

The Policy Pitch

Gas: too good to burn?

Melbourne 21 October 2014

Australia's gas prices are rising sharply. Over the last five years, network charges have driven up retail gas prices by 36% in real terms. Next year, liquefied natural gas exports from Queensland will earn big export dollars but mean that our domestic prices will increase by at least 100% and this will flow through to Australian customers, both households and businesses. In this *Policy Pitch* event, Grattan Institute's Tony Wood with Jo Benvenuti and Brian Green, discussed what this dramatic change means for our gas bills, whether we could or should switch away from gas and whether we could see a situation in which our gas is priced out of the market.

Speakers: Tony Wood
Jo Benvenuti
Brian Green

PETER MCMAHON: Good evening and welcome to the State Library of Victoria. My name is Peter McMahon, I'm the Director of Digital Strategy here at the Library. Our event tonight is being held on the traditional country of the Kulin Nation. I would like to acknowledge them as the traditional owners and pay my respects to their Elders and to the Elders of other communities who may be here tonight.

It is my great pleasure to welcome you to *The Policy Pitch* presented by Grattan Institute and the State Library of Victoria. I would particularly like to welcome our speakers this evening - Tony Wood, Jo Benvenuti and Brian Green - members of the Library Board of Victoria and Grattan Institute members. I would also like to thank and acknowledge Friends of the Library who may be here tonight. Friends of the Library play a vital role in helping the Library acquire and conserve some of its most important collection items, as well as supporting our Creative Fellowships and the Library's exhibition program. We are delighted to be partnering with Grattan Institute to present this series. *The Policy Pitch*, which is held monthly, brings to the Library industry leaders who invite discussion about the complex public policy issues that affect the lives of Australians.

The title of our discussion this evening is *Gas: too good to burn?* Tonight we will learn about the impacts of the rapid price increase of gas and what it will mean for future gas availability and usage. I'm very pleased to introduce our participating chair Mr Tony Wood, who's the Energy Program Director at Grattan Institute. Tony has extensive experience in the energy sector; he worked for Origin Energy for 11 years and was an advisor to the original Garnaut Climate Change Review. Tony is also Program Director of Clean Energy Projects at the Clinton Foundation. Tony is joined by two experts in the fields of energy, utilities and policy. Please join me in welcoming Tony Wood, Jo Benvenuti and Brian Green.

TONY WOOD: Thank you very much and we'd also like to very much recognise the partnership we have with the State Library; it's been going from strength-to-strength with Grattan and we very much enjoy that. Tonight we're going to break a little bit with tradition. I haven't been to all of our *Policy Pitches* here this year but we don't normally put PowerPoint presentations up, but I thought we might try a couple of slides because there's a few points in this report that are worth bringing to peoples' attention.

When we do our reports, Grattan does quite a bit of analysis behind the numbers into what is actually going on and so we do lots of looking at detail about how things impact certain percentages of the community. But I guess by way of a test just to see what people bring tonight, I'd like to very quickly get an idea of people here in the audience: if you've got gas connected at home could you put your hand up and leave your hands up; and if you have got gas for heating your home, could you leave your hand up but take it down otherwise? Thank you.

I suspect in this audience we've got on average more people use gas for heating than our data would suggest and maybe that's why you're concerned, because I also might ask how many of you expected the sort of result that this report talks about, and that is that if you do use gas for heating in this state your gas bill in the next couple of years is going to go up by somewhere between \$300 and \$400 per year, maybe more. I know in my case, when I started doing these numbers and checked my gas bill, because I've got gas for central heating, it's going to go up by somewhere between \$400 and \$500 a year and I'm not very happy about that.

What I'm going to do is summarise a couple of very brief points about this report, the analysis we've done, and then Jo Benvenuti is going to be talking a little bit about this from the consumer perspective because her organisation – and I'll introduce Jo shortly – very much represents the community of households in Victoria, and Brian Green from the other end of the spectrum represents large industry, and the impact on both industry and households is going to be significant. We will have a brief conversation on stage and we may even use some of the questions that some of you or others have submitted to us in preparing for this event beforehand, and then we'll open it up to questions and answers. I should emphasise by the way, I am sure that Jo, Brian and I will not agree on some of the things that should be done, but hopefully that's what might make some of this evening a little more interesting than just reading a Grattan report.

So, the first thing to recognise is that a lot of households use a lot of gas relative to their income and relative to their energy use, and so that amount is shown on the very far left-hand side of this chart which shows how much gas is used where. The largest uses of gas in this country are for manufacturing, and Brian very much comes from that part of the sector, and for energy production, in particular electricity generation. Natural gas has been used in Australia since the mid-'60s when we started developing that and it took over for our homes and businesses from gas that used to be produced from coal, otherwise known as town gas.

Secondly, globally things have been changing and this is having an impact indirectly in Australia and now directly in Australia. The first thing to recognise is in Japan in February 2011 we had the tsunami and the Fukushima event and since then the nuclear power stations in Japan have been closed down, and if anyone had thought about the idea that a tsunami in Japan would cause your gas price to go up by \$300 a year I'm not sure many of you would actually have made that connection, at least within less than 30 seconds, but that's what's happening. What you can see here is these prices, if you go back even further, were very close together, the Asian price started to diverge dramatically and for other reasons, back here and even beforehand, the United States had very high gas prices, up in this range here. What happened was high prices stimulated new supply, the shale gas revolution took place, gas prices in the US plummeted.

Now, what you're seeing here is basically a lot of changes in the market and it'll be interesting to see what will happen in the next northern winter because, to some extent, these humps here reflect high gas prices in winter and lower gas prices in summer. So it will be more than an interesting journey over the next little while, but I guess one of the lessons from the United States is that if markets are

properly constructed and governments make sure they understand what they're doing and operate well, then markets can help deliver part of the solution.

The other thing is that many of you would have been aware I'm sure that electricity prices have gone up quite a lot and at Grattan we've talked about that before and in our reports we've pointed out that in the last five years electricity prices have gone up in real terms by about 60%. What crept under the radar screen to some extent was that gas prices have also moved up already by about 36% in real terms. Now, in both cases you can see here the impact of the Carbon Tax in July of 2012 and that's now come off in July or August of 2014. Now, the reduction won't be quite as big as the increase because a lot of other things have changed in the meantime. The other piece of good news is that the main reason for these increases has been network prices increasing and to some extent we might see some amelioration or some reduction in that rate of increase, and it depends to a large extent on how tough the regulator is on these businesses as to whether we'll see similar increases, but we should not. We should actually see the network prices flattening out and in some cases I would argue even decreasing. But what we are going to see is an increase in gas prices.

This chart simply shows the amount of gas that's used by domestic consumers in each major capital city and what it shows is how much different we in Melbourne are versus them everywhere else. What you'll also notice is how much difference it makes if you use gas for heating. So the lowest tertile – and I learnt a new word in doing this report, “tertile” - that is the lowest third of consumers basically don't use all that much gas. Large users who use gas basically for home heating make a big difference, and so you can see such a big difference here, whereas in Brisbane and Perth basically it's cooking and hot water.

Now if you then see an increase in the wholesale price of gas most expectations are – and Brian may even comment about this from the large industry perspective where the percentage increase is even more dramatic – that, because of the network pricing the wholesale price represents only a proportion of the delivered price of our gas, the percentage increase will vary quite a lot across the country. But a \$5 increase in the wholesale price of gas, which is what many people in big industry are already seeing and is being commonly talked about, is what we factored into this chart. And what it shows is in Melbourne you can see here if you're a large energy user an increase of something over \$400 a year and if you're an average/medium energy user something in the order of \$300 a year. Now, in Sydney and Adelaide, where mostly gas is used for cooking and hot water, you can see the numbers are much smaller even if you are a large energy user, and in Brisbane, where people don't use much gas at all, the increase might be \$30 or \$40. So there's dramatic difference across Australia as a consequence of this gas price increase.

For business – and this chart is more of a focus on small business because I'll leave it to Brian to talk about the impact on large business – the same thing happens to an extent. A lot of businesses don't use that much gas, but for some businesses they use a lot of gas, some very gas-intensive businesses. So in doing this work we spoke to quite a few specific businesses. Those of you who might have read the report, and there was an article in the Financial Review yesterday that showed Kagome food processing, who are Australia's largest tomato processor, they use a lot of gas; for them, this is a big deal. If you're a typical dry cleaner, baker or that sort of thing, you might use 400GJ (gigajoules) or 500GJ a year, your gas bill's going to go up by a couple of thousand dollars a year, and for most of them, like ourselves, the challenges are very significant.

So this is basically the impact. And the other one which many people would think was unexpected – and I put this chart up just to show we can draw complicated charts – this one looks at what would

have happened if we'd every had a carbon price. So this is carbon price and this is the marginal cost of electricity, so this is what is it that determines whether or not existing gas plants or existing coal plants get to run or not in the electricity market? And what you find is if we don't have a carbon price then the coal plants, and brown coal in particular, are much, much cheaper than black coal and certainly cheaper than gas. But if we had a carbon price of around where it was, in the mid-20s, it gets pretty close, and many people would have expected that gas at the historic level of pricing, around \$4/GJ, as the carbon price increased gas would become a fuel of choice. However, what's actually happening is as gas prices end up here you can see what happens; gas never gets a look in.

Now in 2012/13, about 20% of our electricity in Australia was produced from gas. If that had been produced from coal or even half of that had been produced from coal, which is very likely we'll see a shift back to coal as a result of there being no Carbon Tax to stop it, our greenhouse gas emissions annually would go up by something in excess of 15million tons per year. So we're going to see high gas prices and high greenhouse gas emissions. I don't think that's the outcome that everyone would have been hoping for. But a couple of brief points which I'm sure we'll come back to of the things that we think government should be thinking about as they respond to this.

Firstly, I mentioned before the United States where the market responded to high prices. In the case of New South Wales and Victoria, it's taken us several years and we still haven't worked out what we're going to do about coal seam gas. Now, there are some interesting reasons and some of them quite valid as to why you need to be cautious about developing coal seam gas, but it shouldn't possible take as long as it has and how can we possibly have a situation where we have coal seam gas developing in Queensland and South Australia, but not in New South Wales and Victoria? And even crazier, we extended the moratorium in Victoria to include not just coal seam gas, but also conventional gas. It just doesn't make any sense and what it means is the alternative supply that could have come on-stream to meet that hasn't happened and now, of course, it's very difficult to see how that could possibly have an impact in the time available to seriously address this question of rising price.

Things government should not do in our view is they shouldn't reserve gas. Now there's a whole lot of complicated things – and some are valid and some less valid we would argue – that government should and should not do, but the evidence is that we would argue that reserving gas for domestic purposes actually produces the opposite of the result you want. If you're worried about running out of gas then you might very well do that, but we're not, we've got plenty of gas. The issue is to get the gas to the people who want it. And the other point I should make, just focusing on briefly, is another example of what was done in Victoria. Some of you may be aware in Victoria over a couple of governments now we've had a program of extending gas into regional Victoria. It sounds like a good idea, but the government has been basically using public funding to subsidise that and, now we're seeing a situation where gas prices might increase significantly, maybe that wasn't such a good idea to use public funding to subsidise those sorts of activities. And in particular, the things we think governments should think about is what do they need to do to make sure that the market's working, and that's an issue we'll come back to a little bit later.

So, that's the comments I'd like to start with. Now I'd like to introduce Jo Benvenuti. Jo, as I said, represents very much the consumer end of the spectrum. Sue worked with the Energy Ombudsman for a number of years and she's currently the Executive Officer of CUAC, the Consumer Utilities Advocacy Centre. They also published a report recently on the impact of gas price rises on consumers and looked at some of the challenges that provides for consumers and I suspect, given where we are in terms of the difficulty that gas prices are going to be placing on consumers, her

experience in managing animal cruelty investigations at RSPCA might be the most relevant. Thanks Jo.

JO BENVENUTI: Thank you very much and I'd also like to acknowledge the traditional owners of the land on which we meet today and pay respect to their Elders past and present, and would very much like to thank the Grattan Institute for the invitation to participate in this event.

So a little bit about CUAC. It's a specialist consumer organisation representing Victorian energy and water consumers in policy and regulatory processes. Our focus is very much, as Tony said, on the residential consumers, but we are particularly concerned about the needs of low income, disadvantaged and vulnerable consumers. Now, the developments of the Eastern gas markets have been taking place for several years, but domestic energy users and consumer advocates have been much more focused on rises in electricity prices and their consequences. So recognising this, CUAC last year started some work on trying to build some resources and knowledge for other consumer advocates about how to enter into these debates. We followed this up recently with our second report which looks specifically at Victoria.

Now, the vast majority of Victorian households use gas in the home, as your "hands up" exercise proved earlier today; around 83% of Victorians use gas from the mains network and another 10% use LPG or bottled gas. Within Melbourne mains gas penetration ranges from 88% of households to 96%, but beyond Melbourne mains gas is used by between 40% and 70% of households and where the gas mains penetration falls obviously LPG rises, with about 30% penetration in Gippsland and around 10% in other areas. So gas connections are common across incomes, housing tenure and dwelling types. In Melbourne owners are a little more likely to have gas than renters and in the rest of the state it's the other way around, and the takeaway we make from this is that rising gas prices will directly affect nine out of ten Victorian households regardless of whether they are high or low income, owners or renters, living in houses or apartments.

Victorians are the largest household users of gas in Australia by a very large margin - only the ACT comes close - and even a low usage Victoria household uses as much or more gas than the average household in any other state and a high usage Victorian household uses five times that much. Usage levels don't vary very much with income. A medium household in the lowest 20% of equivalised disposable incomes has less than half as much to spend as the overall median but has gas usage that is 83-95% as high. So low earning households spend almost three times as much of their incomes on energy as the average household. I suppose "usage" is one word that we would use and when we're looking at it the important thing is to think about the strongly seasonal impact, and the takeaway is that gas prices will affect Victorian households much more severely than those in other states.

The big driver of household gas use is heating, except for Tasmanians who don't tend to heat with gas. Victorians face the coldest winters in Australia and 68% of Victorians use gas as their main heating source and, unlike other states, we also tend to heat our homes with it. Our rate of ducted gas heating is 40% and it's ten times higher than anywhere else in Australia, except the ACT, and we also like gas hot water systems and stove tops, although gas ovens are falling out of fashion. So for Victorians, the takeaway is we rely heavily on gas for essential services, though the high rate of ducted heating and the associated higher usage is probably better characterised as being driven by comfort rather than necessity.

In terms of spending, in 2013 the average Victorian household spent around \$1,200 on gas and gas makes up about 30-45% of household energy costs. Retail gas prices, as Tony said, have risen 66% since 2008 and are expected to rise another 24% to 2015, and that average impact on bills is going to be very significant. The size of the increase and the lumpiness of the bills will make them particularly difficult for low income and vulnerable households to deal with. Households on government pensions and allowances spend twice as much on energy as the average household and low-earning households spend almost three times as much. Their capacity to cut back on other expenditure is also limited and they lack the financial means to absorb lumpy bills or smooth them over the year. So along with renters, low income households and those on government support will have less ability to upgrade the energy efficiency of their homes because they can't afford the upfront costs or because they lack the right to make major changes in their homes.

We get to have a chat about the recommendations in the discussion coming up. I suppose we have a number of recommendations in our report aimed at both the federal and state government in the main, but also some which we aim at energy retailers. I suppose we could generally describe this as we need to adapt, we need to have information out there to assist consumers to adapt, but we also need to support and really potentially need to support low income and vulnerable consumers.

So these are some of the recommendations that we're looking at: raising more awareness in the community; supporting more independent information about electricity and gas in choice comparison services, independent services; doing a whole lot of work in updating appliance energy ratings, making sure that we can do comparisons between fuels in the same way as just giving you information about particular appliances and their own fuel; further research into the relative costs of gas versus electric appliances and using that research to make choices about where government spend their money on appliances in social housing; developing energy efficiency programs to target households with high energy use, particularly low income and vulnerable households; improving the energy efficiency of Victoria's housing stock to an average of five stars; offering households assistance to upgrade their energy efficiency in homes and appliances; and policies to improve households' energy services, should become fuel and technology independent.

We agree that we need to evaluate the Victorian Energy for Regions program which, due to these changing conditions, means there are more efficient alternatives. We think that there needs to be a review of the concessions and financial assistance for low income consumers and that potentially we have to plan for the effects of consumers speaking with their feet and marching off the gas network. It's something that we've anticipated in the electricity network for some time with people choosing solar and the collapse, to some degree, of the grid. This price shock is going to be fairly significant and may change consumer's behaviour pretty rapidly and one of the problems then is who's left on the gas network and who's left paying higher costs into the future?

So I look forward to your views as we go throughout the session. Thank you.

TONY WOOD: Thanks Jo. Brian Green is almost the other end of the spectrum. Brian has spent most of his working life working directly in the energy sector, initially in the UK then in the electricity sector in Australia and, more recently, for Australian paper. And as far as consumers get, there is no-one bigger in Australia in terms of gas than Australian paper. Brian also was only last week re-elected as the Chair of the Australian Energy Users Association. So Brian's going to just make his comments really in relation to what this all means for business in terms of these sort of significant gas prices and how he sees the challenges for the business sector.

BRIAN GREEN: I'd also like to acknowledge the traditional owners and pay my respects. I'd like to say thank you to the Library, the Grattan Institute and to Tony Wood for giving me the opportunity to participate in this evening's proceedings.

Yes, I'm the large end of the scale and that's not my waist, that's the energy that we use. Gas in households is measured in megajoules (MJ). Multiply that by 1,000 and you've got gigajoules (GJ). Multiply the gigajoules by 1,000 and you have terajoules (TJ). Multiple the terajoules by 1,000 and you have petajoules (PJ). Maryvale Mill, which is the largest single facility that I'm responsible for in terms of energy provision, uses around 17PJ of fuel and some 640,000Mwh (megawatt hours) of electricity each year. By any stretch of the imagination, we're a very large energy user, possibly the largest in the state.

First off, I don't have a PowerPoint presentation, so it's not going to be death by PowerPoint, and I do have the benefit of being able to respond to some of the opening remarks. Earlier on Tony said it's likely we're going to disagree and I think that's more than likely, it's almost a certainty but I hope that it will be a means of encouraging debate, rather than polarising input.

The US example that Tony spoke about. I don't believe it's applicable to Australia. If you look at what happened in the US, energy prices went up, gas prices went up; manufacturing fell, disappeared; then they found shale gas, gas prices became cheaper and manufacturing came back. There's a slight difference. If you look at the population of the US, if you look at the infrastructure that is there in the US, there is the means and ability to sustain many industries; there is the magnet to draw industries into that area and to regenerate themselves. Australia doesn't have that benefit. Australia has a large land mass, a very small population and relatively very little infrastructure. When something exits from Australia it isn't going to come back again.

The infrastructure side that both Tony and Jo touched on. Manufacturing pays for the lion's share of the infrastructure costs that we all share in and we all benefit from. If manufacturing disappears their contribution to those infrastructure costs also disappears, but in the main those infrastructure costs are regulated and a regulated return says exactly that: the owner gets that regulated return. If the number of customers goes down or if the volume per unit goes down, the per unit price goes up and we all pay. What does a percentage increase mean for manufacturers? I'm not belittling the impact it has on households, it can be very, very significant for a lot of people, but for households the actual cost of the molecules or the cost of the electrons is a very small part of the bill. The biggest part of your bill is the distribution charge and the retailer margin.

Come to the other end of the scale, I pay virtually zero retailer margin and very little on the distribution side. I make commitments and contributions to the infrastructure cost. But although it would be a massive amount compared to a household bill, it's a very small proportion of my energy bill. The biggest proportion of the energy bill is the cost of the molecules, so the cost of the electron. So when they go up it's a massive impost to our business. To put it in perspective, if we were to actually see the sorts of increases that are being thrown around in the press, that one site would be looking at an increasing in gas costs alone of somewhere between \$38-45million a year. We don't have the opportunity to recover that because if we suddenly doubled the cost of paper you wouldn't go out and buy it - and the amount of paper that you buy is going down every year because you're all going digital. You wouldn't go out and pay more for the paper; you'd go out and you'd buy a ream of paper that came from Indonesia or somewhere else where they don't have this impost. So jobs will go.

Now what would happen if the jobs go? Again, if we take Maryvale Mill as an example, and this is just an example, I'm not saying it's going to happen. If we were to take Maryvale Mill out of the equation we take away the largest gas user in the state; we take away the largest energy user in the state; we contribute \$750million per year to general domestic product in Victoria and we support around 28,000 jobs. So that's one manufacturer, one facility, one casualty, but the impost on everyone could be massive and it would ripple throughout Victoria.

Tony put up a slide showing marginal power prices and brown coal, black coal was there. Gas? Oh, \$70-\$85/Mw. Massive. How many people favour renewable energy? Wind is the largest contributor to renewable energy, wind costs between \$120Mwh and \$130Mwh. The reason you have it is because there's a subsidy that's being paid through the RET. So renewable energy is there, it's feasible, but it's expensive. Incidentally, I'm also the largest industrial renewable energy generator in the state. For all the energy that Maryvale consumes, 55% of that energy we produce ourselves on site from renewable sources. The other 45% I go out and buy and it makes me one of the biggest buyers in the state.

The report, and some of the outlines of the report, I would have to say is a typical economic report. The assumptions are that there will be winners, there will be failures; if you're in an industry that fails the people that lose their jobs will migrate to an industry that's going to be successful and there is an infinite timeline over which these changes can occur. But the reality is somewhat different. The reality is that wholesale gas contracts between producers and major retailers are generally renewed every four or five years. They're all coming up for renewal in 2016-2017. At the moment we have reservation in place right here and now. The gas producers are sitting on the gas and demanding exorbitant prices for it and saying, "Well, if you're not going to pay, we'll leave it in the ground". That's reservation. That's why reservation won't work because reservation just says, "We're going to take a pocket of gas and we're going to hold it for you". It says nothing about the price and whether you can afford it.

So it's not an answer, but neither is it an answer to hold the nation to ransom and, to some extent, I believe that's what's happening at the moment and I don't believe we have the luxury of time to allow a long move to an end game. There needs to be a final policy that is going to increase supply, increase the market and the transparency of the market and give us a functioning market. That's fine for an end game, but there have to be some opening moves. The opening moves have to occur in the next 18 months, otherwise a lot of manufacturers are not going to be around to participate in the end game and that's going to be very painful for everybody in this room.

I think with that I'll leave it and then we'll take questions or whatever as they come.

TONY WOOD: Okay. When we're doing our work, as I said before, we ended up speaking directly to large consumers like Brian, also medium consumers and even smaller ones, and I guess one of the overriding themes to me that came out of those conversations was frustration, anger, "We didn't see this coming, no-one told us that our gas prices are going to increase". And, as Jo implied, if the government starts rolling out gas to some parts of the state and says, "Isn't this wonderful? Gas is arriving" and you think this is going to be a benefit and it's going to be cheaper than maybe what you were using before, such as LPG, and then you find within a couple of years the gas price has gone up by 20% or 30% you might be just a little bit concerned that maybe you were led astray or not given full information. So one of the issues I think is information. I think so far there's been very poor information. Many of the customers like Brian that we've spoken to have found it extraordinarily

difficult not just to get a sensible bid to supply from the energy retailers, but also to get more than one competitor to bid. So finding out what's going on in this market looks very difficult.

So I guess what I'd like to do is just touch upon from the questions that have already been submitted, get Jo and Brian respectively to respond to one or two of those questions, and then open it up to the floor because I want to give you an opportunity to discuss some of the issues that we've been talking about already.

So Jo, you talked obviously about the impact on consumers. If you're now faced with a situation where regardless for us in Victoria, despite the weather today - it wasn't that long ago it was bloody cold - what are the choices you've got when you decide to look at the idea that your gas bill's going to be going up by \$300 or \$400 a year?

JO BENVENUTI: Well, I suppose our experience is that particularly low income consumers don't have a lot of choices, so they're either going to be in private rental without the choice of appliance or they're going to be in public or social housing with the same sorts of problems. So really their choices are extremely limited and often we find that consumers in those situations try and supplement their existing heating, for instance. They'll go out and purchase a heater that is not efficient and it just adds to their cost. So there are some really complex issues for consumers to weigh up and I agree with you, at the moment no consumers out there, apart from maybe the ones in this room today, are thinking about these issues, are informed about them, have the knowledge to make those kinds of choices or to weigh up the complexities that they'll be facing in terms of that cost.

I think the other issue is that most consumers would not clue-in at all yet to the view that gas is probably on a par in terms of the cost with electricity right now, but is going to surpass electricity and what does that mean for them because they've been totally focused on and fearful of what's happening with their electricity bills.

TONY WOOD: Some of the other interesting things that we identified and it didn't strike me until we did the numbers, some of you may already be aware of this, but the gas tariff basically is what's called a declining block tariff. What that means is that the last unit of gas you buy is the cheapest. So if you've got three uses of gas in your home, and many people here obviously do as we saw before, you've got gas for heating, hot water and for cooking. Let's say your hot water system gives up and you decide, "Ah, now, rather than replace all my appliances, I'm going to get rid of that appliance and replace it with electricity". Now the somewhat peculiar thing that happens here is that the gas you save is the cheapest gas, but when you move across to electricity for your hot water the cost of your electricity is the average cost of electricity. So you end up with a situation in which the fundamental structure of the tariffs that you're being charged are distorting the decision you have to make.

Some of you may have been in this room a little while ago when we were discussing a different topic and that was electricity tariff reform and we were talking about a move towards a similar structure where you'd have more of a fixed price for your electricity network. In that case, if that sort of tariff came into place the opposite would apply, that is you'd when you moved from gas to electricity the extra electricity you consumed would be cheap and the decision would be completely different from what it is based upon electricity tariffs today. So if you thought what I said before was confusing, just think about what's happening next and this is for consumers for whom someone told me recently on average we spend eight minutes a year looking at our electricity and gas bills. This is a complex issue and it's not going to get any easier.

Brian, in terms of large users, again, one of the things I found was just the sheer frustration to some extent and the terms that economists use is the market seems to be not particularly transparent in terms of what's going on out there and not particularly liquid, that is you can't find too many opportunities to do deals. What would be your comment about transparency and liquidity and how that might be part of the difficulties here and what has to be done to try and improve that? Is there anything that could be done?

BRIAN GREEN: Well, first off I'd like to see some transparency and liquidity in the market, that would be a good start. I go out and negotiate deals for gas and electricity. On the electricity side, it's relatively straightforward. I know what the market is, I know what the coverage is in the market, I know what the going rate is, I know what the spot price is, and I have a good idea of where the boundaries are in striking a good deal.

Gas is a little different. I don't know how much gas there is. That knowledge resides within the innards of ExxonMobil, BHP and Santos. They don't make that available. They claim that it's commercial in confidence and they have the numbers. I'm told they don't even reveal the numbers to the government. Then we have the issue of how much gas is being traded and at what price and how do you find that out? There are some spot markets, but the spot markets are very, very low in volume and they're really representative of the overs and unders. There is a change developing interstate where we're getting some trading hubs, but they're all in their infancy and they're developing, but it is a positive change.

Maryvale consumes somewhere between 18-30TJ of gas a day. If I was to try and move that load onto the spot market I'd completely change the spot market as soon as I put in a request for supply. The price would change, I doubt that there'd be the availability to be able to supply it, so for a very large user it isn't an option. Normally when I'm looking to renew a gas contract I can make enquiries of the large retailers, the Energy Australias, AGLs, Origins of the world, ExxonMobil, BHP, Santos, and I'll get responses, I'll get some offers, I'll get some competitive tension going and, at the end of the day, I'll negotiate a gas deal. I've been trying to do that for the last 18 months and the response is zilch. I don't have a single offer, I don't have a single price and, until recently, the ExxonMobils and Santos of the world wouldn't talk to me. It's only since I've been making public statements about the fact that I can't get any of them to talk to me and we have failure in the gas market and our politicians need to intervene because the market has failed that I'm starting to get some interest. I still haven't sat down and had any commercial negotiations, and bear in mind I've been trying to do this for about 18 months. Normally in that period I would have settled a contract.

The other issue is that I'm looking for gas from 2017, which is around the period that the contracts between the producers and the retailers are running out and due for renegotiation. And from my perspective, and it is only my perspective, I believe the producers are engaging in a Mexican standoff. They're trying to gain as much revenue as possible from their product and they're prepared to just sit back and leave the gas in the ground until such time as someone will come and play ball. We can't afford to play ball. We're a price-taker in the market, not a price-setter. But the real rub is this Mexican standoff is being done with a resource that belongs to all Australians and Australia isn't going to benefit out of this game.

TONY WOOD: Okay, so we could, I suspect, talk between the three of us for a little while yet and I've got more questions that people have already sent in, but now might be a good time to open up the conversation to you and to see what issues you'd like to raise, comments you might have or questions you might ask.

AUDIENCE: I'm wanting to find out, particularly perhaps from Tony, if the increase in the revenue being earned from the increase in export prices is going to generate economic rent, what's the prospect of collecting and hypothecating that economic rent to enable a fund to be set aside for, for example, a winter gas credit, industry restructure or some other method of not just letting a train wreck happen?

TONY WOOD: In some ways that picks up from the point Brian was just making in that the gas resource is owned by all Australians. Obviously the companies who explore and develop and extract that resource are entitled to make a return on their investment and their efforts, but it is gas that belongs to all of us and the question, as Brian raised and I think you're also raising, is how do we all get the benefit of that?

In our report we suggested one of the things we need to look at is to be comfortable that the royalty and resource rent tax arrangements we have in place in Australia are appropriate, that is are we in total, for all Australians, generating the right amount of revenue from the resource that we have? And you'd be aware of the very heated debate that took place a little while ago about the Minerals Resource Rent Tax and whether this is successful or not and there are many arguments that maybe it needs to be taken a look at again, and I also note that the Australian industry group has called for a review of the resource rent tax and royalty regime for gas.

The question then is once you've raised that revenue what do you do with it? And I guess one of the questions for government is then does it create some sort of fund; does it use that money to subsidise domestic gas prices in various ways, that could be done; or does it basically use that in terms of general revenue? Now, the general view that I would have is that I wouldn't be looking to subsidise any particular sector, but I would be wanting to make sure that we do provide the opportunity for us to have a competitive environment for our manufacturing industry. And that's a difficult choice, but I would separate the two and I do think there's a question that we need to revisit the issue of whether we as all Australians are getting the benefit of the resources which are being extracted on our behalf.

AUDIENCE: One of the things that I was a bit concerned about was in your list of items you had to consider that you did not say technology, and yet that is the thing that's going to lead us out of this problem that we're in. At Docklands Science Park we can produce gas either methane or town gas, syngas from brown coal - the more water it's got in it the better, we get more hydrogen - and we can do that for \$1/GJ. Now, can we get people to take that up? Of course not. A great number of people have got great interests in using as much coal as possible and also in stretching the prices of things so that they can rejig and hopefully help their margin. But we can do that.

Equally, if you go through and generate electricity from the gas you can do that at something like 5.19Mwh per ton of coal versus the Australian average of 1.6Mwh. So we can save 60% of our coal if we want to save it or reduce the cost of electricity substantially. There is new technology coming again which is going to have an enormous effect on electricity costs. It's possible to generate electricity for less than 6c a megawatt hour and that technology will become known very soon. It is a matter of getting the APMs and others to come in on financing the technologies. We have been dealing with the chemical companies without success. There again, they seem to be happy to lift their prices and adjust their margins, rather than put the money into new technology which, as I said, is the only answer we've got really to this problem and the answer is there. All of the gasification of coal technologies are proven, the gasifier, the boilers and liquefier.

So it can all be done without emissions. There are no emissions of any greenhouse gases whatsoever from such a process if you want to not have those gases emitted. Thank you.

TONY WOOD: I think I should leave you to talk to Brian after the meeting tonight. Brian, I don't know whether you want to respond to this point about alternative technologies as an approach to the cost of gas?

BRIAN GREEN: He raises very good points and they're also points that we're following up with the Latrobe City Council and Ignite. The problem is that these things are all in early phase development and not of the scale that we need, but I agree wholeheartedly that we really need to move forward with technology, work smarter and use the brainpower that we have to maximise the use of our resources. It is certainly a fuel and a choice for the future. The challenge that we have is to still be around in the future to take part in that.

AUDIENCE: How do you go about calculating whether it's advisable to change from a gas ducted system to an electric system? From your talk it seems an incredibly complicated thing to do?

TONY WOOD: Jo, would you like to have a go at that one?

JO BENVENUTI: Yes, look, it is incredibly complicated. There are some groups working on it and we think the government should be doing more work to put the information out there so that consumers can try and weigh it up. Nevertheless, it's going to be really, really complicated. As an example, the Alternative Technology Association is doing some research as we speak, which they're about to publish, and they're comparing all of those issues. So I'd recommend that you keep an eye on the ATA website for that. But one of the issues, I mean, I faced it myself recently when my gas ducted heating, I have to admit, broke down and I even knew all about this new gas price increase.

So when I was trying to weigh up that decision I also wanted to weigh up things. One of the real difficulties that consumers have to think about is if you're going to replace a gas ducted system with a split system in electricity, that might heat your family room or your lounge but what happens when your children in bedrooms one and two are saying that they're cold? Are you then going to go out and buy additional non-efficient heaters which then shoot up your electricity price? The other issues that come into this are also things like comfort. A lot of people prefer gas ducted heating as a comfort heat over a split system.

So there are a whole range of things that consumers will need to take into account and specifically they'll need to take into account their own house, the size of the house, the family, how they use energy, and then all the cost issues on top in order to be able to make that choice. I suppose I would say that the difficulty is, again, low income households are really not going to be able to make some of those choices.

TONY WOOD: The bottom line of this is that each individual is so different. We found in our work that there were so many different permutations and combinations, but the important issue is to be talking about this and understand that there is a question and that we don't just continue to blithely do what we've always done.

AUDIENCE: I think I'm directing this question to Tony. Ian MacFarlane has suggested a pipeline through from Western Australia to eastern Australia or thereabouts, a 1,000km pipeline. How do you

think that would play out in a future gas market? Forget about the fact that it'll probably take several years to get it there and issues like that, but speculating how you think that will play out?

TONY WOOD: One thing that the threat of an alternative might do is cause some reaction on the east coast, so maybe that would cause some response of the thing that Brian's talking about. In terms of the economics, my suspicion is that by the time you get gas from the Northern Territory down through a large pipeline into eastern Australia it could be relatively expensive. It would be a good answer if we actually didn't have enough gas, but I think the real difficulty is that on the east coast we do have enough gas; the problem is that, for the reasons we've been talking about, the market isn't getting that gas where it needs to be. Brian's outlined some of those reasons, as we did in our report, and that's where I think the challenge is.

I would think it's going to be very challenging for someone to finance that pipeline. Somebody might, but at the moment I understand that neither the Northern Territory government, the New South Wales government or the Federal government is interested in putting public funding into that pipeline. I suspect that's where they'll stay, so it'll be interesting to see in the next little while whether the private sector can see an opportunity to pay for that pipeline to be able to get the gas which, again, I would think isn't going to be all that cheap by the time you get it to New South Wales. But Brian, you may already have a view on that, I don't know?

BRIAN GREEN: Similar view. Certainly, by the time you've paid the haulage from the Northern Territory down to Victoria it's very expensive gas. The thing it would do would be to alleviate the shortage of gas that the LNG producers are facing right at this point. If we think about the three plants that are close to commercial operation, the concept was that they would be supplied gas from coal seam gas, predominantly in Queensland. Those coal seam gas wells are not coming on-stream as quickly as was envisaged and they're not delivering the volumes that were initially envisaged. This means that the LNG producers are potentially faced with a shortfall of gas for their fixed contracts, so they're dipping down into the domestic market and drawing gas out of the domestic market.

That is hearsay because, yet again, the actual figures, the actual numbers are known only by the LNG producers and they will claim commercial confidence and won't release the data. But it was never intended that LNG exports would be sourced from gas from the Gippsland Basin and from reserves that were there for domestic use. Prior to these LNG plants coming on the scuttlebutt was that there was somewhere between 30 and 40 years supply for existing consumption on the east coast. Existing consumption on the east coast was around 700PJ and it took 40 years to get to that 700PJ figure. With these LNG plants, over the next three years we're going to go to 2,100PJ, a tripling of the demand.

That's the cause of the problem we have at the moment and certainly a pipeline from the Northern Territory, where there is gas, down to Queensland and to the LNG exports would alleviate the problem. It would then free up gas supplies coming out of Moomba and Bass Strait to feed Victoria and New South Wales. But then Santos has got an LNG plant as well, so they're going to be conflicted.

TONY WOOD: I think the other thing is that we may see other sources of downward pressure on price. So, for example, if the Japanese do – this is worth watching out for by the way – restart their nuclear power stations, and there might be people who think that's not a very good idea, but if they do then that would mean that maybe the price will come down a bit. If the Americans or Canadians export their gas, if Mozambique exports gas into Asia, that might bring some downward pressure on

price. And then, of course, what I think you should see is the difficult in response to what Brian's talking about, that is that not \$10/\$12 gas prices, but we might very well see gas prices that are more like \$6 or \$7 a gigajoule. That might be something that a lot of consumers could still deal with; it's the scary prices we're seeing now that's the biggest worry.

AUDIENCE: One of the suggestions that Grattan came up with or didn't want to underwrite was a national interest test for gas. It's a well-known fact that most other gas-producing nations and exporters of gas have national interest tests, they have their own gas markets that are in balance. What we're talking about here is actually shorting the Australian public of gas. That's what these three large LNG producers will do. Manufacturing in New South Wales will have to shut down during winter on some days from 2016, that's what's predicted to happen and when that happens it will be catastrophic.

Now, I would have thought the government would think that maybe it's worth introducing a national interest test or some form of balancing the market to allow industry, and everyone else for that matter, to get over this shortage of gas, rather than allowing these LNG exporters to just run roughshod over the Australian public. Any comments?

TONY WOOD: I think there are a couple of things that I might say in response to that. One is that to some extent, to everybody's frustration, the horse has bolted on that because the investment's already been made and so what would you apply the national interest to or could you try and do it in retrospect? If we had done a national interest test back in 2002/3/4/5, whenever it was that these projects were being proposed, and the test had been "Is there enough gas for the domestic market?" my suspicion is the answer would have been yes. The question is how do you get the gas to that market? And so it's a complex issue of what sort of national interest test? So I think that's a topic that is definitely worth exploring further

In the interests of time, we'll just take one more question.

AUDIENCE: Question for you Tony. In the analysis you assumed a \$5 per gigajoule increase in wholesale gas prices. How do the numbers change if the wholesale gas price links to, say, rent or oil price, like in LNG? How might that change your analysis and the recommendations?

TONY WOOD: I don't have transparency – same problem Brian had – about the way in which natural gas contracts are being written in terms of whether they're written on a gas index or an oil rate. Just for peoples' information, a lot of export contracts are linked to international oil prices and one of the dramatic changes that's occurred in the last little while is that oil prices have fallen quite significantly across the world, and that will have an impact on the economic value that these projects are creating and it depends entirely on the way in which these contracts are written. I don't know whether these contracts are oil indexed or whether they are indexed to some other market, for example some gas contracts are already linked to Henry Hub pricing, which is the United States pricing, with some sort of market.

So it's very difficult to work out how that might be affecting the commercial viability of those projects and therefore what it might mean for gas prices in Australia. So it's something I can't comment on but Brian, I don't know whether you want to have a go at it?

BRIAN GREEN: Yes. The three plants that we have nearing completion right now, my understanding is that they all have long term pricing contracts for output from those plants. So changes aren't

necessarily going to affect those three plants. The change in oil price and the change in energy availability across the globe will have an impact on future projects and could delay or in fact stop any further development in Australia.

I'd like to turn both your question and a question from earlier on on their head and say why should we be paying international parity anyway? If you look at the other gas-exporting nations, you have the US which is exporting gas and will be exporting more gas. They export gas at international pricing, but the domestic price is around \$4 or \$5 a gigajoule. Qatar is currently I believe the largest gas-producing nation. When we have our three LNG plants up and running we will surpass Qatar and become the number one gas exporting country and Qatar will become number two. Irrespective of whether Qatar is number one or number two, they export gas and they get international pricing for the gas, but their domestic price varies between \$1 and \$2 a gigajoule. In the main, we're talking about the same companies doing the exploration.

Why on earth should Australia be held to ransom and underwrite the risks of exporting LNG gas when no other country does it? That's the real question we should be asking our politicians and demanding an answer to.

TONY WOOD: Okay. I think pretty obviously this is a conversation that we wanted to stimulate by putting out this report. We certainly didn't expect to provide all the answers tonight and deliberately wanted to get Jo and Brian to come and explore some of the issues from their perspective and put forward some alternatives, because we certainly don't claim that our answers are absolutely the right ones. But by having this conversation and having this debate and pushing back on our political leaders, I think all of us are expressing frustration that what we have right now, regardless of who's at fault, is a pretty good version of a dog's breakfast and the question is where do we go from here?

So hopefully this evening you've learned a little bit and maybe you'll find ways of engaging further in the conversation and hopefully some of you might come to related Grattan events later this year. I'd just like to finish up by thanking a couple of people, the people who worked with me on this report David Blowers and Cameron Chisholm who are in the front row. I'd like to thank Alex Stott from Grattan who helped put this together. I'd also again like to refer to the partnership we have with the State Library, it's a very valuable one which we will hope to continue into next year. Thank you for joining us this evening, I know we almost seem to run out of time with the conversation, and finally I'd like to ask you to join me in thanking Jo and Brian. Thank you very much.

END OF RECORDING