

## **ARROW ENERGY UPDATE COMMUNITY INFORMATION SESSIONS JULY 2016**

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### **Arrow Energy update**

#### **Community information session 26 – 28 July 2016**

#### **Introduction**

In July 2016, Arrow Energy (Arrow) held a series of community information sessions to provide an update on Arrow's operations across the Surat Basin.

Following a formal presentation, attendees were invited to ask questions of Arrow staff members.

These notes reflect the questions asked and answers provided during the information sessions. While the notes include some paraphrasing and summarising, every effort has been made to preserve the integrity of the discussions.

Information sessions were held from 26 to 28 July 2016, and included both 'drop-in' style sessions with no formal presentation or question and answer session; as well as formal presentations and question and answer sessions. Information sessions were held as follows:

Wandoan	26 July 2016	Drop-in information session
Miles	26 July 2016	Drop-in information session
Chinchilla	27 July 2016	Presentation, questions and answers
Dalby	27 July 2016	Presentation, questions and answers
Cecil Plains	28 July 2016	Presentation, questions and answers

A copy of the presentation is available on the Arrow website: [www.arrowenergy.com.au](http://www.arrowenergy.com.au)

#### **How to read these notes**

Questions and comments from the audience are in bold type, with the response from Arrow staff also provided. In some cases responses have been summarised. In others, additional information is included to provide further context or explanation; this information is italicised following the answer.

If you have questions or comments about the project or these meeting notes, please contact the project team during working hours on:

freecall 1800 038 856

email: [info@arrowenergy.com.au](mailto:info@arrowenergy.com.au)

### **Acronyms**

OGIA – Office of Groundwater Impact Assessment  
UWIR – Underground Water Impact Report  
QGC – Queensland Gas Company  
BG – British Gas Corporation  
CCA – Conduct and Compensation Agreement  
LNG – Liquefied Natural Gas  
CSG – Coal seam gas  
EHP – Department of Environment and Heritage Protection  
ATP – Authority to Prospect  
SGP – Surat Gas Project  
EIS – Environmental Impact Statement  
SREIS – Supplementary Report to the Environmental Impact Statement  
DNRM – Department of Natural Resources and Mines  
IAA – Immediately affected area

### **Legislation**

*Regional Planning Interests Act 2014* (Regional Planning Act)  
*Water Act 2000* (Water Act)  
*Petroleum and Gas Act 2004* (P&G Act)  
*Environmental Protection Act 1994* (EP Act)  
*Coal Seam Gas Water Management Policy 2012*

<b>Date:</b>	27 July 2016
<b>Time:</b>	10am – 2pm
<b>Venue:</b>	Chinchilla Cultural Centre 68-86 Heeney Street, Chinchilla
<b>Presenters:</b>	Katie Whittle, General Manager New Opportunities, Arrow Energy Stephen Denner, Hydrogeology Team Lead, Arrow Energy
<b>Facilitator:</b>	Nathan Williams, Articulous

- 1. You say there will be 800m of space between the wells. What has Arrow envisaged for road access? My land is laser-levelled and the slightest rise in slope from a graded road will upset the flow. If you plan to put infrastructure and roads in, what is your process?**

This issue has been identified in the Arrow Intensively Farmed Land Committee (IFL). Through the Area Wide Planning process, we'll discuss with landholders how they use their land and we will develop our infrastructure plans to fit in with land use. If we don't necessarily need to build a road, we will try not to.

These sorts of activities, such as avoiding disruption to overland flow, are captured in the Regional Planning Act.

- 2. This is black soil you're specifically talking about?**

Yes. In the [Lone Pine Interconnectivity] video you saw where we used bog mats on the black soil during drilling to protect the black soil.

- 3. What are the implications to Arrow with Shell's takeover of QGC/BG and what are the implications to project timelines? Can you provide more information on timelines, and will you use QGC's facilities?**

You have two questions here – one regarding QGC and our operations; and another on our project timeframes.

Firstly, Arrow is a standalone company. It's owned through a 50/50 joint venture with Shell and PetroChina. This is different to and separate from Shell's takeover of QGC/BG.

We are open to collaboration opportunities with a number of operators, which make industrial sense. We continue to look for more cost effective solutions.

With regards to timing – we don't have a fixed date. We are not schedule driven, but value driven.

- 4. Has Arrow ever made make good agreements on bores?**

At the moment we have 15 bores in the Underground Water Impact Report (UWIR), and are compliant with all make good commitments to date.

- 5. So you are making good?**

Yes.

- 6. Does Arrow accept the fact that CSG activities have caused gas impairment in water bores?**

If you are referring to gas in water bores at a level that affects pumping; gas in water bores is outside of the [Water Act] legislation. Arrow is currently working with landholders, other industry bodies and Government on the matter.

7. **You should be made aware that many water bores in the Hopeland area have had major blowouts!**

We look at each bore on a case-by-case basis.

8. **[When the industry started], the Government of the day said that farmers would not be disadvantaged by the *Petroleum and Gas Act 2004*. Would you pump and deliver water to us if our bores are impaired and we get to an emergency situation and supplies run out?**

Do you mean a supply of CSG water?

**I mean if bores are impaired and we need water for livestock.**

There is a requirement for us to enter into make good, be it a replacement water supply or a bore.

9. **Let's say we have a season with no water and you've taken the water. Will you supply farmers with enough water?**

Yes, there is an obligation for Arrow [to make good]. Arrow would not be in a position to supply untreated water.

10. **STATEMENT - I expect you to treat us with respect and dignity and the people here have not been treated that way. You are not scientific enough. This land is good agricultural land.**

11. **At the opening of the UWIR, it states that the Government have chosen to have this industry and have made the Walloon Coal Measures a hydrocarbon resource, not an aquifer. Government and industry should move all water bores out of the Walloons and go from there so every farmer has the confidence that they have water in the morning for their stock.**

**In that respect, this year they [Office of Groundwater Impact Assessment] released a third listing of 41 bores not quite at the bottom of that trigger. 25 are in the Hopeland area. You've got a lot of work coming your way – 2 or 3 new bores in Hopeland coming our way in the next little while.**

We can't comment on how OGIA have identified bores within the Immediately Affected Area (IAA) that are, or are not predicted to be impacted; but we aren't just confined to looking at the bores predicted to be impacted in the next three years. If you are concerned at all about a bore you should contact the regulator to follow the process.

*The Underground Water Management Framework is specifically designed to proactively identify impacts so that make good agreements can be determined ahead of any impacts. However, if a bore owner is concerned that their bore is experiencing an impact that has not been predicted, the bore owner should contact the CSG Compliance Unit in the Department of Natural Resources and Mines.*

12. **Things are happening, one bore started bubbling in December, 2015. The law says the tenure holder is responsible. Get them all out and keep the peace.**

I understand that, and we are collecting gas measurements around those bores.

**Be proactive.**

13. **In your presentation, you mentioned gathering lines, power and water. You conveniently forgot about the waste. How are you going to dispose your salt and brine from your operations? How will you protect our agricultural land? It's a convenient accident of your presentation - it is that you don't have an answer?**

We have water treatment facilities and brine ponds. We also have encapsulation options.

*Arrow's plans for salt are dependent on Arrow's water treatment solution. At this stage, all options remain open to Arrow. Arrow's preferred solution is to avoid treating the salt as a waste; however disposal of salt via a regulated landfill is an available option.*

**14. Can you explain encapsulation, is it underground?**

Yes, it means we bury the waste underground.

**15. What is the volume of salt for encapsulation?**

I don't have a volume amount off the top of my head but I can certainly come back to you with an answer.

*The volume of salt identified in the Surat Gas Project Supplementary Report to the EIS (SREIS) was 2.25million tonnes over the life of the project. The SREIS has identified the maximum potential project footprint and impact. The volume of salt which would be produced through the proposed project is directly linked to the volume of water produced. These volumes will be subject to development options which are still to be determined.*

**16. Your EIS said it's 4 million tonnes of salt for encapsulation. Can you put that into context for us? How do you plan to guarantee that seepage won't affect our agricultural land?**

I will need to come back to you with the Arrow answer.

*In the development of a Salt Management Policy, Arrow would be required to comply with the Coal Seam Gas Water Management Policy 2012 which states that beneficial use of salt is the preferred management solution.*

*Should Arrow choose to use encapsulation to dispose of produced salt, conditions within the Environmental Authority granted under the Environmental Protection Act 1994 would ensure agricultural land was not adversely impacted.*

**4 million tonnes of salt, in the EIS, as landfill. Accumulatively, that's 8 million tonnes of salt encapsulated.**

**17. Back to the amount of water. If a landholder's bore has collapsed and he wants to install a replacement bore 10 metres away to the same depth, and that bore is listed in the UWIR; he has lost the right to drill [into the Walloon Coal Measures], and must go to the Huttons instead of the Walloons. He has lost the right to move it where he wants it. Do you think this is fair?**

That's a decision DNRM have made in classifying the Walloons as a hydrocarbon resource.

**18. Do you think that is fair? You guys should cover the extra cost.**

If a bore is affected Arrow is required to make good.

**19. And if a landholder comes to you and says he has a bore that he had been using and collapsed at 100m depth?**

We assess every bore on a case-by-case basis.

**I'll come talk to you later.**

**20. Landowners should have the right to say no, do you respect that?**

Arrow commits to engage in a constructive discussion to work towards a solution for both parties.

**I've got a sign on my gate – only access to the property is through permission by me. This authority is from the High Court of Australia.**

**21. What insurance do you have for contamination on my land?**

This is something we will discuss further with landholders during negotiations. As a standard in the CCA, we have \$20 million cover.

**That's not enough to cover it.**

**22. There's the Condamine Alluvium and the Walloon Coal Measures, do you have a map or a scale to show how they all relate?**

On the western edge of the Condamine Alluvium, the Springbok Sandstone exists between the alluvium and the Walloon Coal Measures. The Walloon Coal Measures directly underlie the alluvium from the centre to the eastern edge of the alluvium.

**23. Where is the gas going – export or staying as domestic gas?**

There are several options and all are commercially sensitive, but the options are collaboration with existing LNG plants at Gladstone, or possibly power stations and domestic gas usage.

**24. I am a research economist and I move around Queensland and a lot of these areas are in real trouble. I look at the median income of rural west Queensland and it was the towns that invested and diversified with the resource industry that did the best. I think CSG could be the industry. I want to hear timelines for projects and the development plan.**

We can't give the timing. We would love to be able to give you a time, but we can't.

**25. STATEMENT - A lot of people are annoyed you are in camps right on our doorstep and don't mix with the local people.**

**26. What do you plan to do with Arrow's property?**

That will be part of a maturation of assets.

*Arrow owns a property 28km south-west of Chinchilla. This property remains part of Arrow's property portfolio and will be considered as part of the broader development planning occurring across Arrow's core Surat tenure areas.*

**27. In the 2012 UWIR our bore was 5km out of the affected area. Between the 2012 and 2016 report, the water level in our bore dropped 7.3 metres. It is now in Table E3 in the new UWIR.**

**We also have a windmill.**

**Arrow came and put a logger in, which they were going to read every 3 months. For the first 12 months they did, and then it didn't happen and after another 7 months it failed.**

**On 2 July we pulled up the pump after not pumping for 3 months and the buckets were ruined. How on earth do Arrow intend to provide us with water?**

The water bores contained in the UWIR are determined by OGIA. Table E3 is for bores that OGIA determine to be inside the area of the IAA but are too shallow to be affected in the next three years.

**28. That water level dropped over 20 months. We have another bore which you said we can use with a logger on it, and it was like a kettle on the boil.**

Part of the bore assessment process is to investigate the cause of the water level drop, including other potential causes for drawdown.

**29. What other causes?**

Other causes such as pumping from the bore, pumping within the area from other landholder's bores, or climate impacts. This is a conversation we can have later one-on-one.

**30. Your information session advertisement said you will be talking about seismic activity you have undertaken but you have not addressed it here. Did they have an impact locally?**

The seismic survey activity was done at Tipton and Cecil Plains. This is why we've not presented it here. The Horrane Fault was measured which helps to determine well placement and depth. From the seismic results, we found the fault was located a little bit to the west of where we thought, and starts up near Dalby, running down near Cecil Plains.

*For information on Arrow's seismic survey please refer to the Cecil Plains Community Information Session presentation.*