

**ECONOMICS AND INDUSTRY
STANDING COMMITTEE**

INQUIRY INTO DOMESTIC GAS PRICES

**TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 13 OCTOBER 2010**

SESSION TWO

Members

Dr M.D. Nahan (Chairman)
Mr W.J. Johnston (Deputy Chairman)
Mr M.P. Murray
Mrs L.M. Harvey
Mr J.E. McGrath

Hearing commenced at 10.34 am**TUDOR, MR FRANK ANTON****General Manager, Strategy and Business Development, Horizon Power, examined:**

The CHAIRMAN: Thank you for your appearance today. This committee hearing is a proceeding of Parliament and warrants the same respect that proceedings in the house itself demand. Even though you are not required to give evidence on oath, any deliberate misleading of the committee may be regarded as a contempt of Parliament. In the lead-up to today's hearing, you have indicated to the secretary that you will request restrictions to some of the questions that may be posed by the committee today. In accordance with this request, we will close the latter part of the hearing to the public to discuss these questions and the manner in which you are comfortable answering them. Have you completed the "Details of Witness" form?

Mr Tudor: Yes.

The CHAIRMAN: Do you understand the notes at the bottom of the form?

Mr Tudor: Yes.

The CHAIRMAN: Did you receive and read the information for witnesses briefing sheet regarding giving evidence before a parliamentary committee?

Mr Tudor: Yes.

The CHAIRMAN: Do you have any questions relating to your appearance before the committee today?

Mr Tudor: No.

The CHAIRMAN: The committee has received your submission. Thank you for your contribution. Do you wish to propose any amendments to your submission?

Mr Tudor: No.

The CHAIRMAN: Before we ask questions, do you wish to make any statement in addition to the submission?

Mr Tudor: I would like to make a couple of opening remarks. One would be to simply profile Horizon Power, particularly in the context of the domestic gas market, and then make some observations on the domestic gas market itself. Horizon Power is a government trading enterprise. We were set up at the time of the disaggregation of Western Power. We operate in regional WA, which is the geographical area outside of the south west interconnected system. We differ from the other derivative companies that were set up at the time of disaggregation in that we are vertically integrated. In some cases we purchase fuel, whether it be diesel or gas. In some cases we own and operate generation plants. In some cases we procure power. We own and operate transmission systems, we own and operate distribution systems and we are also involved in electricity retailing. We operate something like 35 islanded systems across the state outside the south west interconnected system. They vary in size from being very, very small, like Nullagine and Marble Bar, to what we consider to be medium sized systems like Kununurra and Esperance, which have an extensive network, and Carnarvon. We have a relatively large system in the portfolio, which is the Pilbara, and Karratha and Port Hedland are the two principal towns that we service.

Our generation mix covers a full range. We have natural gas-fired power stations which service our requirements. We also have LNG. This is not large scale LNG for export but small scale LNG

which is transportable. It is actually produced in Karratha at Maitland estate and from there is trucked to various locations, including Broome, Derby, Fitzroy Crossing and Halls Creek. We also have compressed natural gas in the portfolio, which provides us with power, and a gas-fired power station at Exmouth. In the portfolio, we have hybrid systems: solar diesel at Nullagine and Marble Bar; and wind diesel at Exmouth and Esperance. Eighty-seven per cent of the fuel that we have is derived from gas either in the form of pipeline gas, LNG or CNG. Four per cent is distillate and something like nine per cent comes from renewable sources.

The large part of the market that we serve is the retail market. If you look at the mix between retail and industrial consumers, four per cent is the retail component of that market. In our portfolio the retail component is something like 40 per cent. That is a very substantial portion of the customer base that we serve.

We are a buyer of gas. Directly and indirectly, we total about 30 to 40 terajoules a day. That does not put us in the bracket of the large buyers such as Verve, Alinta, Alcoa and Burrup Fertilisers. It puts us in the next tier. We are probably around seventh or eighth in terms of size in the market. That gives you some sense of our profile and scope of operations.

As to the comments that I would make around the domestic gas market, I would start from the point of view that the ideal market is very nicely defined in classical economics as a perfect market in which you have a large number of buyers, a large number of sellers and perfect information in terms of pricing and conditions and connectivity so people can contract with one another. That is where we would like to see the domestic market move to, but there are all sorts of constraints and impediments to that. The domestic market that we have in Western Australia is a long way from being a perfect market. If you look at gas globally, the US and the UK probably come closest to being perfectly commoditised markets. The eastern states probably fits somewhere in between. The domestic market in Western Australia is almost a duopoly on the supply side, and on the buyer side there are a number of large buyers with smaller buyers such as us. It has lots of issues in terms of where we would like to see it in a perfect market.

As you look at the life of the market, typically, you start with an immature market and with depth, liquidity, customers and players, you move towards maturity and a commoditised market. The government does have a role in moving the market from its immature stage to its mature stage. I think the role in the context of Western Australia probably goes to at least two areas. One is the development of infrastructure—the connection of infrastructure. The way that we have started to look at regional WA is as almost development zones. We see that in various locations, either large resource projects are starting or the governments are putting significant funding into economic infrastructure. We are starting to look at Kununurra as a system where something like \$500 million is being put in by the two governments to develop economic infrastructure and the development of the agricultural scheme there. Obviously we see Broome and James Price Point in the same way with the development of the Browse projects and the Browse precinct. We also see the Pilbara quite clearly as another large development hub which is far more mature than the others. We also see significant projects being developed in the Mid West long term. They include not only the mining projects but also the square kilometre array project which has been talked about for the Mid West, if Australia is successful in securing that project.

The CHAIRMAN: Does that consume a lot of electricity?

Mr Tudor: That project would develop in stages. We are currently talking to CSIRO about developing a power solution for its pilot project, which is nothing more than a megawatt. If Australia was successful in securing that large project, that would end up being about 100 megawatts. It is very significant in the context of things.

When we look at those schemes, we have developed certain lessons that I think are important, particularly when we look at the Pilbara. To date, the Pilbara has served all participants reasonably

well but we see the Pilbara developing quite significantly in terms of size. As that happens, the state has a particular role to play in looking at the optimal configuration of infrastructure, whether it be gas, electricity transmission lines or combinations of the two. We see that same kind of thinking being applied to Kununurra, James Price Point and the Mid West. On the power side, we are looking to work closely with government agencies and proponents to develop infrastructure plans which look out 10, 20 or 30 years so we develop the infrastructure in a way that sets the region up for the future both as an islanded system and potentially as a connected system because in due course we see the whole state being connected from an electricity point of view. You can see the Pilbara linking very closely to the Mid West and certainly the Jack Hills project is almost a stepping stone between the Pilbara and the Mid West. In due course, if you look long enough, you can see that the state will be connected on the electricity transmission side very much like the gas side.

The state has a role to look at what that optimum configuration of infrastructure should look like. That in turn provides guidance to the participants when they come to consider their own requirements so they do not put in something that specifically meets their immediate needs. It may be that it meets their immediate needs but also might need some common user infrastructure and some pre-investment which perhaps the state could support through things such as Infrastructure Australia and access to funding from those sources. There is a real role for infrastructure development. The other role that the state has is the gas reservation policy of 15 per cent. We as a buyer of gas are obviously supportive of that. Access to cheap, secure, reliable energy is something that is important to the development of regional WA. We see that as important as a facilitator for development in the regions.

The other comment I would make is on joint marketing. I think that served a purpose in the early stages of the market but things seem to have changed sufficiently for that to be called into question.

[10.45 am]

I think there is evidence in the market at the moment that some players are actually independently marketing, even into the domestic gas market. I think anything that introduces more players and breaks up joint ventures and joint marketing into the domestic gas market moves us closer to the perfect market, so I think it should be encouraged.

The other thing I observe is on retention leases. There are two issues, potentially: one is concentration of ownership in terms of gas acreage and gas assets. A very limited number of companies have quite a stake in gas interests in this state. That has come about through the way we award acreage based on work programs. We take no consideration of what people already own. It is simply based on a case-by-case work program when we award the acreage. Given that is a fact, I think retention leases and being more stringent in the way they are looked at is critical to making sure we develop the gas fields as quickly as we can and, indeed, they are not warehoused by large companies that may have, as I have indicated, quite a gas portfolio in the state that they may look to sequence in some way. Those are the observations I make in opening.

The CHAIRMAN: Is the Goldfields another area of yours?

Mr Tudor: Yes, excluding Kalgoorlie. Kalgoorlie is connected to the south west interconnected system by a thin line.

Mr J.E. McGRATH: Does the same apply to Geraldton?

Mr Tudor: Geraldton is also part of the south west interconnected system, yes. It goes as far as Kalbarri.

The CHAIRMAN: Do you supply electricity or gas to many of the large miners up north or do they traditionally have their own generating units?

Mr Tudor: The large miners, typically Rio Tinto, have a policy of investing in their own infrastructure. They own transmission lines and their own generation kit. They have been following this business model for quite some time. Some time ago, BHP on the other hand outsourced most of its power generation requirements. They are supplied in Port Hedland by Alinta. Alinta has some gas-fired machinery in Port Hedland and supplies the bulk of BHP's requirements. BHP has very little in the way of transmission lines. Some of the junior miners who are coming —

The CHAIRMAN: Who owns the transmission for BHP?

Mr Tudor: It is principally Alinta—Babcock and Brown.

The CHAIRMAN: What about City Pacific; are you involved in its operations?

Mr Tudor: No. City Pacific has again opted for the Rio Tinto model, so it is investing in its own generation. It has obviously underwritten the development of the Apache project—Reindeer at Devils Creek. They are, as it turns out, not connected to the system.

The CHAIRMAN: That is all right for the big boys but it does lead to a lack of capacity of what the medium-size operations can tack into. Is that an issue in the Pilbara and the Mid West?

Mr Tudor: We do supply some of the miners. We supply some of the construction camps for Woodside, for example, in connection with its Pluto project. We supply FMG with its port requirements. For the smaller players, I think there are some issues in terms of how they have to deal with their energy requirements. FMG, I think on the public record, is a case. It developed at a time when the gas market was very tight. Its Cloudbreak mine is some 100 kilometres inland from Port Hedland. The only way they could develop a bankable feasibility study was to go for diesel-fired generation in the first instance. It had something like 40 to 60 megawatts of power being supplied by diesel, which is very, very expensive. That is its current operation at the moment. It is looking to see whether it can move to gas, whether it is a gas-fired power station on site or whether it could be gas transmitted from Port Hedland through a line to be built from Port Hedland down to Cloudbreak.

The CHAIRMAN: They are looking at how they get energy, whether it is electricity generated by gas or —

Mr Tudor: I think it will become a particular issue for FMG when it looks at expansion. It is already very expensive but when you go to bigger loads, distillate is not a preferred model.

Mr W.J. JOHNSTON: You have effectively described three separate supply systems, if you like. You have got Horizon, Rio and other players such as FMG or Alinta supplying BHP, so it is sort of three separate systems. Would there be any efficiency gains for the state's energy usage if there was a greater interconnection between those separate systems?

Mr Tudor: I think we are on the record as believing there is a lot of merit in looking at an integrated grid, whether it be electricity or whether it be gas or a combination of both. I think we have done some work into that. There is a lot of merit in having a connected electricity grid. You develop, effectively, a ring main, which provides for any demand point on that ring main to points of access into the actual load, which means that if a line is down you have an alternative path to get in there. Security of supply is certainly enhanced through an interconnected grid. I think it also provides for aggregation of load and, therefore, enables large-scale power stations to be built. These can be built closer to the coast where access to water is, therefore, available and you can have combined-cycle power stations of a reasonably large size that give efficiencies in energy conversion, which then becomes important in the context of a tight domestic gas market because you are using a valuable resource as efficiently as you can. Ultimately—we have looked at this as well—it enables renewable energy to be developed as well. If a large grid approaches a certain critical size, the spinning reserve on that system is available to support renewable energy when, for example, solar energy may not be available or wind may not be blowing. You would get fossil-fired

capacity that is available on the grid to support that, which makes it more efficient overall. I think in the short term, medium and long term, an integrated grid has many, many benefits.

The CHAIRMAN: Earlier on—I am not sure if this is current—you had a forecast of demand in the Pilbara of 2 000 megawatts, I think, over a very long period. Is that what you still think is demand or has some of that already been realised?

Mr Tudor: I think we looked forward to try to make a point that if we were looking at something like 2 000-odd megawatts of new capacity being installed, typically a megawatt might cost \$1 million to \$4 million to build. If it is, say, \$4 million per megawatt, you are talking about \$8 billion worth of generation capacity being installed. If you are talking about 1 000 to 2 000 kilometres of transmission lines and a particular high voltage, you might be talking about \$1 million per kilometre. If you add that up you are talking about \$10 billion worth of investment being put into the Pilbara to support a very valuable resource and export and revenue generator for the state and federal government. The point we tried to make is that with that kind of increase in load, some coordination should be applied to the way those incremental investment decisions should be made. Going back to infrastructure and blueprint planning, someone should have a view on how that infrastructure should be put in place, so that when the individual proponents come to make their decisions, they are making them consistent with a blueprint, as opposed to simply putting something in place to meet their specific, immediate needs. If that happens that becomes very, very inefficient, because you end up perpetuating what we have right now, which is a whole series of open-cycle machines that are very small. The workhorse in the Pilbara at the moment is 40 megawatts. I think if you get to a point where you have an integrated grid, a new aggregating load, you can support much larger combined-cycle machines that allow for the high-energy conversion efficiency I talked about.

We are trying to make a point that some coordination needs to be brought to bear on the way the infrastructure is planned into the future with that scale of investment taking place. What constitutes the 2 000 megawatts is probably a number of things, but, primarily, the move, especially with junior miners from haematite to magnetite iron ore, the key difference from a power point of view is that haematite, which is what BHP and Rio Tinto have, requires a modest amount of power. Magnetite of the type that City Pacific is mining has an eight to 10-fold increase in power requirements to get it to export quality. The power station City Pacific is building at Cape Preston is about 500 megawatts. That pretty much increases the capacity of the Pilbara by 30 or 40 per cent just as a stand alone project. If you see that happening both with Mineralogy, MCC at Cape Lambert and quite a number of other projects that are all targeting magnetite, you can see that there is a considerable investment going to be put in place.

The CHAIRMAN: Where are your major employers of gas—in the North West Shelf or Apache?

Mr Tudor: We have one contract at the moment which is as a result of disaggregation. It is still held by Verve. In turn that is supplied by the North West Shelf. We have another contract that we recently signed with another supplier, but it is a small, relatively short-term contract. Because we have a very large seasonal variation in our load we are also doing some swaps and small-term trades around our requirements to manage our swings in demand.

The CHAIRMAN: Your major contract is with the North West Shelf via Verve?

Mr Tudor: Through Verve, yes.

The CHAIRMAN: Do they on-pass the gas to you?

Mr Tudor: We have a separate contract with Verve.

The CHAIRMAN: Is it back to back; is it a commercial contract?

Mr Tudor: If I go into the details of the contract, I would need to —

Mr W.J. JOHNSTON: I am terribly sorry, Mr Chairman, but I need to leave; I am sorry to do that.

The CHAIRMAN: Okay.

Mr J.E. McGRATH: I am wondering how you have been impacted on by the rising price of gas. I notice in your annual report that, despite the recent increases in electricity tariffs towards cost reflected levels, a rise in power still reported a \$423 million loss in 2008-09. How has this marketplace impacted on your operation in general terms?

[11.00 am]

Mr Tudor: The Pilbara is profitable for us, but we run a number of systems. All of our small systems are largely uneconomic; therefore, through the disaggregation process we have a subsidy that WAS formalised and set up called the tariff equalisation fund, which actually keeps us at an economic profit of zero and allows us to provide the electricity to those small towns on a break-even economic basis. We will be impacted in the future when we go back into the market looking for gas. We currently have contracts which enjoy prices that were set some time ago. I think it is very public knowledge that prices have moved dramatically, so in the next four to five years, if we are exposed to higher gas prices that will have an impact and therefore also an impact on the tariff equalisation fund, which is supplied by the government to keep us whole.

Mr J.E. McGRATH: Could that also have an adverse impact on the planned development of the regions—in Kununurra, the Pilbara and the Mid West—that is, if the price of gas continues to go up?

Mr Tudor: Yes. We use gas predominantly for the Pilbara, which is Karratha and Port Hedland, and Carnarvon, and it is provided down to Esperance through a third party for us. We will continue to need to access gas to supply those towns. Irrespective of where the price is, we will need to be in the market to secure gas to continue to supply those towns. As for the projects outside of the retail sector, it really depends on their fundamentals and their ability to absorb gas price increases. That is the first question. The next question is whether we will get a supply of electricity or gas to them, or whether somebody else will get their supply of electricity or gas to them, or whether they choose to do it themselves. Yes, as gas prices go up, I think everybody's economics are obviously adversely affected.

Mr J.E. McGRATH: You mentioned Esperance. Do you ship LNG down to Esperance? How do you get your gas there?

Mr Tudor: No. There is the Goldfields pipeline that comes out of the Pilbara that runs through Kalgoorlie and which was extended from Kalgoorlie to Esperance to supply gas into Esperance. We contract with an independent power producer in Esperance who has in turn built the pipeline and secured the gas for Esperance.

The CHAIRMAN: Besides your Karratha gas plant, do you have any other construction projects imminent?

Mr Tudor: We are looking at how we continue to service the Pilbara, in particular Port Hedland. In Port Hedland we are looking at options to extend the contracts that we currently have. We are also looking at temporary solutions. We are also looking at the requirement for combined cycle power stations as well. This is an ongoing subject of discussion and evaluation for us.

The CHAIRMAN: I would like to discuss the Pilbara energy issues, and the grid and what have you, which you have gone through. All that, basically, is gas now—you, Rio, BHP and others; okay?

Mr Tudor: Except for FMG.

The CHAIRMAN: FMG? That is interesting. One of the issues, and you have huge potential for growth—it depends on the magnetite and there are always uncertainties.

Mr Tudor: Of course.

The CHAIRMAN: Is Rio reconsidering their established policy of generating everything in house or are they talking with you or somebody else about contracting out electricity generation?

Mr Tudor: I really cannot comment on their policy or strategy.

The CHAIRMAN: Have you heard?

Mr Tudor: No. The only thing that I would look at is that just in the past few months they have built, and they own and will operate, a new power station at Seven Mile in Karratha, so that would tend to suggest they are continuing with their policy of owning and operating and generating their own power.

The CHAIRMAN: If they went to a party such as you or another party and contracted out and that party could get scale—there are efficiencies of scale in technology in combined cycle—they would potentially earn savings. Why do they not go for the contracting out model?

Mr Tudor: Again, I cannot comment on Rio's strategy and policy. I think outside of Rio Tinto that sort of option that you have described would certainly be attractive to some of the junior miners —

The CHAIRMAN: Yes, it would be.

Mr Tudor: — so they could aggregate their load and build a combined cycle power station at, say, Port Hedland, along with the transmission line to get to Cloudbreak in the case of FMG and to some of the other potential mines that might be developed along that corridor. That would be of interest to all of the junior miners that would benefit from that.

The CHAIRMAN: Does Rio sell electricity?

Mr Tudor: Until fairly recently we had contracts with Rio Tinto, but we have built a separate power station with ATCO as an independent power producer in Karratha, and Rio Tinto built their own power station at Seven Mile at roughly the same time.

The CHAIRMAN: My memory is that Robe River used to have its own generating unit, did it not?

Mr Tudor: Yes.

The CHAIRMAN: And that is still owned by Rio?

Mr Tudor: Yes, but Cape Lambert and Dampier are in the process of being decommissioned, because they are very, very old—40 or 50 years old, I think—and Rio made a decision to upgrade to new machinery, which they have just recently installed at Seven Mile.

The CHAIRMAN: As a hypothetical, we use a lot of gas for electricity generation, especially up north—essentially 100 per cent. Is there any alternative you or other people have considered, like putting in another alternative fuel plant up there on a larger scale?

Mr Tudor: I will take that in bites. Certainly when it comes to renewable energy, we are very supportive of people who have come to us who are looking at setting up monitoring stations for wind. Even though it is cyclonic, people are talking about wind, potentially, in that area. We are talking and being very encouraging of their efforts to get the data and then make the decisions. We are also pretty encouraging of solar thermal proponents that are looking at the Pilbara for the development of large scale solar thermal. But, again, both of these projects probably depend on getting an interconnected system with greater critical mass to support the economics—that is, in the absence of a carbon price.

Mr J.E. McGRATH: What about tidal power?

Mr Tudor: We certainly have not looked at tidal power specifically for the Pilbara. I know it has been talked about for Derby and areas like that where it would be ideal, but the issue there is they need a certain level of load to make it economic, and that level of load demand does not exist in the

area, so that tends to make that a difficult proposition. Going back to your question, there are certainly renewables. I know people have talked about coal as well. I think that if you look across the state there is coal in the Wyndham area, around Jack Hills, Weld Range and the Mid West area as well, which I think has been talked quite publicly about with Aviva, so people have talked about the development of coal.

The CHAIRMAN: One of the problems up there is that for renewables, other than geothermal, it requires a very heavy baseload demand, so you would think that displacement capacity, to the extent that you had it, if you had any additional would have big baseload, so you would think of coal. What about nuclear?

Mr Tudor: Certainly, I guess as far as nuclear is concerned, we are encouraged by the strategic energy initiative that is being pushed by the Office of Energy to look at all sources of generation, including nuclear, and I think a number of proponents and participants have asked for that to be looked at. I think there are some inroads being made into reducing the size of nuclear, which might make it more applicable to the sorts of modest loads, by those standards, that we could have in the Pilbara and areas like that.

Mr J.E. McGRATH: Can I ask a question about Kununurra? Where do they get their power?

Mr Tudor: Kununurra gets its power from the Ord. A hydro facility was built there some time ago. I would be going back 15 years I suspect when it was built. Essentially, the facility there is run by a company called Pacific Hydro. It supplies power to us and also Rio Tinto for the Argyle Diamond mine. We are the two principal off takers for the electricity there. There is a line that runs out from Kununurra, effectively, from that facility down to the mine at Argyle and also across to Wyndham, and services the town of Kununurra.

Mr J.E. McGRATH: Would that generating plant be enough to service the future needs that you talked about before of the expansion of the Ord?

Mr Tudor: It depends very much on Argyle's expansion plans and whether it is going to continue with its underground operation or not. That was mothballed, but I think is now being re-energised. If they do carry on with their original plans, and we continue taking off take for the towns of Kununurra and Wyndham, there is not a lot of spare capacity left in the hydro facility, so we will need to look at additional generation. We would also need to look at additional distribution systems to supply the lots, as the agricultural development takes place, so there is more investment required in power infrastructure in Kununurra to deal with the M2.

Mr J.E. McGRATH: I have one final question. You could not see the day coming when it might be economic to pipe gas over there, if the region developed in the way that some people are envisioning?

Mr Tudor: There are two other sources that we can tap in Kununurra. One is truckable LNG. Truckable LNG can prove to be economic up to 1 500 kilometres from where it is produced, so you could actually get it into Kununurra. The other source is the potential for a further development of the dam, modest, but that would be up to about 10 megawatts, and that would be a natural choice for the next generation to be put in place in Kununurra.

The CHAIRMAN: Just clarifying, your LNG producers—North West Shelf, Pluto, Gorgon—you are not supplying electricity to them, are you?

Mr Tudor: No.

The CHAIRMAN: Except maybe in the construction camps.

Mr Tudor: Maybe in construction camps, yes.

The CHAIRMAN: They have a Rio Tinto policy, essentially, do they not; that is, they take care of their own?

Mr Tudor: Certainly, if the North West Shelf is anything to go by, they have their own generation that they have installed as part of their main plant and they operate it as part of an integral part of their plant.

The CHAIRMAN: And they do not buy or sell from you?

Mr Tudor: And they are not connected to the system.

The CHAIRMAN: What portion of the total installed capacity up in the Pilbara is on the grid—your system—and off the grid?

Mr Tudor: With the coming onstream of CITIC Pacific of 500 megawatts, you are talking in round numbers probably around 1 500 megawatts in total, and about half of that is connected to the system and about half is islanded. That includes the North West Shelf, CITIC Pacific, Burrup Fertilisers; these are all islanded systems.

The CHAIRMAN: And they have different scale and they are all gas, essentially?

Mr Tudor: Yes.

The CHAIRMAN: And all single cycle?

Mr Tudor: I think CITIC Pacific is combined cycle. North West Shelf and Burrup may well be open cycle.

The CHAIRMAN: What I think we should do now is go to the in camera section. We are going to close it to the public.

[The committee took evidence in camera]
