing pipeline network that is in place, but also an increasing number of entry points to that gas pipeline at North West Shelf, Devil Creek, Macedon, Gorgon and Wheatstone, you have now got some diversity of supply points. Western Australia is very prospective for exploration both onshore and offshore. Based on the evidence of those albeit smaller projects in recent times, there is evidence that, with that infrastructure in place and the diversity of competition now established, the market forces can deliver Western Australia's gas supply. Of course, that is the conclusion that has been reached both at a national level and by every other state and territory to date that has looked at this issue.

Mr F.M. LOGAN: Stedman, I understand where you are coming from in terms of the philosophical argument from APPEA on behalf of your members. I am just trying to get a practical example of it. You talked about Macedon and Devil Creek, which are small suppliers of gas into the domestic market, and then you referred to the introduction of Wheatstone and Gorgon, both of which have occurred under the 15 per cent rule. If we had not done that for those projects, where would the gas come from once the Woodside contract comes off? Where would it come from? You can have as many entry points as you like, but tell me a project that would actually put gas into the pipeline.

Mr Ellis: Mr Logan, I cannot speak for Chevron and its projects, but coming back to my original point, we do think that this, as set out in the strategic energy review, warrants a review because if you look forward and you look to a jurisdiction such as WA that has significant gas resources and reserves offshore and potentially onshore and it has a well-established pipeline network and it has projects that have invested in domestic gas projects along that pipeline, you have the ingredients for a very competitive market and you have a market in which, on the recent evidence of those recent smaller projects, you will see companies wanting to supply the domestic market. That certainly seems to be what the state's own Independent Market Operator is making its assessment of.

[9.50 am]

Mr F.M. LOGAN: Just to pick you up on that, the IMO has indicated that in the future, in their view, there will be a full volume of domestic gas that would meet market demands, but they include in that Wheatstone and Gorgon, which was achieved by the 15 per cent reservation rule. If you did not have that in place—you are arguing that case, Stedman; you are arguing it should be withdrawn—name me one project that is going to then provide the gas that Western Australia needs, given that all the projects that are being put before the committee are all FLNG and provide no domestic gas.

Mr Ellis: Mr Logan, I can only offer the observation that in terms of the committee's consideration, it looks forwards not backwards. There has been a parliamentary inquiry into domestic gas. Chevron gave evidence to that inquiry in terms of its decision-making process, but the hand the state is dealt looking forward and the state's strategic interest in facilitating development of its own onshore gas resources and the changes and infrastructure and the entry points suggest that it is a very different market today, and will be in coming years, than existed when the domestic gas reservation was put in place.

Mr R.S. LOVE: Stedman, in your opening statement you spoke about embracing the opportunity to pick up on the innovations around floating liquefied natural gas and also in your submission from APPEA it mentioned a number of projects. Would you like to just update us on the status of some of these initiatives such as the oil and gas industry innovation partnership and the National Floating Systems Research Centre, among a couple?

Mr Ellis: Thank you, Mr Love. I know that a theme that has come up for the committee has been Perth as a global centre and hub for the oil and gas industry and what that means. What you see today in Perth after years of oil and gas development is a concentration of the oil and gas industry. Some of the largest companies in the world have established significant regional centres here. We have significant expertise here and the dividends that have started to come from that have been to start to draw the research, development and training investment of the industry to Perth. To pick two examples—I think the committee has heard evidence of this—Chevron has brought one of its three global R&D centres to Perth. There are 140 scientists that have been moved to Perth, so there is a significant cluster there. If you look at Challenger TAFE's centre for process and control and the partnerships that are starting to be entered into by a range of companies, pre-dating FLNG, but now most recently with Shell at Prelude, you have got some strong building blocks already in place to help build the skills and capabilities and really harness those higher skill jobs required in the LNG industry generally and FLNG in particular.

The two specific examples that we mentioned in our submission are areas where we think it is critical for the state government to really engage in in a strategic way. The innovation precinct proposal led by Woodside, and supported by a range of upstream operators and a range of the service companies, was seen as a vehicle for creating a pathway for small and medium enterprises to connect with opportunities broadly in the LNG industry and specifically in the FLNG industry. The previous federal government indicated a willingness to provide some funding. Woodside has taken leadership on that. I think it is an area that, from a state point of view, the state needs to grasp and shape.

The other area we mentioned in our submission was the announcement that the federal government made in the last weeks of the election to fund CSIRO to develop a centre of floating LNG expertise in Perth. Again, our view would be that there is a significant opportunity for the state to harness the expertise that CSIRO has already put in Perth and the potential funding of the commonwealth to build on these clusters and expertise and capabilities that we already have. If we do that, that will be the best chance we have of emulating some of the outcomes we see in places like Norway and Aberdeen. It is an area where the commonwealth may have more resources, but a much stronger engagement of the state in partnership with the industry and the commonwealth is critical.

The CHAIR: This might be more as an observation, but quite a lot of the signs of economic recovery in the United States have been attributed to the availability of cheap domestic gas. It is interesting that companies in America using that cheap domestic gas are trying to make sure that the amount of gas exported from the United States is restricted so that they do not lose their cheap gas. I am just curious to ask you how that fits in with what you have said about our domestic gas priority. Once again, the home of free enterprise obviously has to weigh that up because they do not want to snuff out the economic recovery that they have been waiting for for five years now.

Mr Ellis: I think we all need to play to our strengths. To pick up on the point, and perhaps go back to the point that Mr Logan asked me about earlier, I think the history of Western Australia is the development of the offshore gas industry can be complementary with the state's own energy security. Without those long-term contracts into Asia, we would not have been able to underpin the level of investment that has been made and deliver the expertise, companies and infrastructure that have been able to support the domestic market as well. In terms of the hand that WA and Australia is dealt, as distinct from the United States, what is critical for us is that the potentially \$180 billion of further LNG projects that could be captured in Western Australia and Australia is at risk today because we are perceived to be, and are ranked across most surveys as being, one of the least attractive destinations in which to invest. That is a problem for all of us. That is our problem. It is a different problem, or opportunity, than the United States has.

Mr F.M. LOGAN: You referred earlier in your statement and in your submission to the committee to the federal government and the oil and gas innovation project and National Floating Systems Research Centre. Do you know where that is up to? Where is the funding up to and what is the current government's approach to it?

Mr Ellis: My understanding from our discussions with our member companies who have been involved in that project is, firstly, there remains within the industry itself in Western Australia a commitment to take that kind of concept forward. The industry, both through those individual project proponents and through APPEA, has been relaying to the new federal minister our view that there is a significant opportunity here and that the innovation precinct partnership proposal is something that we in industry support. Beyond that, I would say that my judgement, after listening to our members, is that there is an appetite from the industry itself to make this happen one way or the other, and I think that if there was a stronger partnership with the state, that might improve the likelihood that we would be able to attract the support of the incoming federal government.

Mr F.M. LOGAN: What is been the response from the current federal government?

Mr Ellis: It is my understanding that the response from Minister McFarlane's office is that he is considering that project.

Mr R.S. LOVE: We have heard that some of the companies that you represent feel that FLNG is the only way forward, but I am conscious that it is not actually up and running anywhere in the world at the moment. Do you think that there are any risks that realistically we face if we go down the path of FLNG in terms of the safety of the operation for the workers and for the supply of gas from those fields, given that we are talking about constraining what takes place over many hundreds of acres and there is a bill in the Parliament at the moment to expand the area to work on Gorgon and Barrow Island there? You are trying to progress all of that down on to a floating vessel. There are separation distances from different processes, and the effect of a particular failure in one component is that it may then spread throughout the vessel. It seems to me that FLNG, at the moment, is an unproven concept, yet everyone is talking about it as though it is the answer. How confident are you that the safety aspects of FLNG have been properly and fully explored?

[10.00 am]

Mr Ellis: If I make two points: firstly, a point about safety; and, secondly, if this is the only answer. In terms of safety, there is an overriding commitment in the oil and gas industry to ensure the safety of its people and the environment in which they operate. The committee has heard evidence in the case of the Prelude project that Shell has invested more than 15 years in looking at the development concept that has been brought forward for Prelude. As I indicated, it does build on well-understood, established technologies already in use in Western Australia.

Secondly, can I make a point in terms of an industry view that FLNG is the solution? That is not what we are hearing from our members. I think that some of the evidence that the committee has heard is that it is one additional string to the bow that will be applicable and desirable for some projects, but not for others.

Mr Love, I have tried to emphasise in what I have brought to the committee that the big issue here is not FLNG; the big issue is our competitiveness and cost in Western Australia and the fact that we will not get any projects, whether they are onshore, offshore, floating LNG or otherwise, unless we can get those costs under control. One way for some projects will be FLNG. The degree of rigour that will be required both in the assessment of the project, but also in terms of the regulatory regime it requires offshore through the national regulator, the industry would have great confidence that the commitment it would make to the safety of its personnel as the overriding priority would be realised in taking FLNG forward for particular projects.

Mr R.S. LOVE: Nonetheless, there is still the risk of this technology not being perhaps as successful as some of the proponents might wish. I suppose we already have an existing background of trains on the onshore areas. How do you see those facilities being used in the future? Is there an opportunity for more joint use of some of the large projects that have already been onshore? As various fields start to deplete over time, instead of rushing in to build more and more facilities, will there be a steady progress through some of the assets that the state and commonwealth have without such huge capital expenditure, given a bit more time to use more efficiently the resources we already have at hand?

Mr Ellis: When we listen to our members, Mr Love, it is clear that the individual joint ventures and individual projects will have a real interest in maximising the value and throughput of those facilities. So those new domestic processing plants that have been built and planned, that are located in the Carnarvon Basin and potentially onshore, in the Browse basin—in a very prospective area—I think the natural desire of the investors in those projects to bring gas into those facilities will be a feature of how this industry develops in the future, particularly given where we are on the cost curve now and the barriers to developing new projects. We would anticipate that you would see, having these facilities in place, market forces drawing gas into these facilities in the future, and a desire of the joint venture participants to make the most of the investment they have.

The committee has evidence in the case of Inpex, for example—the way these projects are being executed, companies are considering the prospect of collaboration and partnership in the future. I think Inpex indicated in their evidence that the pipeline to Darwin will have a number of connection points along the way, anticipating that they might be able to negotiate with other field developers to share that infrastructure in the future.

Mr R.S. LOVE: Given that fact, and given that they are operating a fair way off the Kimberley coast already, is there not some hope in the future that those facilities, or some of those fields, may indeed be developed using onshore facilities?

Mr Ellis: The decision for field development will ultimately be down to individual project proponents. I have spent all my working life in the oil and gas and mining industries, and when I contemplate that the Browse joint venture has already spent \$2 billion just in assessment—in my lifetime I have worked on projects that were done for less than \$2 billion.

The CHAIR: With the assessment, figures are thrown around, such as \$2 billion for the Browse project, but I think that includes quite a lot of work offshore on the actual gas fields as well, does it not?

Mr Ellis: I would need to defer to the specifics of the Browse joint venture, but I would anticipate that you are correct, that the assessment would have incorporated all aspects of that development.

The CHAIR: I am just making a point because there is this implication almost that they have gone away and burnt \$2 billion doing paperwork specifically for James Price Point. The point I am trying to make is that a reasonable amount of the money they have spent has been generic to the gas field, and it is useful whether they actually use FLNG or James Price Point. That is just a point I would like to make.

Mr Ellis: I understand that, and again I am not across the detail. From the general advice I have had from other members of the industry looking at that investment, it is simply observed that with that money spent, if there was any chance of getting the project to happen on the original concept, it would have.

Mr F.M. LOGAN: The chairman makes a good point: if either you or other organisations that represent the industry raise in the public arena the suggestion that companies walk away from onshore projects after spending \$2 billion because of assessment problems, when that is not quite true, those issues will be picked up by people such as the World Economic Forum and they then place our country at 120 out of 148. That is what happens. Loose lips sink ships, as they say.

Can I raise the issue of jobs? Either your or some of your colleagues behind you asked the committee to look at the article in *The Australian Financial Review* today by Angela McDonald Smith, which states in relation to Prelude —

With construction of the massive vessel to take place in South Korea, jobs during that phase will be clearly less than the more than 10,000 involved in Chevron's Gorgon project.

But the long-term jobs of a floating project are likely to be more than treble those for an onshore venture, says Tri-Zen International LNG consultant Tony Regan.

Could you give us an idea whether Mr Regan is correct in his assertion that 30 000 jobs will be created over the life of an FLNG project? If so, could you give us an idea of where those jobs would be created, particularly given that we have heard so far that no company involved in FLNG intends to establish a supply base here in Western Australia at this point in time?

Mr Ellis: Thank you, Mr Logan. To try to touch on those things, can I start with the supply base? In terms of a supply base, we would strongly have a view that this is an area where there should be high-level discussion between the state and multiple project proponents to try to establish where the opportunities might lie. It is an area that warrants further exploration and where there is clearly competition from the Northern Territory, among others. That is the first point you raised, Mr Logan.

I am not aware of the data on which Tri-Zen consultants base their information. I am aware from the advice we have had from our member companies that they would anticipate that in terms of the operations and maintenance tasks associated with an LNG plant, there will be an increased workforce associated with having those on a vessel than if that facility were onshore, but I have not seen detail of the extent of the increase in numbers. That may be something one of the project proponents associated with an individual project could provide more detail on.

[10.10 am]

Mr R.S. LOVE: The APPEA submission that you have given to the inquiry states at page 23 —

Examples of industry engagement include :

- WA Industry Capability Network (ICNWA);
- National Resources Sector Employment Taskforce;
- Western Australian Government's Local Industry Participation Framework;
- Western Australian Government State Agreement Acts.

It also states —

Considerable effort is therefore being expended by oil and gas companies to promote local participation within the above mentioned processes.

Can you outline what evidence you have to support your statement that the ICN has been widely embraced by proponents, and how effective do you think that is in maximising local participation?

Mr Ellis: With regard to the Industry Capability Network in particular, the advice we have had from our members is that it has been one of the singular areas where the state has built up expertise that has benefited both the project proponents and those smaller companies trying to connect with the opportunities. I am aware that a number of the major projects that have signed agreements to use and fund ICNWA, to pick one example, are heavily involved in Chevron's execution of the Gorgon and Wheatstone projects. So, consistently, the advice we have received from our members is that is part of the system that is working well, because, in that area, the state has built up some technical expertise in terms of understanding the supply chain and execution requirements, and it is doing it in a way that delivers value both to project proponents and to small and medium enterprises trying to connect with that opportunity. In terms of how well it is working, the evidence that we can see is that LNG projects that are in existence are sustaining levels of local content in the order of 70 per cent spend. In terms of construction, there certainly is a challenge in sustaining the levels of local content that are achieved, going back to the North West Shelf, and that really reflects the cost competitive issues and the capability issues in terms of how these projects are being developed. But as you would have heard in evidence given by Chevron, the extent of local content being delivered in these projects is very substantial.

Mr R.S. LOVE: I am not too sure about that, because the local content in the Gorgon project is, I think, considerably less than it has been in other projects previously, and that is partly due to changes in supply chains and the way business is done now. So can you see any areas in which we could improve what is happening at the moment, because we would like to claim the most benefit for the state that we can out of the development of these fields? Specifically, would you see FLNG as being an opportunity or a challenge? How can we maximise the move into FLNG as an opportunity for Western Australian business?

Mr Ellis: Mr Love, when I talk to our member companies specifically about FLNG and where the opportunities might lie in the construction phase, one of the areas that comes up is the one I mentioned in my opening statement, which is subsea work. That is an area in which WA has some capacity and has the ability to be competitive, and the scale, complexity and size of the work is quite significant. So from an industry point of view, there are areas like subsea work where you can

build on the capability already in place. If you consider the extent of offshore facilities, floating and otherwise, off the coast of Western Australia, there will be a very big piece of work in maintaining those facilities over the next 20 or 30 years. Working together with the state, the commonwealth and industry to try to work out how we can create a cluster or hub to maximise that opportunity I think will be strategically important, because it will be an area that will be targeted by other countries and other states and territories as one of the high-value opportunities in the construction phase.

Mr R.S. LOVE: Thank you.

The CHAIR: Of course the original North West Shelf was done under a take-or-pay contract by the WA state government, which it came under enormous criticism for at the time. Probably without that take-or-pay contract, we would not have a North West Shelf and we might not even have a gas industry. How do you, perhaps with retrospect, regard that? I have another question to add to that. You have spoken about the potential for onshore gas development, in particular in the Canning Basin. If we start to produce a heap of gas in the Canning Basin, without a James Price Point, how are we going to export that gas?

Mr Ellis: I think the involvement of the state has been a critical element of the successful development of the oil and gas industry in Western Australia; and sitting here today, after five decades of development—you have mentioned the North West Shelf project—an enormous amount has been achieved. That has come out of an effective partnership largely between the state, the commonwealth and industry. I think the opportunity in front of the committee is to think about what that partnership will be like looking forward. It is a changed world and a more competitive world. We enter it with some experience and some expertise, and we enter it confronting a range of other competitors who, if they can, will eat our lunch in terms of this growth. So when I look at the North West Shelf and the role the state played, it is a reminder that we will achieve the most value for the industry, the state and the nation if we can effectively work together and look forward to the opportunities, which are going to be slightly different than they were at that time.

The CHAIR: You have talked about subsea potential. We have been to Henderson and we have seen some of the stuff that they have made. But we have talked to companies that have these global supply chains and pre-qualification, and the first work that we have heard about that has given out in that area has, from memory, gone to Malaysia. I get the feeling that our local people, who probably already have abilities in that area, are already being locked out of the global supply chains. So when you talk about our having the potential to be involved in a lot of employment in the subsea area, I have the feeling that we have already missed the boat, if you will forgive the pun, in that area. But that is just a comment.

Mr Ellis: In terms of the supply chain in the global oil and gas industry and the level of expertise that exists within the state in groups like ICN and that exists in some of the larger projects like Chevron, there is a real granular level of detail about where we are competitive and where we are not, and I would invite the committee, through the project proponents, to take a closer look at that, because I think there are some real clusters of success here in Western Australia today and those are things that can be built on. Therefore, a realistic understanding of where we are losing work and why we are losing it, and what industry and government might be able to do to shift the meter on that, I think would come out of that deeper look at the supply chain.

The CHAIR: Thank you for your evidence before the committee today. The transcript of this hearing will be forwarded to you for correction of minor errors. Any such corrections must be made and the transcript returned within 10 days from the date of the letter attached to the transcript. If the transcript is not returned within this period, it will be deemed to be correct. New material cannot be added via these corrections, and the sense of your evidence cannot be altered. Should you wish to provide additional information or elaborate on particular points, please include a supplementary submission for the committee's consideration when you return your corrected transcript of

evidence. It is possible that we may have some more questions for you. Would you be agreeable if we were to write to you for answers to those questions?

Mr Ellis: Yes.

Hearing concluded at 10.20 am
