ECONOMICS AND INDUSTRY STANDING COMMITTEE

INQUIRY INTO DOMESTIC GAS PRICES

TRANSCRIPT OF EVIDENCE
TAKEN AT PERTH
WEDNESDAY, 15 SEPTEMBER 2010

SESSION ONE

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 9.14 am

ARCHIBALD, MR DAVID COLIN
Expert, examined:

The CHAIRMAN: David, I have a formal introductory statement. Thank you for coming and thank you for your submission. This committee hearing is a proceeding of the Parliament and warrants the same respect that proceedings in the house 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.

Before we commence, there are a number of procedural questions that I need to ask. Have you completed the "Details of Witness" form?

Mr Archibald: Yes.

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

Mr Archibald: Yes.

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

Mr Archibald: I did.

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

Mr Archibald: No.

The CHAIRMAN: The committee has received your submission, thank you. Do you wish to propose any amendments to your submission?

Mr Archibald: No.

The CHAIRMAN: Before we ask any questions, do you wish to make any statement in addition to the submission? Do you want to summarise or make an opening statement?

Mr Archibald: Is this in addition to the seven minutes that I am supposed to —

The CHAIRMAN: No; it is the same.

Mr Archibald: This inquiry has been called into existence because gas prices in Western Australia have gone up and some people have complained about that. The rise of the gas price has not been in isolation; it is driven by the oil price and the oil price is at the beginning of a big climb driven by declining non-OPEC production. By the end of the decade, the US and China, on their current production and demand trajectories, will need to import 25 million barrels of oil a day, between the two of them; Australia will need to import 800 000 barrels a day. LNG contracts are now being written at energy parity with the oil price. Seventy per cent of LNG production is used in making electric power. The price rise of LNG in 2008 shocked the South Koreans and prompted them to accelerate their nuclear plant build. However, the demand for LNG is unlikely to slacken, no matter what happens to its use in power generation. Compressed natural gas can be substituted for liquid fuels in most transport applications. As a direct substitute for petrol and diesel, natural gas will retain a direct price link to oil. In 2008, a cargo of LNG sold at $20 a gigajoule when oil was $148 a barrel. When oil gets to $200 a barrel, LNG will be $30 a gigajoule—about 15 times what it started the millennium at in Western Australia. Western Australia generates 60 per cent of its power from

natural gas. That is an idiotic state of affairs. At $8 a gigajoule, the gas price equates to $50 a barrel. Therefore, we are effectively burning oil at $50 a barrel to make power in this state. We could and should be burning coal at $2 a gigajoule, which would equate to about $14 a barrel. Even that would be a short-term solution. Coal to liquid plants are viable at $60 a barrel. At $120 a barrel, it becomes worthwhile to close existing coal-fired power stations and replace them with nuclear plants to free that coal for use in coal to liquid plants. In the meantime, plants making synthetic gas from coal could be developed in the south west to supply a few major consumers.

The WA government can do a number of things to ameliorate the state's dire energy outlook. The first is merely a change in attitude and is costless: the state government should reverse its current belief in global warming and the desirability of a carbon tax. The correct science is that carbon dioxide has a minuscule warming effect from its current concentration. The world has entered a prolonged solar-driven cooling period. As part of its change in stance, the state government should dump its Chief Scientist, Professor Lyn Beazley, who has been a shameless proponent of the warming scare. The required change in attitude will mean that potential energy suppliers in Western Australia will be less scared to start operations here.

The government can also do practical things to increase the supply of gas in Western Australia; once again, at little cost. Firstly, it should adopt the South Australian approach to native title and Aboriginal heritage on petroleum leases in order to speed up the exploration processes in the state. Secondly, it should survey and approve a road and pipeline corridor from Mt Newman to Christmas Creek on the Great Northern Highway. That route would provide direct access to the central part of the Canning basin. The Canning basin is virtually untouched by modern exploration for oil and gas and is likely to hold large volumes of gas. Lastly, the state government can help by doing nothing in terms of market intervention. Market intervention always has the result of restricting supply and distorting the market. A very good example of this is the gas market in the US; it thought it had a shortage of gas until it lifted the price cap on interstate trade in gas.

Thank you for your attention. I would say that I have some extra copies of my latest climate book for any members of the committee who would like to see it.

The CHAIRMAN: Yes. A couple of issues, David. First, your forecast is really based on a growing shortage of oil worldwide.

Mr Archibald: Yes.

The CHAIRMAN: Indeed, in your submission I think you had the price of oil going to $300, potentially.

Mr Archibald: That is just a projection; it could be anything.

The CHAIRMAN: Okay; it could be anything. Are you confident in this prediction? We heard, no time horizons on it, that some people were thinking that it was going to be the opposite; that is, a softening in the gas market worldwide because of the huge discoveries in the US, amongst other places.

Mr Archibald: It is very difficult to get gas out of the US, unless the Americans build a hell of a lot of LNG plants to supply Asia. That US gas is extremely capital intensive; it is about $6 an MCF to get it out of the ground. It is going to be a very long process and will take an enormous amount of capital to develop those gas deposits. The gas wells that they are drilling, basically peak out in the first three months and have very steep decline curves. You would need to have thousands of rigs drilling continuously to get a continuous supply.

The CHAIRMAN: Last I heard, the price had dropped below six to about $4. It might not be worthwhile to continue drilling at that price—because the price has dropped and because of the transition in terms of stocks of gas in the world's largest gas market. Also, once you have a big supply here, Canada is affected and then Canada, particularly Alberta and BC, is thinking about

putting on LNG. So this has ripple effects in the market. And, what was discovered in the US might be discovered here or in China or in other places; that is, this unconventional gas.

[9:22 am]

Mr Archibald: On that subject I attended a North American prospect expo in Houston a couple of weeks ago and there was a presentation on the gas from shale oil. One of the drivers of that very low gas price at the moment is the fact that because of the boom on and people taking up acreage at great expense, they are committed to drilling gas wells even though there is no market for it and the production of that gas is uneconomic—otherwise they would lose their acreage. So there is a glut in the short term that may take a year or two to come out of the market.

The CHAIRMAN: They have work program bidding, so if you get an acreage you have got to drill?

Mr Archibald: Yes.

The CHAIRMAN: Something like what is happening in Queensland now—there is a lot of drilling going on to prove up reserves and there has been a short-term glut of gas.

Mr Archibald: Yes.

Mr W.J. JOHNSTON: I want to go to page 5 of your submissions and you have got a graph of "Non-OPEC Production is in rapid decline". I wondered what the source of the graph is.

Mr Archibald: That is probably one I generated, but there may or may not be in that number of graphs there a very good study done by three Kuwaiti engineers in October, available from the American Chemical Society website, that has about 60 graphs of various countries' and regions' oil production profiles.

Mr W.J. JOHNSTON: So when you say you are an expert on these issues, what do you mean by that?

Mr Archibald: I worked for ESSO in oil exploration from 1980 to 1984. Then I spent 16 years in broking, covering oil and gas companies. I have run a listed oil company, run a private company. I am drilling an oil well at the moment up in the Canning Basin.

Mr W.J. JOHNSTON: Have you published any peer-reviewed papers or anything like that? Have you been published by any of the recognised journals around the world, any of those types of things?

Mr Archibald: I have published in *Climate Science*. I have published about half a dozen of them in peer-reviewed papers which are available on my website.

Mr W.J. JOHNSTON: Those ones that are on your website on climate science, what organisation are they published by?

Mr Archibald: A few of them were done by *Energy and Environment*, which is a UK journal run out of the University of Manchester. I currently have a paper being submitted to the Geological Society of America. No, it is Elsevier, a volume being edited by Don Easterbrook.

Mr W.J. JOHNSTON: Thank you very much for that. In your paper you also discuss coal to liquids. What countries in the world have commercial coal to liquids plants going at the moment?

Mr Archibald: Well, the list is South Africa and China.

Mr W.J. JOHNSTON: China, of course, is not a market economy. The only market economy in the world that has successful coal to liquids plants is currently South Africa and that is Sasol, is it not?

Mr Archibald: Yes.

Mr W.J. JOHNSTON: Is there any particular reason why you think coal to liquids is not commercially viable in any other market economy?

Mr Archibald: It is viable in most market economies.

Mr W.J. JOHNSTON: Well, it is not happening.

Mr Archibald: I would have to say that there is another coal synthesis plant making natural gas in North America, and that is pertinent to my comment about restoring the market, because that was built by the United States Department of Energy in the mid 1980s—Great Plains synthesis plant in North Dakota. That plant was set up to produce synthetic natural gas because the US thought it had a natural gas shortage. It should be making liquids; just a change of catalyst and they could be making liquids. But right now they are making natural gas at $3.98 a thousand cubic foot. That was the price overnight.

The CHAIRMAN: So the point the Deputy Chairman was making is that you are predicting a shift to using coal to convert to liquids or gas. There are no market-driven examples of that now. Even Sasol is an inheritance from the apartheid days when it was done for domestic non-market reasons. Why are not people in the market place picking up cheap coal deposits around the world and turning them into transportable liquids?

Mr Archibald: They are. They are in half a dozen proposals, some of them preceding the US. Rentech have got a plant in one of the south-eastern states and the carbon dioxide they produce will go off to an enhanced oil recovery project in an adjacent state. It might be in Alabama or something. So they are being built.

The CHAIRMAN: The point is there are not too many operating, but this is an area that is expanding. But your paper does say the price has to be predictably above $US60 a barrel?

Mr Archibald: Of course it all depends upon the price of the coal you are using, whether you have coal for free or you have to pay for it, the coal characteristics and all that sort of thing, but generally $US50 or $US60 a barrel. It used to be $US40 a barrel. It is a bit of a moving feast until we get some more practical experience in what they cost to build.

Mr W.J. JOHNSTON: What is the overnight price of a barrel of oil at the moment?

Mr Archibald: It is $76.37 or something like that.

Mr W.J. JOHNSTON: So it is 25 per cent above the rate that you say that —

Mr Archibald: Yes.

Mr W.J. JOHNSTON: Yet there is no rush to build these facilities?

Mr Archibald: In Australia there is about half a dozen listed companies on the stock exchange that have proposals in place. The US Air Force wanted to build one but they have been held back by the Obama administration. Most of the objections to coal to liquid plants are purely political because of global warming.

The CHAIRMAN: So you think that this is an area where there is a large amount of speculative money or big money, looking at it now?

Mr Archibald: Yes.

The CHAIRMAN: If, in fact, it is well known that the reserves of oil stocks are largely dominated by government-owned corporations around the world, particularly in the mid east and others in Russia, there is a widespread expectation of what you support as peak oil; that is, not only do you have large stocks of oil held up by government entities who often act in non-commercial ways, but the growing natural phenomenon of being unable to discover more oil except at high marginal costs? Are we running out of new large discoveries of reserves of oil around the world and not replacing those that we extract?

[9.40 am]

Mr Archibald: Yes, but I would further qualify what you say in that we will not be able to find large discoveries of oil at any cost. We have basically run out of rocks.

Mr J.E. McGRATH: What about the Canadian oil sands?

Mr Archibald: The trouble with those is that they are all very capital intensive and there is a hell of a lot of sand to be moved. At the rate they can ramp up, projections are that by the end of the decade they will not be moving more than 4 million barrels a day, even though they have got hundreds of billions of barrels potentially recoverable. Other aspects of it: Canadian oil sands are big users of natural gas to heat the oil and they also crack natural gas to produce hydrogen. They are currently looking at building nuclear plants to provide the steam to get the oil out of the ground, but it is a very energy and capital intensive process.

The CHAIRMAN: So it is very high cost?

Mr Archibald. Yes.

The CHAIRMAN: What is the cost of production per barrel?

Mr Archibald: Apparently it is about $40 a barrel —

The CHAIRMAN: To produce?

Mr Archibald: Yes.

The CHAIRMAN: Can they make a quid at it?

Mr Archibald: Yes, right now we are selling at $76 so there is a high margin involved.

The CHAIRMAN: Did those investments slow up because of the GFC?

Mr Archibald: They did, from my little understanding of it.

Mr J.E. McGRATH: Getting back to the Western Australian situation: in point 7 of your recommendations you talk about a transport corridor from Mt Newman into the central Canning Basin to enable supply to be brought on as soon as practicable after the discoveries are made. We have been told that the people who build the gas pipelines think that that is the opposite way to go, that no-one is going to build a gas pipeline until they are sure that they have got customers to use that gas pipeline. You obviously think the opposite to that.

Mr Archibald: No, I am simply suggesting to survey and approve the corridor.

Mr J.E. McGRATH: To get government approval?

Mr Archibald: Yes, rather than making the discovery and waiting for years for the thing to be approved.

Mr J.E. McGRATH: To speed it up. You mentioned some areas where the government could be proactive in this. Are you saying that we need to bring on onshore exploration and encourage explorers to come into places like the Canning Basin?

Mr Archibald: Being a free-market person I am not actually suggesting that governments spend money, but they can just change the way things are done, to speed up the process.

Mr W.J. JOHNSTON: Could you give an example of where a native title claim is delaying an oil or gas production process?

Mr Archibald: I have got a beauty regarding some acreage that I have myself in the south west Canning Basin, south of Balgo, where we are dealing with a group called Naparna Ngurrupa. Norman Moore called for an inquiry into exploration in WA when he got into power a couple of years ago, and I provided two of the four working example submissions to that—this story will take 10 minutes or more.

With a group of three other people, we were offered acreage in the south-west Canning Basin in March 2007 and the state government, or its department, said they were giving us 10 years to get native title done. I thought, "People are rational, these are rational people surely we can get it done faster than that." We are dealing with a mob called Central Desert Native Title Services. The native title officer at the department, now called the Department of Mines and Petroleum, discouraged us from dealing with traditional owners directly. He said we had to go through the white advisers at Central Desert. They did not answer mail for the first year—they were too busy to answer mail, so we lost the first year out of it. That was Central Desert who said they were too busy to answer the mail. Basically the way that they would operate is that if you wanted to meet the TOs in order to progress matters, they would give you a date further out in time and then three days before that meeting they would email through a list of demands saying, "Unless you meet these demands are not going to meet the TOs and there will not be any progress."

The CHAIRMAN: What are TOs?

Mr Archibald: Traditional owners. It went on like this for a while. Then we refused to play ball with them at one particular meeting, so the two white lawyers from Central Desert, along with the native title officer at the department, went up to Bill Tinapple, head of the department, in January last year, and said "The TOs hate Archibald and will never give them a native title agreement, plus if you do give them title over the land they will never allow Archibald on the Aboriginal reserve, so you might as well take the acreage off them right now." At the same time, they rang up one of my joint venture partners, Rodney Illingworth up in Darwin, and said, "Pay us half a million dollars and pay us five per cent royalty on production —"

The CHAIRMAN: Who said that?

Mr Archibald: The two white lawyers at Central Desert services, "… and all your problems will disappear." So they are double dealing. Under the Native Title Act I think that is called "negotiation in bad faith". But the native title parties can negotiate in bad faith if they wish to and there are no penalties at all for it under the Native Title Act. That is an example in which the process was held up. I eventually found out from other explorers that the more dealings you had directly with the TOs the faster things proceeded, so that is what I have done ever after—taken it myself. I go up there once a month to speak to the TOs.

The CHAIRMAN: Could you provide details of that in the supplementary submission?

Mr Archibald: What I suggest is that I take what I put into Norman Moore's industry working group report that was tabled in Parliament a number of years ago.

The CHAIRMAN: As a supplementary submission later on, yes.

Mr J.E. McGRATH: From your knowledge and your background in exploration for oil and gas, you talked about the Canning Basin and you said that it was your view that that there were huge reserves out there. Do you see those reserves, if they could be tapped, just supplying the Western Australian domestic market or do you think there could also be potential for them to go offshore through LNG?

Mr Archibald: Once Woodside or anybody builds an onshore domestic LNG plant up there, it is potentially linking into that and could be sold off offshore. Once you get built-up reserves, you can meet probably three TCF per LNG train. Most of the costs of building an LNG plant are from the initial build-up of the plant, the port and the jetty and all that sort of stuff. Building extra trains makes the thing far more economical and thus Woodside is agonising about building a second train to Pluto. The initial investment has been quite poor from Pluto; they will make money if they get more reserves. My view of the world and the oil/ore price and what will happen to the LNG price says that the north Asian demand for gas will simply suck all molecules of gas they could produce here out. But that should not preclude us from throwing our hands up and giving up. If we do produce a lot more domestic gas, some will come south.

Mr J.E. McGRATH: On the same question, you also mentioned gas prices in the eastern states and you have indicated that you think that they will go up because they are going to get LNG plants and you can see their gas going offshore too. What impact do you see that having on the domestic market? Are we going to be in a situation one day where Australia is sending most of our gas to other countries and we might be in a position where our domestic market suffers as a result?

Mr Archibald: No, you will always get supply at a price. On the east coast they have a widely distributed gas supply through all those coal bed methane plants. But we will run out of oil here pretty soon. We will already be importing 70 per cent of our supply in just three years' time. We import 24 per cent of refined product demand at the moment. As the oil price runs up, just as some people have LPG-driven cars, compressed natural gas cars will come along. It costs about $5 000 per vehicle to convert, but at least you are able to drive somewhere; you will not be paying five or six dollars a litre for petrol or diesel. I see natural gas being supplied in the market at an increased demand, simply because people will be switching from petrol and diesel.

The CHAIRMAN: As an investor in the Canning Basin, what are your views about possible government action—you might have heard about retention leasing, making it more difficult for roll over retention leases; there are issues about reservation, the large LNG projects have to have a certain percentage of gas sold to the domestic market.

Mr Archibald: I would not make it difficult for the explorers at all. Given how risky in the process is, you simply drive people away. If they find a sub-commercial pay it might commercial it when oil is $150 or $200 a barrel. It will simply drive people away from the market, from exploration.

The CHAIRMAN: If we started having a hard reservation on all the LNG projects from Pluto through Browse and whatnot, would that affect your decisions as an investor in the Canning Basin?

Mr Archibald: Sorry, say that again.

The CHAIRMAN: For instance if the state—it has a reservation policy in the vicinity of 15 per cent with a great deal of flexibility around it, let us say that we made that stronger, we made it more difficult for people to retain reserves for long periods time and they had to bring on to the domestic market, or had to make sure that any developments had a fixed, more rigid reservation. Let us say we undertook regulatory policies to ensure that a proportion of the gas offshore, for LNG, came onto the domestic market more quickly.

[9.40 am]

Mr Archibald: That would be bad for us, in that we are after liquids in the first instance, but if we did find gas, we might be fighting against gas coming from the North West Shelf at a much reduced price simply because it has to meet a government directive.

The CHAIRMAN: In the Canning basin, what are your targets there? Are you looking for shale gas, or are you largely looking for traditional sources, mainly liquids?

Mr Archibald: Traditional four-way dip-closures—very large structures, some of them, mainly liquids—but we do see gas on the seismic. I have a 200 BCF gas field that I can see on seismic that was shot by previous operators.

The CHAIRMAN: Yes. What do you think about the prospects for the Canning basin for discoveries of onshore gas?

Mr Archibald: Very good. There are a number of gas fields being discovered there today, things like St George Range, which discovered gas down a bit from the crest of a very large structure. The thing is virtually undrilled and in terms of classic geological theory, it is a very good place to explore.

The CHAIRMAN: Why has it not been explored extensively to date?

Mr Archibald: The last time it was explored to any great extent was in the mid-80s, during the second oil price shock from 1980 to 1984, and then the budgets fell away. The oil industry operates in a herd, so as soon as someone makes a discovery, they will come in, but at the moment the Canning basin, despite very good geology, has a poor reputation.

Mr J.E. McGRATH: Is the lack of drilling equipment that is necessary for this exploration in Western Australia, a factor? We are told that there are thousands of these drilling rigs over in the US, but there are not many in Western Australia that are suitable for the type of exploration that might be needed.

Mr Archibald: Yes, that is true, in that for current drilling the total cost is about $2.5 million. We were quoted a $500 000 round trip for the drill rig alone, from South Australia to the Canning basin. So it is $1 million or $2.5 million simply to be spent on transport of the rig. There was one previous operator in the Canning basin, Kimberly Oil and Gas, that realised that the key to drilling wells there cheaply would be to keep a rig in the basin. That was kept at Derby until the company went under. The cost of mobilising everything 3 000 kilometres is considerable—camps, drilling units and the rest of it.

The CHAIRMAN: Just the availability of the number of rigs, we heard, is a major limiting factor.

Mr Archibald: Yes, but I would not suggest that there is anything government could or should do to intervene in that problem.

The CHAIRMAN: Yes, we just heard that, and you can see the growth in demand in Queensland; there is a lot of drilling going on there.

Mr Archibald: Yes.

The CHAIRMAN: What about the Perth basin, onshore?

Mr Archibald: It has largely been drilled out. I did not have much of an opinion about it when I was with Esso back in the early 80s. AWE recently drilled a shale gas well, I am told. We are waiting for analysis of the core to come back from the US as to whether there is shale gas potential here, otherwise they are thinking of 10 or 50 TCFs—some very large number—that is potentially recoverable. Having attended that conference in Houston, seemingly any mature shale can produce oil or gas as long as it is in the oil window or the gas window, depending on the total organic carbon content. There are some shales in the Perth basin that are in the gas window and should, theoretically, be able to produce gas.

The CHAIRMAN: It would have to be proven first.

Mr Archibald: Yes, but the results may be out in the next few weeks.

The CHAIRMAN: Okay. One of the issues is that you say we use a lot of gas; in fact, over 60 per cent for electricity generation, and I think you said that that is not a good policy.

Mr Archibald: It is idiotic, is what I said.

The CHAIRMAN: Yes, idiotic. I am trying to be less colourful.

Mr Archibald: Yes.

The CHAIRMAN: We also had huge growth in gas demand up north in the Pilbara. One of the issues in ensuring quantities of onshore gas is to back that out and use it for other peaking demand around the world, where it has a higher value, you would think. What do you think about the feasibility of building, instead of gas turbines up north, a large baseload generating unit using non-gas fuel?

Mr Archibald: Quite possible; I am told that people have already looked at importing backload coal from Indonesia and burning it in coal-fired power stations in the Pilbara.

The CHAIRMAN: Do you think it would be economically viable? Have you heard anything about that?

Mr Archibald: I have heard it vaguely, yes. About a year ago I heard that one of the parties up there was considering it. Once again, the whole global warming scare would put extra capital cost on that. While we are on the subject of the Pilbara, Sino Iron built that $6 billion plant to produce 25 million tonnes a year of magnetite. It started building the plant before it signed its gas supply contract.

The CHAIRMAN: Yes, I read that.

Mr Archibald: It goes to the oil price from 2014, so from 2014, it could be spending the equivalent of $200 a barrel to buy its natural gas. My prediction is that that plant will probably close because it will not be able to compete.

The CHAIRMAN: I think you said in your submission that it signed a contract for assured supply for five or six years.

Mr Archibald: I think it was seven in total.

The CHAIRMAN: Seven years, therefore at the end of that period, it will have quantity but price is determined in some other way?

Mr Archibald: No, sometime in 2014, it will go to the then current oil price from a fixed $8 a gigajoule; about that. Then its total contract is only seven years.

Mr W.J. JOHNSTON: How do you know that?

Mr Archibald: It is public knowledge from the releases of Santos. Santos is the only publicly listed company in the whole process.

Mr W.J. JOHNSTON: When you talk about the LNG price, how do you know that?

Mr Archibald: There is a whole body of knowledge in the market on what prices are, evaluations and this, that and the other thing.

Mr W.J. JOHNSTON: So what is the LNG price for Australian LNG sold?

Mr Archibald: There are various prices. Under the Howard government it sold at $2 a gigajoule, which is just crazy. They just wanted to give the gas away.

Mr W.J. JOHNSTON: What is your information source for that price?

Mr Archibald: We are talking about something that happened six or seven years ago. I think it was a managing director of AWE who told me about it, and the Japanese partners in the project complained about what the Howard government had done.

The CHAIRMAN: So it was public information?

Mr Archibald: No, it was not public.

The CHAIRMAN: At that time, the project to Japan was exceedingly low, even relative to other LNG prices, did you not think, at the time?

Mr Archibald: It was low, yes it was. I think they sold one extra free cargo for every 25; it was like selling apples, my mate at AWE said.

Mr J.E. McGRATH: Getting back to that point, how would the commonwealth government be involved in setting the price? Is it still involved in setting the price?

Mr Archibald: No, I do not believe it is involved in the commercial negotiations as such. The Howard government pushed Woodside and others to come to the party because it wanted an LNG plant built; that is how I believe it got driven.

The CHAIRMAN: So there was political pressure to consummate a deal between North West Shelf and China?

Mr Archibald: Yes.

The CHAIRMAN: There was support for that on a state basis also, to the extent that it was not involved in the commercial side. Are you confident, from your forecast for oil prices, that there is a very rosy outlook for LNG markets worldwide, including the north west and Queensland?

Mr Archibald: Yes.

The CHAIRMAN: There will be an increasing drive from world prices for the LNG producers in Western Australia to suck up as much of that and export it to where the highest value price is. Therefore there is a valid concern that the prices for domestic gas will go up towards the netback LNG price.

[9.50 am]

Mr Archibald: Yes.

The CHAIRMAN: Or that it would perhaps have variations above and below according to these contract prices because these are all contracts—one time they sign for $2 and you get a deal on the other one for $11 or $12; I do not know the prices. Do you think these large companies—you did work for Esso—have a fiscal or strategic imperative to give preference to LNG exports as opposed to domestic gas exports?

Mr Archibald: No, they do not. I have a friend in Chevron who is high up in that organisation. I stay with him in San Ramon in California a couple of times a year. Although he does not tell me what goes on at the company, they are completely agnostic about where they sell their molecules to.

The CHAIRMAN: Will the forms of contracts, let us say long-term LNG contracts to China and Japan, and the need to have backup reserves for those long-term, in a very conservative estimate, distort that decision between offshore and onshore sales?

Mr Archibald: No. It is worthwhile going back to the reason why the LNG market developed in the first place. Back in the late 1960s and early 1970s, over half of Japanese power production, until the late 70s, was from burning oil. As the oil price went up, their price of power went up, but even before that they started to diversify away from oil. They were quite happy to pay the oil price equivalent for LNG in order to diversify away from the Middle East as a supply of oil. So the Japanese underwrote the whole development of the LNG market and it has traditionally gone into power generation—70 per cent still goes into power generation in North Asia—but I see, eventually, gas going into the transport market to power cars and the like. It is large enough now that it could go to short-term contracts; people might be happy to build a spec LNG plant.

The CHAIRMAN: Is that not what Pluto is doing?

Mr Archibald: Yes.

Mr J.E. McGRATH: I will just get back to the pricing, the bidding and how producers come up with a price for their contract. In your situation if one of your companies made a significant find, say, in the Canning Basin, and you wanted to sell it into the domestic market, how would you determine that price? Would you work on the netback LNG price or would you let the retailers go into a bidding war? What would be the best process for both sides, for the producer and the consumers, domestically?

Mr Archibald: There are a couple of things about scale. A gas discovery up in that part of the world has to be of a certain size in order to justify the pipeline build. There is about 800 kilometres of pipeline from the central Canning Basin to Mt Newman, which is a 20-inch line, and then from Mt Newman you would be able to sell it south. I think from memory probably about 500 BCF would be required to justify that pipeline, depending on the gas price—if the price rises, then we

can afford to build a smaller line and all that sort of stuff. Also, it is a question of the liquids. If you were producing a lot of liquids, you would be quite happy to sell the gas price cheaply in order to be able to produce the liquids, which are LPGs and condensate. So you could have a small gas field that had a high liquids content for which a major proportion of the financing would be the pipeline cost. You would be paying $2 to $3 a gigajoule or possibly more just to get it to Mt Newman. If it was very large, and the prospect of being large, beyond a TCF, you might sell it into an LNG plant along the coast, presuming they get built.

Mr J.E. McGRATH: This inquiry, as you said before, was mainly brought about by concerns about the price of domestic gas. What do you think is the future for users of domestic gas, both industrially and domestically, in Western Australia?

Mr Archibald: It is not good simply because of that world oil price thing and the fact that you can use natural gas as a transport fuel; therefore, the price will go very high indeed. It would be like burning diesel to power these lights; it would be idiotic.

The CHAIRMAN: We read about forecasts where you are going to see a decoupling of gas from world oil prices. The argument is that the gas market is going to change and right now there is no reason why it should be coupled to the oil price as it was in the past, as you described in Japan. Things have changed a bit now; no-one burns diesel for electricity generation. What do you think about that?

Mr Archibald: Some forecasters have to be wrong. The decline in world oil production would be about two million barrels a day from here until the end of the decade. I have not actually figured out what that translates to in gas. I could tell you what the demand growth might be, all things being equal, but it is going to be significant, so that oil production decline is going to soak up a lot of increased gas production.

The CHAIRMAN: If not in electricity, in transport.

Mr Archibald: Yes.

Mr W.J. JOHNSTON: Ten years ago, what did you predict the price of oil to be in 2010?

Mr Archibald: I was very optimistic about the oil price back in 2000. I cannot remember what I predicted.

Mr W.J. JOHNSTON: Just going on from that, over the past five years, the OPEC countries have been withdrawing production, so production now is lower than it was from OPEC in the past. Do you think that is having any impact on the price of oil? During 2009 energy consumption in the world went down, but the price of oil went up. Are there any issues that you think we should keep in mind?

Mr Archibald: As I understand it, we entered a period of inherent oversupply about 1930. The market went into oversupply since the early 1930s. In about 1933 the East Texas field was discovered and the Texas Railroad Commission ran the world oil price right up until the late 60s, then OPEC took over from there. OPEC's problem has been to restrict supply amongst its members to stop oil prices falling through the floor. From about 2003 was the changeover when Chinese demand growth started taking off and we are now in long-term tightening supply.

The CHAIRMAN: What about nuclear power? You say in your submission that Korea, at least, after a shock about the high LNG price, started building nuclear plants. Do you think that will displace demand for LNG around the world or at least in our region?

Mr Archibald: Eventually it will; some people are building nuclear plants faster than others. The Koreans have decided to build their indigenous nuclear technology and they have successfully sold that to UAE or one of those gulf states, I think it was UAE, to build a couple of nuclear plants.

The CHAIRMAN: In the Middle East?

Mr Archibald: Yes.

The CHAIRMAN: Why would they do that? They have plenty of gas.

Mr Archibald: But bear in mind that Kuwait imports coal from Queensland.

The CHAIRMAN: Really? What for?

Mr Archibald: Because it is cheaper; at the moment they burn oil to make power and they could sell that oil at a much higher price. Kuwait is looking at building a nuclear plant but it has restricted its inquiries to people who have already installed nuclear plants—that is, the Westinghouses and Arevas. But the Koreans will come in cheaper than Areva and Westinghouse. I believe those countries that install nuclear, not necessarily this current nuclear energy, reactors—the waste problem from them is real and it is unnecessary if you go to other technologies. There are other technologies under development in thorium or even fast breeder uranium-to-plutonium, sodium-cooled things.

The CHAIRMAN: So, in general, do you think that it would take some time to get adequate nuclear capacity up to displace gas in the medium term?

Mr Archibald: Yes—ages.

Mr J.E. McGRATH: I have one general question, and I know that you have touched on it. I notice that the new federal government has reassured the coalmining industry that its future is safe. What do you think the future is for the coalmining industry in Australia and Western Australia?

[10.00 am]

Mr Archibald: Let us talk about the two things separately. Yes, Australia is very good; as a nation we produce 400 million tonnes a year and we burn about 105 million tonnes a year as black coal and brown coal for electric power. So it is curious about that whole business of global warming. The Queensland Bligh government has required that 15 per cent of power generation in Queensland be from natural gas to fight global warming. At the same time, it is quite happy to encourage the building of as many new coalmines as it can because it is getting a decent royalty stream from those. Australia has 80 billion tonnes of coal in reserve. The mining will eventually go deeper and deeper and drill seams that are about 1.5 metres thick. The coal industry will be around for decades. I see coal mining going to coal-to-liquids plants and coal for power generation being displaced by nuclear power. In this part of the world there is supposed to be about two billion tonnes of coal at Collie, but I have never seen any decent reserve figures or a cross-correction of that deposit. They are very opaque about the reserves at Collie. I think that coal is being sold for about $40 a tonne. There are several billion tonnes of lignite, extending from Esperance to beyond Kalgoorlie up to the South Australian border. That could be a power source too. The other thing about coal-to-liquids plants is that depending on how they are set up, they can produce power rather than recycle the synthesis gas. After it has been through the reactor once, it can be burnt in a turbine on site and put power into the grid.

The CHAIRMAN: Is there any coal further north of Perth towards Karratha?

Mr Archibald: I believe there is a couple of hundred million tonnes in the Mid West. It is a reasonable stripping ratio and could be burned in a power generation plant or a coal-to-liquids plant. Rey Resources in the Canning Basin has supposedly found several hundred million tonnes of coal in a seam that is about two metres thick that could be mined in an open-cut slot and then it could do high-wall mining and truck it to Derby and export it from there.

The CHAIRMAN: Is that high-quality coal?

Mr Archibald: It is slightly better than Indonesian coal. It is not so bad, apparently.

The CHAIRMAN: What are your policy recommendations for the issue of the state dealing with the expected continued price rise of gas, which you say will do nothing but continue to rise?

Mr Archibald: As far as power generation is concerned, we have to run from gas as fast as our two little legs can carry us and install coal-fired power generation, otherwise we could be paying a fortune to keep the lights on. That is the first thing we can do. The second is to have another look at Aboriginal heritage and native title issues and adopt the South Australian approach, which is a fixed formula for those things. That was done under a Labor government, so it should be politically acceptable.

Mr J.E. McGRATH: What about places like Margaret River?

Mr Archibald: The coal mine there? They are so precious. It is 15 kilometres from the town. Unless they were given a GPS, they would be hard-pressed to find the coal mine; it is an underground coal mine. Unless they do not like the sight of miners walking around in their overalls, I cannot understand what the problem is.

The CHAIRMAN: I take it that you do not have a holiday home in Margaret River.

Mr Archibald: No, I do not, but it is 15 kilometres east of the town. No-one lives out there and nothing happens out there.

The CHAIRMAN: Have you heard of a new underground coal mine being developed in Australia in the past 30 years?

Mr Archibald: Yes.

The CHAIRMAN: Where?

Mr Archibald: There would be plenty in the Bowen Basin.

The CHAIRMAN: Are they new ones, or extensions of existing ones?

Mr Archibald: Within the past 30 years, yes. There have been 20 or 30 of them. I went underground in one in June at Oakey Creek north.

The CHAIRMAN: Is it a new mine?

Mr Archibald: Yes, it is a new mine.

The CHAIRMAN: What do they do with that coal?

Mr Archibald: It is export coking coal. They were making $3 million a day at the peak of the market.

The CHAIRMAN: Thank you for your evidence. A transcript of this hearing will be forward to you for the correction of minor errors. Please make these corrections and return the transcript within 10 working days of the date of the covering letter. If the transcript is not returned, we will assume it is accepted. Do not introduce new material. If you want to introduce new material, which you said that you would add in another submission, please provide it with the transcript or otherwise send it to us directly. I am referring to the submission relating to the native title statement you made.

Mr Archibald: Yes.

Hearing concluded at 10.05 am