

TRANSCRIPT

STANDING COMMITTEE ON THE ENVIRONMENT AND PLANNING

Inquiry into unconventional gas in Victoria

Melbourne — 2 September 2015

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Witnesses

Ms Samantha Read (sworn), Chief Executive Officer, and

Mr Peter Bury (sworn), Director, Strategy, Innovation and Research, Plastics and Chemical Industries Association.

The CHAIR — I declare open the hearing of the Standing Committee on the Environment and Planning on its inquiry into onshore unconventional gas, and welcome to the table Samantha Read, the chief executive officer of PACIA, and Peter Bury, the director, strategy, innovation and research at PACIA. Samantha, if you will lead off, we will then follow with some questions.

Ms READ — Thank you to all the committee members for the opportunity to present and speak to you tonight. As noted, I am the chief executive officer of PACIA. PACIA, if you are not familiar with the organisation, is the voice representing the Australian chemistry industry, which is the second largest manufacturing sector in the country, second to food and agribusiness. Nationally the industry adds more than \$11.6 billion to the nation's gross domestic product. It employs more than 60 000 people, often in highly skilled jobs, and contributes more than \$6 billion to the economy in wages and salaries. In Victoria alone, the industry directly employs more than 21 000 people.

While we are familiar with the equation gas=energy=heat and its importance as a source of energy for both residential and industrial use, importantly our industry uses gas in a unique way. It transforms gas using clever chemistry into new products used in 109 of Australia's 111 industry sectors. This means that we turn gas into jobs, which contributes to building resilience and strength in our economy. Our research indicates that approximately 10 per cent of Australia's domestic natural gas is used as a chemical feedstock, or an ingredient for manufacturing chemicals and plastic products needed throughout the economy and to maintain our quality of life.

Let me explain. The constituents of natural gas include two important molecules, methane and ethane. The methane and ethane chains are the starting points for the advanced chemistry that produces fertilisers to increase our agricultural yields; treatments to make our water safe to drink; pipes to transport water and gas and for other reticulation purposes used in agriculture and mining and for residential use; and makes advanced packaging products that protect and preserve our food. Ethane and methane, the components of natural gas, are essential ingredients in these processes. In Victoria, we use gas as a feedstock to make products such as methanol from the methane, and from the ethane we make polyethylene, both of which have a myriad of uses. These feedstock molecules cannot be substituted in the manufacturing process that supports so many Victorian businesses.

We are particularly conscious that the inquiry in Victoria is dealing with a large volume of information from a broad cross-section of stakeholders. Our observation is that all parties need more information than in the past. We are pleased to be here tonight and to support the process of the committee in working through what may be required. I will now pass over to Peter to make some further comments.

Mr BURY — We certainly appreciate the committee's invitation to attend this round of hearings. As a major consumer of gas, the area, in terms of the terms of reference, where we feel we can provide most insights and assistance to the committee's work is around item (4), which is:

the ability of potential onshore unconventional gas resources ... to provide a competitive source of energy and non-energy inputs [in particular] for Victorian industries.

We thought that it would be helpful to your inquiry to spend just a couple of minutes setting out how much gas is used, where it is used, some of the challenges that we recognise are being faced and what we think might be a helpful path through what is clearly a complex area that you need to consider.

In terms of the east coast gas to which Victoria is connected, Victoria is the largest consumer in the east coast gas market. It is a 700-petajoule market down the east coast. Victoria is the largest consumer at around 32 per cent of that, and within that Victorian proportion, large industrial consumers consume the largest proportion of that amount at around 40 per cent, or about 87–88 petajoules.

The work we have done has identified that within that subsector about 37 per cent of the industrial gas is used just for chemical feedstock demand. So in essence, approximately 15 per cent of all the gas that is used in Victoria is used for the types of chemistry that Samantha has set out. As mentioned, that raw gas is used as a chemical feedstock in the same way that grass is used to make milk or iron ore is used to make steel. It is the chemical processes that make products and Samantha has stepped us through how that works out.

The other critical thing in terms of the Victorian economy and the Victorian gas market is that there are two considerable changes that are happening that are of importance to the industry and are important factors for the work of the committee. First of all, there is significant growth in domestic, regional and global populations,

wealth and education that is driving an unprecedented demand for a broad range of manufactured products and services. So we have a growing world that needs to be supplied with a whole range of inputs. These have been clearly identified in, for example, the Victorian government's Future Industries Fund initiative and the areas it has set out. Particularly with the Victorian economy needing to transition from the automotive sector, we think that is important.

The second important driver is that that same growth increases the demand for energy globally and that demand for energy globally is being met by the exporting of LNG, primarily out of Queensland, to which the Victorian gas market is connected. It is really important to understand the size of that chain. That 700-petajoule east coast gas market is transitioning to a 2300-petajoule market next year, so that is quite a significant change.

The degree of that change in the manufacturing industry nationally and in Victoria we felt was not particularly well understood. So a group of large industry associations commissioned Deloitte Access Economics to do a piece of independent work about what the impact on the manufacturing sector was. Their conclusion in Victoria was that between 2014 and 2021 the impact on the manufacturing sector alone would be \$23 billion worth of lost economic output and 1500 jobs over the same period. For our sector, the chemicals and plastics industry, the projected losses were \$847 million and 850 jobs. We can provide copies and links to that report for the committee's deliberation.

However, there is also an opportunity. With the growth that is happening in the marketplace, the opportunity that Victoria has is around some of those Future Industries Fund strategies in areas like medical technology and pharmaceuticals; new energy technology; food and fibre; and transport, defence and construction technologies. All of those are opportunities for the Victorian economy to take into consideration about where it transitions the economy to.

As Samantha mentioned, we are also very much aware that a lot of uncertainty exists. It was very helpful to review the report on community and stakeholder attitudes — I think it set them out really well, and that was quite helpful from our perspective — and also the interim report that was sent out yesterday.

With the market in such a seismic shift, I guess our observation is that all stakeholders who are in any way involved with gas need to make more decisions and more informed decisions than they have at any other time. Whether they are explorers, industrial or commercial or residential users, governments or communities, it seems that everybody needs better quality information and more of it to make different types of decisions. We recognise that is the complex work of the committee.

If we look in particular at the community and stakeholder attitude report, 29 per cent indicated overall support and 27 per cent indicated overall opposition. I think there was a good note there that they also noted that there was a lack of adequate cost-benefit analysis. The report also indicated that a large percentage, or 44 per cent, indicated overall undecided/don't quite know and that that also indicated a need for more knowledge in terms of the way forward.

We have been thinking about how we can assist the committee's work. It is an important piece of work. In the submission that we provided, we looked at a potential solution. One way forward to us seems to be that if we had a better understanding about what the gas reserves were, including onshore gas, the location, type and amount available — and that may include drilling a number of conventional wells only to test and prove up the reserves simply to understand what the gas is and where it is — then that would seem to make sense. But importantly, being able to assess the economic, social and environmental factors, including a cost-benefit study and analysis, would also be useful because by reading the types of submissions that have come through there seems to be uncertainty about where those opportunities are.

That could include the important role and contribution of gas as an energy source but also as a feedstock source in the way that we have set out, the types of businesses and employment opportunities that can add value to the development of the gas and aligned with the types of strategies that the Victorian government has already set out and, importantly, to make use of the considerable resources that are available through endeavours such as the federal government's Domestic Gas Strategy and also the work of GISERA, the coalition between the industry and the CSIRO, to engage deeply with concerned stakeholders and understand the science that is needed to try to fill some of those information gaps.

We certainly commend the committee for seeking out the experiences of other states as part of the next stage of the work, and in Queensland, for example, the role of the gasfields commissioner looks like a valuable contribution to a complex area.

Finally, to finish up, PACIA is also pleased to reiterate the invitation that we made in our submission to you for you to come out and tour some of the state's chemical and polymer facilities and to see firsthand where gas is transformed and value-added into products that are able to equip the Victorian economy for future sustainable growth.

The CHAIR — I begin by thanking you for your submission, both the written one and the one today. If I can summarise: gas is important to your sector for two reasons. It is important in terms of a feedstock but also an energy source.

Ms READ — That is correct.

The CHAIR — And it is important, it seems to me, both in terms of certainty of supply but also price. Is that a reasonable summary?

Mr BURY — Correct.

The CHAIR — I am going to ask a question that sounds a little bit left field, but I asked it of one other participant in this inquiry, and that is: if a sort of quid pro quo was struck where you had — let me explain what I am suggesting here — the east coast market now linked to the export market and thereby export prices, but if we were to, as a state, say we will reserve some of the onshore reserves to provide a secure price and a secure source of supply for key industries, would that be a sensible quid pro quo? It might be at a different price than the international price.

Mr BURY — Yes, sure. I think it is an excellent question, and I think there are two components to the answer. The first is, in general terms our industry does not see that reservations per se solve the long-term problem. The long-term problem is a structural problem where we still need to bring in significant investment if we are going to do something with the reasonable reserves of gas. However, the experience of companies to date is that they are currently in that transition period. The transition period is that the supply of gas up and down the east coast is in short supply and the prices are going up as a consequence.

We were with the ACCC on Monday, and the question they posed was: 'So is that a market failure or is it a market in transition?'

The CHAIR — Or is that market information in part?

Mr BURY — Indeed. Where we arrived was that our members understand that markets go through cycles, but the information needed within those marketplaces should also inform the market how long those cycles are going to be, when they are likely to settle and at what point they are going to settle. The reason I mention that is that if the market is in transition, then it is a matter of businesses who use gas for feedstock and for energy to be able to wait out the duration and to be able to put strategies in place so that they are still in business once that transition cycle has gone through. The reason that is relevant is because if there was a strategy in Victoria to look at some way of supporting industries through that transitional process, that could well be a valuable mechanism for many companies.

Mr LEANE — Thank you very much for your submission. There has been a lot of discussion around feedstock in our inquiry, so it has been very good to get someone to come in and explain fully what that actually means. Can I ask, going to your table 5, which is very helpful: is there an alternative feedstock to gas chemical feedstock? Is there an alternate chemical feedstock?

Ms READ — Not at this point in time.

Mr LEANE — Okay.

Mr BURY — That is a really important question.

Ms READ — It is.

Mr BURY — Thank you for raising it, because if you are, for example, in the electricity generation sector, and we have seen examples of where gas has become either too expensive or supply has been constrained and they were able to switch as a fuel source, but if you have got an ethane cracker or a methane cracker, it is dedicated technology. So because you are not using it as a fuel source, you are chemically cracking the ethane to become ethylene and so you really cannot put anything else in. The system is calibrated to the chemistry that is dedicated to that type of feedstock.

Mr LEANE — I think that is pretty much what I wanted to outline. I appreciate that you invited the committee to witness some of these operations. Whether members of the committee come or not, I would like to have a look at one of these operations myself.

The CHAIR — We might ask if there is a location that they recommend.

Mr BURY — Yes, close by.

Ms READ — I think we would probably recommend a visit to Qenos in Altona, but also if you had time you could visit one of the companies that then transforms the product that Qenos makes into other materials.

Mr LEANE — I would like to ask just one more question. What does the product actually look like after it has been through the cracker?

Ms READ — I should have brought some in a packet. When you transform ethane and crack it into ethylene and then make polyethylene, the actual raw material is pellets or a powder. Yes, so it is basically pellets, which are then taken and put into another process in downstream businesses.

Mr LEANE — At another factory.

Ms READ — Yes.

Mr LEANE — Thank you.

Ms READ — To make packaging products or pipes or — —

Mr BURY — The scale at the Qenos facility is quite impressive. It is a 50-year-old facility that employs a large number of people in highly skilled jobs. Their output is somewhere around over 200 000 tonnes per annum. It is quite an impressive facility.

Ms READ — It is the only manufacturer of polyethylene in the country.

Mr LEANE — That is interesting.

The CHAIR — Is it at risk with the rise in gas prices that is predicted?

Mr BURY — I think all companies that are using gas require long-term certainty so that they can supply into the markets they need to supply into. The experience of our members is that being able to secure the supply at the right price is critical. They have worked very hard to try and do that, but they certainly have concerns, which is part of the reason why we are here today. It is a matter of two things. No. 1 is being able to meet current demand with current supplies, but also where there might be investment opportunities to do further work and expansion. Then you can imagine that if you were looking at that you would need to know what your long-term prospects were.

The CHAIR — I will let Mr Dalla-Riva, a former minister for manufacturing, make some commentary.

Mr DALLA-RIVA — I have been to Qenos a few times so I know what it is like. One of the things we have looked at in the inquiry is gas being used as an energy source for heating or for industry in terms of a fuel source. But you are obviously telling me that there is a substantial amount of additional gas supply that is necessary for manufacture of materials downstream. You provided that in the list on page 5 and it is quite extensive. I missed the early start. As a percentage of the amount of gas that is consumed, how much is consumed by industry? I may have missed it, but — —

The CHAIR — As a feedstock.

Mr DALLA-RIVA — As a feedstock.

Ms READ — It is approximately 15 per cent as a chemical feedstock in Victoria.

Mr DALLA-RIVA — Having been to Qenos in my other role, I know that the feed supply was from Bass Strait.

Ms READ — Correct.

Mr DALLA-RIVA — I think there was a supply that came across under Bass Strait and from, I gather, offshore — —

Mr BURY — Correct. That comes from an offshore field.

Mr DALLA-RIVA — Yes, and the pipeline goes direct into Qenos.

Mr BURY — Correct.

Mr DALLA-RIVA — So the other thing is that if there is already a supply offshore — part of 15 per cent into Qenos as an example — why is it necessary for us to then look at onshore gas if there is an adequate supply that could be sourced offshore?

Mr BURY — A logical question. There are two answers to the question. The first is that in general if you look at the dynamic right down the east coast market where that east coast market is now LNG linked — the first ship sailed in late December last year — the forward projections for the industry become an issue because those types of facilities require long-term planning and long-term certainty so that they can get their feedstock and they can do their long-term planning and their long-term projections.

One of the areas we spoke about earlier was is it a market failure or an information failure? Indeed part of the work we have done this week, for example, was to speak with the ACCC in terms of whether there is sufficient information in the market to make those types of long-term decisions. There is a view that more information in a marketplace could improve a competitive position, generally speaking. The reason I mention that is there is not as much certainty as would be preferred in terms of how much Bass Strait gas is there at the moment. It would be also valuable to know what other options were available in terms of alternative supplies. I guess the remit that the committee was looking at was a competitive source of energy, so at the moment the ability to improve that competitive position is part of the answer.

In addition of course to Qenos using ethane, Coogee use the methane to produce methanol as well, and that is Australia's only methanol producing capability as well. So there is some solid capability and the experience of both of those organisations is large-scale plants require large-scale supplies and being able to understand their place in the market is important to have that certainty. I hope that answered your question.

Mr DALLA-RIVA — Yes, it does. Thank you

Ms BATH — In your submission and with respect to the recommendations, on page 2 you talk about the products and services in the emerging sectors — food fibre, new energy technologies, medical technologies et cetera. What sort of state are these in? Are they in an infantile sort of state? Are they emerging markets? Could you discuss those more with respect to your raw product?

Mr BURY — Certainly. To go back one step, our organisation wanted to do some strategic industry road mapping and I think we mentioned that in the report as well. We asked the CSIRO to tell us about the industry independently. We think we are good but we wanted the CSIRO to form an opinion. The view they had was that there are significant opportunities for growth in our industry based on global megatrends around being able to provide more food. As an example, by 2050 we need to produce 70 per cent more food than the world has currently got and we are losing 12 million hectares of arable land a year due to civilisation and desertification.

There is a huge need to drive better food production and more efficient food production. Therefore the ability to produce fertilisers for better quality cropping, to get more efficient cropping out of the same amount of land and to package that food so that it lasts longer and travels greater distances and has less spoilage become an important part of how the Victorian economy adapts to those opportunities. An example of that is that

Australian milk is sold fresh daily in China for \$9 or \$10 a litre. That milk is packaged in polyethylene that started off in Bass Strait, was cracked at Qenos and turned into a milk bottle. That is one opportunity of the sorts of megatrends the economy has the opportunity to adapt to, and I guess that is why those other areas were picked. Chemistry is inherent in each of those. The role of plastics and chemicals in particular plays a part.

The other answer to your question is the ability of the research and development sector in Victoria to help the industry adapt. PACIA is involved with a consortium comprising Monash University, CSIRO, EPA Victoria and us, with kind funding from the Victorian government and also the federal government. Out at Monash University there is about \$110 million worth of investment in the future of chemistry — bright young scientists — that can enable Victorian businesses to access the brightest minds in CSIRO and the brightest minds at Monash University and look at areas where we can value-add to our base commodities and at how we can adapt them to future opportunities.

An example of that is the Victorian Centre for Sustainable Chemicals Manufacturing. The remit of that was 30 projects in three years. In two and a half years it was 62 projects, and many of those were around how to produce new packaging types, how to find new industries and how to debottleneck processing. I think it is the companion piece of not only having the resource but also having the R and D wealth and having much better connection between industry, academia and research to help facilitate that.

Ms BATH — That is music to my ears; in my past life I was a chemistry teacher. The other question in relation to that is: how realistic would bio feedstock be? Is that just a nice idea, or is there any sort of reality there?

Mr BURY — CSIRO and others have some profound capability in bio feedstock. Is bio feedstock feasible? I think you could say the same of any type of feedstock at one point in time: it was something that had to be explored and well looked at. The opportunities around bio-based feedstocks are that you need to have reliable supply and the industry needs to be able to convert them at a reliable pace in commodity products that suit the long-term markets. We are certainly aware of that research that CSIRO and others do. It is something we are interested to watch, and where it makes a difference for the market then we are happy to help facilitate those conversations as well.

Ms BATH — We may need gas to convert the bio feedstock.

Mr BURY — I guess that is the issue. All of those opportunities are there, and other economies do not have all of those ducks partly lined up. Victoria really does have quite a remarkable opportunity because we have the resource base, we have the R and D intelligentsia, we have 50-plus years of having strong manufacturing capability and we collaborate really well. A lot of those elements are there that other economies simply do not have.

Ms DUNN — Thank you both for your presentation tonight. We have heard as a committee that demand for gas has in fact peaked and that demand is dropping. We have heard an enormous range of evidence before the committee around the potential risks in relation to unconventional gas, and they go to health, social and environmental risks as well as risks to agricultural land and water, including groundwater aquifers. We have also heard that there may not even be commercial supplies of unconventional gas in Victoria. In terms of something that has an enormous number of risks attached to it, I am grappling with why you might think unconventional gas is a way to secure your future gas supplies.

Mr BURY — I think that is an excellent question and really gets to the nub of some of what the various concerns are, so thank you. The chemistry industry is inherently a science-based industry, and we cannot really be anything but a science-based industry, so from our perspective there needs to be a complete understanding of what the opportunity is and how that opportunity is revealed in economic, social and environmental terms. The chemistry industry is particularly cognisant of social license to operate. That is something very important to us, and I guess that is why the strategy we have proposed is: let us have a look and see what the opportunity is.

I think you are right that there is a lot of speculation about how much is there, what type of gas it is and whether we need it. We have seen some of those reports over recent weeks about what the demand may or may not be. It seems that everybody who is looking at the gas picture going forward needs more information. From a science perspective we think that shoring up some of those knowledge gaps — and I think confidence gaps — for

people in communities but also people at industry, local government and state government level, and getting that information to support those types of decisions, becomes really important in the construct going forward.

Ms DUNN — I am glad you mentioned communities as a part of that, because I noticed that in your submission on page 8 there is a paragraph around certainty. It refers to stakeholder attitudes to onshore natural gas in Victoria. I am wondering in terms of that report, was that framed as ‘onshore natural gas’ or ‘onshore unconventional gas’?

Mr BURY — I think the opportunity there is to understand what gas reserves we have. They could be conventional reserves; they could be unconventional reserves. In terms of what is onshore, they are likely to be both. It may well be that the picture of conventional gas is different to the picture of unconventional gas. I do not know the answer, but we think that would be a useful thing to better understand.

Ms DUNN — So this may well combine the views on conventional and unconventional.

Mr BURY — I think that is a really important distinction to look at, because they are different types of resources. Whilst they are certainly combined in this, and we understand the drivers behind that and are conscious of that, given that they are two different types — and I think the interim report does a good job of setting out the differences in terms of depths and characteristics — I think there is probably some good science that could be provided for both.

Mr RAMSAY — I want clarification, if I may, because some submissions to the inquiry and some of the witnesses have indicated that in fact there is ample supply of gas, certainly in the short term, and that it is not directly related to the price — that is, the price is determined by the fact that we are now into an eastern seaboard and global market. In your projections you have indicated significant economic loss, loss of jobs and a lot of other things in relation to supply of gas. I will stand corrected, but I think the evidence I have heard so far does not indicate with either offshore gas or conventional gas that there is limited supply at this stage that would impact the price. It is the fact we are now in a global market that is creating a problem for us.

Mr BURY — You are quite right to identify that as an issue, and you are absolutely right that trying to get solid information around that is tricky, and that is one of the reasons we said that rather than doing the work ourselves we would get Deloitte Access Economics to put their minds to it. They looked at the input and output tables right through the economy. They looked at where gas flowed through so there was no duplication. They looked at the price projections that were provided by the federal government; they did not go out and iterate a new set of projections. We used the projections that were provided in the eastern Australian domestic gas market study of 2014, and they used those as the basis. The information that they reported on and the forecasts were as a result of that.

How does that refer in practical terms? Part of the evidence that we gave to the ACCC on Monday was that there are indeed some Victorian companies, and not only in our sector but in other organisations that use gas as a heat source, that went to the market to seek supply. They were not able to get a contract over any reasonable period of time, irrespective of price. They were told that the gas was not available. If you are trying to run a business and understand the lead times for your own business plan, strategy, infrastructure, marketing, product to market, and you cannot even get an offer irrespective of price, that is an indication that there is a challenge in the market, which goes back to that question before: is that a market failure, is it transitional or is it an information failure?

We certainly understand that there are different views about where the gas is. We would reflect the experience of our members, and that is where they find themselves.

Mr RAMSAY — Can I ask just out of interest: does the gas market fluctuate based on the contracts of purchase?

Mr BURY — As in the LNG markets or the STTMs down here in Victoria in particular?

Mr RAMSAY — In respect of the client that you quoted who could not go into the market and buy gas.

Mr BURY — That is correct. They went to the market and went through the normal offer process, and the advice that they received is that the gas was not available for them.

The CHAIR — Can I thank you both for your evidence. We will ask the secretariat to be in touch about potential locations to look at, and they may want to talk to you about some of the background material as well. Thank you very much.

Witnesses withdrew.