# Community information session meeting notes

## Felton

## Tuesday 5 October 7 – 10pm

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| **Location:** | Felton Community Hall, Felton |
| **Ambre Energy:** | Neil McGregor, General Manager Business Development and Marketing (Presenter)<br>Michael van Baarle, Director Business Development<br>Jannie Grove, General Manager Projects Australia and Asia<br>Glenn Splatt, Manager Technical Services<br>Adam Frankish, Exploration Manager<br>Matt Adams, Manager Business Development |
| **Sinclair Knight Mertz:** | Damien Taylor, Project Manager Water and Environment |
| **JTA:** | Brad Perry, Facilitator<br>Liz Edwards, Project Manager<br>Cate Mansfield, Project Support |

About 70 people attended the Felton community information session. It comprised formal presentations from environmental consultants (SKM) and Ambre Energy with questions taken from the floor throughout. Written responses to nine questions posted on the Friends of Felton website were handed out in the latter part of the evening.

The purpose of these meeting notes is to reflect the questions asked and answers provided during the ambreCTL community information session in Felton. The session was not audio recorded by JTA Australia. The notes are based on a written record of the questions raised and include some paraphrasing and summarising; every attempt has been made to preserve the integrity of discussions. Where the same or a similar question has been asked in other sessions, the most complete answer has been provided.

**Questions:**

***Who is the Coordinator-General and what advantage is it to you to go through him for the Environmental Impact Statement (EIS process)?***
The Queensland Government's Coordinator-General is Graeme Newton. A significant project declaration is granted to projects requiring centralised government coordination due to the complexity of the project and the assessment process.

***(To SKM) How many EISs have you done and how many have been approved?***
Sinclair Knight Metz has developed approximately 20 Environmental Impact Statements in Queensland for State Government consideration. All 20 were approved at state level. The Traveston Crossing Dam project was subsequently overturned by the Federal Government; however it did receive state government approval.

***You have been speaking for eight minutes; we've heard nothing about the criteria for an EIS.***
The draft Terms of Reference which will shape EIS studies have not been released by government.

***Why are you going through this process for the EIS, is it faster going through the Coordinator-General?***
Significant project declaration results in central government coordination of the process by the Department of Infrastructure and Planning (DIP). It reflects the complexity of the project, the range of proposed benefits and impacts, and the number of agencies/government stakeholders involved. It is an issue of complexity not an issue of timing.

***What will happen with the results of the social impact assessment previously undertaken?***
The results of the social impact assessment activity previously undertaken by Worley Parsons for the former DME project have been provided to SKM and yes, they will be considered as part of this process.

***Hopefully you will work to a bigger area. I live 2½km away and have seen Ambre Energy once. Are you talking to all property owners in the footprint and adjacent properties? How many further out, two or three?***
The project footprint changed once ambreCTL was announced. Ambre Energy has met with all directly impacted landowners and will give all landowners within 5km of the project to opportunity to meet the project team and discuss their concerns.

***Will the Social Impact Management Plan (SIMP) be different from (local mining operator)? Their report identified no social impacts when there was someone living near the site.***
During 2010, new Queensland Government policy around the development of an SIMP was introduced which brings more requirements on proponents to address social impacts.

***Have you applied for mining leases over all of the proposed site? Wouldn't you do that first?***
No, they happen in parallel – you can conduct EIS baseline studies without mining lease applications in place.

***When can we expect a decision on significant project status, will it be in one to two months?***
We're anticipating a decision in the next few months.

***Do they only work on information provided in the Initial Advice Statement (IAS)?***
No, there is extra information supplied (to government) by us on our capacity, the technology and our funding arrangements. (much of which is commercial-in-confidence).

***'Significant project' status undermines any genuine environmental impact assessment process. Judging by the Hunter Valley this is a white wash, and it's a fait accompli you will get this through.***
As mentioned, a project is declared 'significant' based on the complexity of the process and the number of government departments involved. This declaration is by no means tacit approval and the project is still assessed on the EIS, regardless of whether it is submitted under the State Development and Public Works Organisation (SDPWO) Act, administered by DIP (significant project declaration), or the Environmental Protection Act, administered by the Department of Environment and Resource Management. . There are still a number of minor approvals required at a local government level once the project has been given state and federal approval.

***(To SKM) How can you proceed without Terms of Reference or an EIS process?***
There are baseline studies that can be conducted (we will need to know what's there now), such as flora and fauna studies, noise, dust, water, cultural heritage etc. We're doing things that we know will be part of the EIS's requirements.

***Can you explain the criteria for significant project status and why this project would qualify?***
Section 26 of the (SDPWO) Act details the criteria, these include employment, level of investment required, potential environmental impacts, complexity of local, state and federal requirements for the project plus others.

***So will the application be for just the processing side (CTL) or the whole project? A mine has never been considered a significant project.***
The application relates to the whole project.
(Note: the stage 3 Acland expansion and the Wandoan coal mine are a couple of many examples of mining projects that have received a significant project declaration.)

***Why is it so important to get this significant project status, it's not the normal route. Seems you're sneaking in under the radar.***
With a significant project, the Department of Infrastructure and Planning acts as the central coordinating department and is resourced to do so. A number of departments give advice on the project at various stages, sometimes this advice may conflict. Where the Coordinator-General is involved, more central coordination takes place. We talk with all impacted departments and ensure they have the information they need. The significant project declaration path is very common for large, complex projects in Queensland such as ambreCTL.

***How much money did you pay for sponsorship at the DIP Major Projects Conference?***
There is no conspiracy involved with sponsoring the Major Projects Conference. DIP contracts independent conference coordinators to seek funding through sponsorship and manage the conference. For us, we get exposure to the mining industry and a chance to profile the company in front of our peers. The sponsorship has no impact on decisions made by DIP. We spent $10,000 as one of many minor sponsors.

Facilitator intervened – sought audience agreement that Ambre Energy and SKM needed to come back with a 'clear and unambiguous' response to significant project status, and what the benefits the coordination role would bring to the project.

Comments made by the Mines and Energy representative (Department of Employment, Economic Development and Innovation (DEEDI)) representative:

- departments give advice on the basis of the legislation they administer, which might be different and might be frustrating, but are not conflicting
- to 'get it on the record', significant project status requirements can actually be more onerous for proponents, especially when there is a mine involved.

***(To SKM) Have you done an EIS on a project as intense as this? What you see here (people in the room) is about a 10$^{th}$ of the people impacts. Have you done one with houses every 50 metres or as closely populated?***
Yes. SKM was involved in EIS studies for Millmerran and Acland.

***(To SKM) Have you been to the valley before tonight?***
Yes.

***Is there a need to have this process streamlined?***
We would like to get this moving as quickly as possible.

**Are you worried about a change of government at the state level?**
This could make the EIS a longer, more expensive process.

***Could the delay have anything to do with the strategic cropping land policy?***
Yes, we believe so. The longer it goes on, the more costly an exercise it will be.

Facilitator intervened – summarised the status of Coordinator-General process, asked for questions other than that relating to a significant project declaration.

Ambre Energy – commented that the Coordinator-General wanted to investigate the likely impact on the project from the policy, which had not yet been finalised.

***So your project is subject to the strategic cropping land policy?***
Once the policy is announced, it appears it will be.

***Why do we need this project?***
Today oil is $81 a barrel and is expected to go up to $100 in the near future.

***Are these predictions being made by the same people who talked about rising oil prices then they fell to $40 a barrel?***
There is substance in the supply and demand argument, and we need to find an alternative source of supply.

***Wouldn't it be more intelligent to find a different way? You seem to be against renewable energy sources, you want to capitalise on profits now not innovate for the future, you fear taking responsibility.***
We're not against renewable energy sources and are pursuing some alternative energy sources for onsite use. Renewable energy will not provide the same scale of energy we can produce through coal-to-liquids conversion.

***Does the mine site (referring to map) include all the plant?***
Yes it does, the plant (CTL facility) will run parallel to the Pittsworth-Felton Road boundary in the north west segment of the site.

***Do you have a more detailed map of the mine site here tonight and if not, why not?***
No, mine planning has yet to be finalised. Further work is needed to develop an economic mine plan within the project area.

***Don't tell us you don't know, we've been waiting for years!***
We can tell you there will be a mine, a washing plant, a coal-to-liquids processing plant and other facilities but not exactly where they will be until planning has been concluded.

***Can we expect infrastructure near Pittsworth-Felton Road?***
We would expect to have infrastructure, including a storage dam at the top (near Pittsworth-Felton Road), and when we're happy we have a close outline of the site, we'll release it.

***Is this a community information session with no information?***
This is a community information session only months after the project has been announced. We have not finished the studies, and we need to raise around $40 million to design the facility and complete the process.

***Did you say there would be nothing to the north of Pittsworth-Felton Road?***
We are looking at all areas within the project boundary and assessing how to configure the project in the optimal way. Any part of the project area could be used for project purposes.

There is coal along the eastern side of the site, there is the possibility that we will be mining up to the top of the EPC. There is no hiding where the project is.

***The petrochemical plant and all infrastructure, is it true they will be built on a strip adjacent to a public road (Pittsworth Road), isn't that incredibly dangerous?***
This is no different to places like Pinkenba in Brisbane where there is a major refinery, major infrastructure exists in built up areas. We will have around 540 people working onsite, we won't do anything to jeopardise their safety or that of surrounding communities.

***So the EIS will take safety into consideration?***
Yes. The project will be designed and operated to maximise safety.

Brief summary of CTL process was delivered by General Manager Projects.

***What will you do with the $CO_2$? How much will be vented into the atmosphere?***
Approximately 10,000 tonnes per day (or 79% of the $CO_2$ produced at the plant) will be captured and potential future uses for it are under investigation. Until there is a solution the $CO_2$ will be safely vented on site.

***If you have no plans for storing $CO_2$, why do you use term 'carbon capture and storage'?***
Carbon Capture and Storage (CCS) is a well established industry term and consists of two parts - capture on the one hand and storage on the other. Approximately 79% of the $CO_2$ produced at the plant is produced in a pure form, suitable for storage. There are a number of initiatives under way (by the Queensland Government and others) to investigate possible storage sites and solutions which, once available, we would be able to utilise.

***You're using ammonia and calcium carbonate in a catalyst process to create urea. Is there any amatol or potassium?***
No.

***What other by-products or particulates are produced (i.e. waste)?***
Particulates get scrubbed out as part of the process.

***On sulphur, presumably it's being contained all the way and is not going up in the air?***
Sulphur is detrimental to the life of the methanol plant catalyst and is almost entirely removed from the syngas. The captured sulphur is then converted into a solid product, suitable for the fertiliser market and only minute quantities end up as air emissions.

***Would this be enough to result in an asthma attack or allergic reaction?***
No.

***Will you be emitting other odious things?***
No. The EIS studies will consider all air emissions, including fugitive plant odours, and outline appropriate mitigation measures.

***Given the enormous profit margins, environmental protection measures will go out the door!***
That is not a fair statement. We want people who live and work here to have happy and healthy lives.

***Why don't you use 'release' instead of 'carbon capture'?***
Future presentations will be altered, or the term will be explained.

***What about the jobs lost?***
What evidence can you present that jobs will be lost? Some landholders may be relocated.

***What about the egg farm in the bottom left hand corner of the site (referring to McLean Egg Farms)?***
We are not commenting on another company's operation. Around 530 people will have permanent jobs onsite.

***You estimate 50-60 trucks per day on the roads, what size trucks?***
This figure is based on B-double. We have to get the fuel to market.

***Have you got a market?***
Yes, there is a captive market.

***Can you tell us if you've struck a deal with the Toowoomba Regional Council and if the roads will capable of standing up to it?***
We will speak with Department of Transport and Main Roads and with the Council. We anticipate they will contribute to the draft Terms of Reference, which will guide our transport studies.

***So ratepayers will have to pay for the roads that you use?***
We would expect to be required to contribute to road infrastructure.

***We believe Mount Kynoch (Water Treatment Plant) has allocated 70% of its water to (a local mine operator)?***
We can't comment on Toowoomba Regional Council's allocation of water. If this is not deemed viable for use as a water source, it will be ruled out.

***Does your 22ML a day water requirement include all uses, such as dust suppression, washing, use in the petrochemical plant?***
Yes. This may be changed as we get into detailed planning, but the figure is based on the use of other similar-sized plants around the world.

***Why the delay in applying for mining leases?***
We don't need them to do an EIS. The application is not an onerous process.

***How do you plan to access land for the EIS process if permits/mining lease applications haven't been lodged yet?***
We can access the areas where mining lease applications have not been lodged with landholder consent. We could lodge the applications now but have been advised to wait.

***Is Mount Rolleston outside the project area?***
No

***We have had flora and fauna people on our land, are they entitled to be there?***
We need permission from the landholder, which we always seek. We visit landholders and explain our processes and ask permission when we don't have a Mining Lease Application.

***Can a landholder refuse you entry if you don't have the required documentation?***
Yes, I believe they could, but I don't see a reason for doing this. (DEEDI representative clarified that under the Mineral Resources Act, a proponent was able to access properties for EIS studies when an EIS process was active. However they had no authority under an EPC to do an environmental study without landholder consent).

***How is the mine planning being done, why isn't it done now?***
Mine planning is under way now. We take the geological information (from the drilling) and are putting together a geological model, which involves calculating the extent and thickness of the coal.

***When you lift the soil out, it's 'fluffy and loose' in comparison, you must get the moisture settled again before you can grow crops. How many years do you envisage before you can start growing crops?***
We'd have to take this question on notice, we don't expect you'd get a full production from the first crop.

***If a larger area of coal lies 100 metres deep, would you still consider open-cut mining?***
The bottom of our targeted seams is around 70-80 metres deep. If 70 metres is deemed economic, then this is likely to be the maximum mining depth.

***You mentioned mining 1200ha, where is this?***
We can roughly indicate where mining is likely to happen (starting on the western side of Hodgson Creek and extending west) but detailed mine planning is still occurring; while we will explore the whole area, we need to consider the geological impediments to mining (i.e. hills).

***There is not enough information being made available.***
The information being provided is appropriate for this phase of the project (before draft Terms of Reference). Studies will provide more detailed answers. We have to assess whether it's economic to mine parts of the site. We will obviously look to mining the more shallow areas and place the infrastructure on the top of deeper seams.

***What about your timeframe for rehabilitation? Does government have a timeframe or requirements of you?***
We will rehabilitate the site progressively. The mining pit will be filled behind as mining progresses so we can minimise site disturbance and start rehabilitation as soon as possible.

***You have made a comment that you will not mine below creek level, now you're saying you will?***
A lot has changed in 2½ years when that comment was made (and this is a different project). If the seam is 25metres deep, then we would need to mine lower than the creek level.

***You said you have no intention of using underground water, but it will come up in the pit, starving aquifers down below.***
We said we have no intention of using underground water for the project. We would need to see your evidence with respect to groundwater; we are undertaking comprehensive and expensive studies.

There are 35 water monitors in place now to develop a 3D model, and a hydrocensus will be conducted shortly, where we will talk with all landholders to determine the location of their water sources. From the 3D model, we will be able to develop a complex plan which shows water pressures and detects whether there will be a slight fluctuation downstream from the mine from place to place, so we can monitor this.

***How can you risk further damage to fragile aquifers? Is it responsible to contribute to the damage?***
If you have facts on this then we can't argue. If you don't, let's wait until they are available. We're doing what is required to understand the state of groundwater within and around the project area.

***Why did you go to the Toowoomba Chamber of Commerce and Toowoomba Regional Council first?***
Ambre Energy started consulting with this community some time ago and is talking regularly with impacted landholders on an individual basis. The public information sessions (including this and others in Clifton, Pittsworth and Toowoomba) were widely advertised and we needed to allow time for this process to run. We timed these sessions for after the September/October school holidays to maximise attendance.

***Regarding accommodation, dams and other site components, where are they going?***
We can give you an indication only at this stage – mining will start closer to the eastern boundary and extend west, we will mine around 1200ha in total, infrastructure will be closer to the Pittsworth-Felton Road in the north west area. We need certainty that we have made the right decisions, which will come through continued mine and project planning. At the right time, we will give the information to you.

***Hasn't this been going on for three years? We've been asking questions and getting no answers.***
We can appreciate this concern, but this project was released in March 2010. We are at the beginning and will have two years to conduct studies from the release of final Terms of Reference.

***To get coal out of the ground, presumably there will be blasting, what can we expect?***
The physical process is – we go ahead and prepare a pad, we drill holes, infill the holes with explosives which are then detonated. This releases nitrous oxide into the air which forms a brown haze (like you can see over the city on some days). The nitrous oxide quickly combines with oxygen to make a clear gas.

***We don't want the city's smog, how are you going to suppress this as there are communities in the way? We've seen how far balloons go, this will put Toowoomba at risk.***
There are a number of practices we can use to minimise the shock waves and other impacts, and we can minimise the number of holes.

***Could the dust travel 30km? How often will you be blasting?***
Dust will be monitored as part of the studies. We could blast daily. This will depend on what we are trying to achieve. Smaller, more frequent blasts will reduce dust.

***Which mines have you worked in (question to Manager Technical Services)?***
I have 15 years of mine planning experience in Australia and Indonesia in open-cut and underground coal mines and in gold mines. I have worked at Senakin Mine in South Kalimantan, Indonesia, and in the Boddington gold mine in south east Perth, Goonyella Riverside; South Walker Creek, the Curragh Mine and in the Hunter Valley.

***How regulated is the industry with respect to coal gasification, accidents still happen?***
We are proposing an above-ground onsite gasification process, and will adhere to strict government safety requirements.

***Suppose the worst did happen, how quickly could you evacuate the workforce and what is a safe radius distance?***
This will be classified as a hazardous area, and a thorough safety assessment will be conducted as part of the EIS studies. This will tell us what the sphere is and enable us to develop mitigation strategies.

***When will that be public knowledge, with the release of the EIS?***
Yes.

***How are you going with buffer zones?***
These will be determined through the EIS process, we will conduct risk assessments for various buffer zones and this information will be released with the EIS.

***What is the likely radius of influence?***
We need to conduct work to know things like wind patterns, blasting patterns. There could be a different radius of influence for noise and vibration. Answers to these questions will be part of the output from mine planning, which will be given to our modelling people to determine impacts over time, calibrated to real mining activity.

***This is an eight million tonne per annum mine, surely you can extrapolate?***
Not really, as the results are based on many variables. For example, if there is a hill between the mining activity and residents then they won't hear as much, whereas someone downwind (from activity) is likely to get more noise. You can't easily put a radius around it. We're trying to find out more and model likely impacts a few km from activity. How big this circle is will depend on many things including the amount of equipment and its size, the extent of drilling and blasting activity and the amount of tipping.

***What about underground water? When (named local mine) started, one community had 30 bores go dry in a month.***
That activity took place in a drought. We will have a clear model to determine the existing water and the impact of our activities. A hydrologist will speak to landholders as part of the EIS process.

***You agree that you will be killing the plants?***
Revegetation is an important part of our plans. There seems to be some inconsistency in the comments – Friends of Felton is inferring that environmental damage is acceptable if we go elsewhere?

Comment – Not everyone in the room is a Friends of Felton member.

***Does the $3.5 billion project investment include the water pipeline option and is assessing the best option part of the EIS studies?***
Yes.

***If this water comes from the east coast or you chose coal seam gas water, a separate EIS would be needed? Do you still go through the same process?***
Yes, a separate EIS would be needed. We haven't investigated the detailed process required as yet. A pipeline for coal seam gas water would be by private agreement, we would need to consult a large number of existing landholders on the existing easement.

***There have been a number of questions around pieces of plant and the mine, when will people become clearer about the process?***
We expect this will be one to two months and we will make the results available during the next round of consultation.

***It would be good to know what this facility will look like, can you give us an idea or something similar to look at?***
The facility will look similar to a refinery, such as the tank farm at Hamilton (Port of Brisbane) and will cover roughly the same area. External appearance will be similar to a methanol plant, there are a number worldwide. The open-cut mine will be like the Millmerran mine, which if 3.8 million tonnes per annum. It will be much smaller then Mount Arthur (20 million tonnes per annum mine in the Hunter Valley).

***Why do you want to have it here?***
It is cost effective, the coal is suitable for gasification, it is relatively close to the surface. We have access to infrastructure and a workforce, and proximity to markets. And we also have exploration rights to this area with an identified coal resource.

***We need to see something visual, is it possible to have an image superimposed on the side of the hill?***
Yes, we will provide you with a footprint with individually marked components on it. We are working on a 3D visualisation of the site as part of the process.

***On the map (in the presentation) showing Mount Rolleston and the feedlot hill, there is shallower coal in the ground heading south. Are you going to mine near Hodgson Creek and head south and west?***
Yes.

***What about the feedlot?***
This would need to be relocated.

***We are hearing many figures. How much does it cost to produce a barrel of oil when you don't know where the water is coming from or the impacts of a possible carbon tax?***
We have made sound estimates and are confident we have a good business case. We are factoring in a number of costs.

***What if people can't afford to buy your product because your petrol is too expensive to buy?***
If we produced it and couldn't sell it, we would be in a dire situation. We wouldn't be trying to raise $3.5 billion+ if we thought the petrol was not going to be competitive in the Australian market. We will continue to refine our models.

***You don't intend to use water from aquifers?***
No we don't, there would not be enough. We are modelling impacts of the project on aquifers.

***Is the fuel you're going to use going to stay in Australia?***
That's our case, there is a big enough market here.

***Do you think it's going to be a positive economic benefit to this district? There has already been a serious devaluation of properties within 20km of the site.***
All rural property is soft at the moment. We have been talking with the banks in trying to get finance for rural properties and the message we're getting is the rural property market is soft Australia-wide.

***This is a noxious industry, the productive capacity of the country (site land) will be shot to bits, no one will want to live here.***
We would refer you to the Bowen Basin, where property values have gone up as a result of mining activity.

***Most of us are between 3 and 3½km from the site and have never seen the 'travelling circus', why?***
We liaise directly with individually-impacted landholders and will continue to do so. We do want to do go further and this is the start of a new process for a new project. In the last three years, our consultation plans have been impacted by changes the project due to the global financial crisis, the availability of markets and technologies, the mining tax debate and the pending strategic cropping land policy. We know that projects like this impact people's lives and we are doing our best to get things done as quickly and as well as possible.

We must drill, conduct field studies and consult well before we can get near to final approvals. We are open to ideas on how to do this better.

***Once/if the Coordinator-General gives this significant project status, does this mean a fait accompli with respect to local government approvals?***
No. There are a number of local government requirements we would have to meet.

***With respect to final approvals, what types of conditions could you be expected to meet?***
(Response provided by DEEDI representative.) A significant project declaration would kick off the centralised administration of the EIS process, which most of you are broadly familiar with. The final EIS goes to DERM to draw up the environmental authority which will detail how all impacts will be managed (dust, watertable etc.). This is then a trigger for Mines to issue a certificate of public notice for lease applications to be opened up. Any 'eligible person' can make an objection.

An EIS will generally take the best part of 12 months. Discussions surrounding the strategic cropping land policy and legislation are on top of all that.

***Are there any guarantees that our underground water won't be affected?***
We need to know exactly how much water there is and where the water is before we can identify any potential impacts, which will be done through EIS studies.

***The process (CTL conversion) sounds like a dangerous process?***
The CTL process is well understood and tightly controlled. A company would not risk the safety of its workforce with unacceptable risks.

***Will 22ML a day be needed, what happens when it's used?***
We will lose water in the tailings dam through evaporation, we will lose water through the cooling towers, and we will lose water in the water gas shift reaction process through steam – water gets converts to hydrogen and oxygen, there will be none left over.

We will build bigger water infrastructure needs into the planning as an insurance policy.

***So if there was a 'make good' agreement (to cover any occurrence where local water supplies may be disrupted), would the people be able to drink the water piped up?***
If a make good agreement was in place, we would need the water to be an appropriate quality for its use.

**We have heard claims from people 5km from (local mining operator) about walls cracking, blasting can be heard in the house, black water in tanks up to 16km away. Can we expect this?**
No, this is extreme and certainly not typical.

***Can you provide us with evidence or proof that you can rehabilitate the land to its current condition? Can you provide an example with similar soils?***
To give you a decent response we would need to give you the results of a trial on vertisol soils.

***To blast daily seems excessive, why would you need to blast so often?***
Daily blasting would reduce the shock wave. Smaller, more regular blasts are often used in situations where neighbours are more sensitive. There would be an operating agreement in place which details blasting frequency. The Queensland Government has mining safety inspectors who would oversee all safety requirements.

***We are keen to see the coal results, can we access a copy?***
We study the overburden and coal and perform a complete chemical analysis of it, which yields an enormous amount of data. This coal is not oxidised, it's over the water table. Results will be available as part of the EIS.

***Are dioxins produced with the gasification of coal?***
No, gasification is often used in preference to combustion for this reason.

***Why is the strategic cropping land affecting the time of the terms of reference if it's not a listed criteria?***
This is our assumption, the policy may be considered as part of a decision on significant project declaration and the policy framework and resultant issues are posing an additional workload for the department.

Acronyms

| | |
|---|---|
| CCS | Carbon Capture and Storage |
| CTL | Coal-to-liquids |
| DIP | Queensland Department of Infrastructure and Planning |
| DERM | Queensland Department of Environment and Resource Management |
| EIS | Environmental Impact Statement, which comprises studies as part of an environmental impact assessment process required by government |
| EPC | Exploration Permit for Coal |
| SIMP | Social Impact Management Plan |
| SDPWO Act | State Development and Public Works Organisation Act |

## Community 'drop in' session notes

## Clifton

## Wednesday 6 October 12 – 4pm

| | |
|---|---|
| **Location:** | The Jam Factory, King Street, Clifton |
| **Ambre Energy:** | Neil McGregor, General Manager Business Development and Marketing (Presenter)<br>Jannie Grove, General Manager Projects Australia and Asia<br>Matt Adams, Manager Business Development |
| **Sinclair Knight Mertz:** | Damien Taylor, Project Manager Water and Environment |
| **JTA:** | Brad Perry, Facilitator<br>Liz Edwards, Project Manager<br>Cate Mansfield, Project Support |

About 21 people attended the Clifton community 'drop in' session. At the request of attendees, the session included an informal presentation from Ambre Energy with questions taken from the floor throughout. Project team members remained available to talk one-on-one with attendees for a number of hours.

The purpose of these meeting notes is to reflect the questions asked and answers provided during the afternoon. The session was not audio recorded by JTA Australia. The notes are based on a written record of the questions raised and include some paraphrasing and summarising; every attempt has been made to preserve the integrity of discussions. Where the same or a similar question has been asked in other sessions, the most complete answer has been provided.

**Questions:**

***What will happen with the groundwater? Can you give us a guarantee it won't be affected?***
We have no intention of using underground water for the project and are undertaking comprehensive studies on local water sources.

There are 35 piezometres (water monitors) in place measuring what is already there. This information will be used to develop a 3D model, which will enable us to develop a complex plan which shows water pressures and detects whether there will be a slight fluctuation downstream from the mine from place to place, so we can monitor our impacts. The plan will also be informed by a hydrocensus which will start shortly, where we will talk with all landholders on the site and within a few kilometres of it, to determine their water use and the location of their water sources.

Then we will be able to determine where the mine will go, and assess its impacts on groundwater. It is too early to know what they are. From around 200 drill holes to date we have found minimal water.

We will need to demonstrate (to government) how the mine will impact deeper water tables (given we're mining to a certain depth and coal seam dips away in places). We don't want to seem evasive, but we need to understand the sources and usage of water (bore water, irrigation etc).

We need to understand what's there first. 'Make good' agreements will be in place with landholders, so if someone's bore was affected, we would compensate for that.

***When will we know the potential impacts, we need to know before the project goes ahead?***
Yes. An Environmental Impact Statement (EIS) process can be laborious and drawn-out. Understanding hydrology is not enough, we need to know how it impacts with the mine plan, where we should put the water storage dams etc to know how this will impact overland flow. We need all of this information before we can make definitive statements.

Groundwater impacts will be clearly addressed as part of the EIS process and will be one of the biggest areas of study. We also need an answer, but we need the data first. We undertake to bring a hydrologist

back to the community for the next round of community information sessions (expected in February) and we should have an informed opinion by then and will know the possible impacts to certain areas.

***What's going to happen with the water from the gas seam (i.e. the salt water that comes from the process)?***
You might be referring to coal seam gas (CSG). In CSG operations, they drill into coal seams and significant volumes of (generally) very salty water are the by-product of gas extraction. This water mostly comes from the Great Artesian Basin. We don't interact with water in the same way.

(A brief explanation of water used in the project was provided by General Manager Projects)

In the gasification process, water is used and treated as follows:
1. in the petrochemical plant - there is a net loss of water through the cooling towers
2. in the coal washing operations - coal is mined and it has a fairly high ash and clay content; it is washed and crushed to be suitable for the gasifier. We will recover and recycle as much water as possible; water will also be lost through evaporation from the tailings dam
3. CTL process operations - involves using water in a water gas shift reaction (which makes more hydrogen). We need water and oxygen for the CTL process and again, we will recycle as much as possible.

(A brief explanation of coal seam gas and underground coal gasification processes was provided by presenter.)

The above-ground coal gasification process proposed differs fundamentally from coal seam gas (CSG) exploration and development processes. CSG extraction involves de-watering deep underground coal seams to release the gas which is compressed and transported for direct use, or for liquefaction and export.

The ambreCTL gasification process also differs from underground coal gasification processes in use in the region, which produce syngas by igniting the coal underground and piping the gas to the surface. The coal doesn't come out of the ground. The ambreCTL process will be contained to above-ground gasifiers (tanks).

***Ambre would know, but we don't know, are you coming from Felton towards Warwick? Will the open-cut mine reach the town boundaries and go on through? Does Ambre Energy have an interest in property to the south, will mining come through Clifton?***
The proposed project covers a 2,000ha site in the Felton area, which is part of the Clarence Moreton Basin. There is coal extending through the basin, which is not to say it is mineable or even good quality coal. Our project is contained to the site described.

We have 840km$^2$ of exploration permits throughout the region, which are public record and can be verified through Queensland Government websites. We must do a certain amount of drilling or the permits are taken off us. We have five drill holes in the Back Plains area. I can't say with 100% confidence that the Clifton area wouldn't be mined, but there is a long way to go from drilling five holes to keep an exploration permit to an operating coal mine. A significant portion of Queensland (about 80%) is covered by exploration permits, but only a fraction of proposed projects get there in the end.

***Ambre Energy will spend a huge amount of money and it won't stop there.***
We have identified a good quality resource a Felton and this is all we're proposing. We will keep drilling at Back Plains but we have no current plans to develop this resource. In 10 years who knows; we're completely focused now on ambreCTL and on our US projects. While we have an Exploration Permit for Coal (EPC) over the area we will be drilling and even if our plans did change, moving the coal would be a major consideration.

***But you will have the plant already? Couldn't you continue to produce fuel using coal from Back Plains?***
We will have a facility to produce 18,000 barrels of unleaded petrol a day. The coal will be mined from the adjacent area, we have more than enough there locally to feed the facility, and this is the most economical option.

***But will you keep going? If it's a rich vein, it will be mined.***
That's speculation, there is no crystal ball.

***How deep is the coal seam?***
The base of the mineable coal is about 18 metres on the western side of Hodgson Creek to about 70 metres towards the west of the site.

***Is that deep is mining terms?***
No, not in mining terms, it is a very shallow pit. Mines can have pits 100 metres and beyond. China is mining 800 metres underground.

***Will you be using draglines?***
No, we will use trucks and shovels or excavators. We need to be selective about how we take the coal out, to minimise disturbance as far as possible.

***What will be the impact of the dust? How will it be controlled?***
There are a number of technologies in use worldwide to control dust, including compounds that bond dust together and contain plumes. There will be large machinery operating and yes, this will create dust. We also need to consider wind speeds and direction, which we need to include in EIS studies. We will model a particular amount of dust sent up to a certain height to see how far it could travel under various conditions. We will also study what's in the dust, whether it will settle in tanks and how farmers can confidently contend their crops are safe. We are aware of these issues and they will be part of the studies undertaken.

***What about the quality of the waste water?***
We have taken a number of samples of the overburden and interburden (material above the coal seam and between the layers) and we are conducting kinetic leach at the moment. This involves trickling water over the samples for six to eight months so we can see exactly what is in the material and how these chemicals behave. There will be a tailings dam lined with an impermeable layer of material to prevent leaching. We need to know and understand what's in the wastewater.

***Current filtration systems (used at the Bundamba Advanced Wastewater Treatment Plant) do not remove heavy metals or micro-organisms in the water, so you don't have the answer.***
We understand water is released from the Bremer into the Brisbane River after treatment at the Bundamba facility and are confident the government wouldn't take risks with water quality.

(Audience member offered to provide proof of research indicating the filtration system didn't capture heavy metals.)

We will have an onsite waste water treatment facility, the design of which will be predicated on the quality of the water which is coming in from outside sources. One of the key issues for EIS studies is emissions, which include those from cooling towers, to make sure that everyone is very safe. If there are components in the water that affect our ability to provide a safe environment then clearly action would be needed.

***So the wastewater goes down into the Brisbane River?***
No. We understand that the government is releasing water from the Bundamba Advanced Water Treatment Plant at the moment after treatment. We will not be releasing wastewater; ambreCTL will be designed a zero-liquids discharge facility.

***What about the excess?***
There is a net loss of wastewater from the cooling towers and through evaporation from the tailings dam, there will be no excess.

***What happens if there is a flood?***
The site is raised, so there will not be huge amounts of overland flow under normal circumstances. We will model dams and build in a changed flow rate reflecting a major rain event. There is a lot of background data on water levels available for this area and it will be considered.

***What happens to the tailings dams beyond your project? What stops the chemicals leaching into the water basin?***
We undertake extensive geochemistry analysis of interburden and overburden. We have a lot of samples now that are leaching constantly in a controlled laboratory environment; from this testing, we will have a good idea and understanding of the chemicals coming out of the site material. We may have to put down a lining using a synthetic material or bentonite, which is commonly used to line dams. We will be required by government to get the area back to a sustainable land form. Laboratory tests are under way now so we can fully understand the leachate materials and how they behave.

***How much clay is involved in this area?***
There is a reasonable amount that will be mined with the coal and we need to separate this out in the coal preparation area/wash plant. After it is separated it will be returned to the pit.

***But it's not going to separate out in the dam?***
Clay is widely used as a reliable barrier for dams.

***How far advanced are you with drilling at Back Plains?***
We have drilled five holes and more are planned to help us understand the resource.

***I have a notification of drilling activity, but want to know when you're coming (to Back Plains). Is there a finishing date?***
We need to let landholders know when we're coming and what the finishing date will be for the notification. Unfortunately rain has held up this work, but we will be contacting landholders shortly.

***What sort of mess do you leave behind?***
Virtually nothing, we use a (reasonably heavy) compressor truck and drilling rig; drill a four inch hole that is then encased in PVC pipe. This involves very little disturbance to small areas and after a few weeks, it is difficult to notice the impact.

***Is the material from a hole put into another pit?***
Yes. Material and water are put into a pit. The drill hole is capped slightly above ground level with a steel cap and a lock. Coal seam gas companies are drilling thousands of wells across properties in the Surat Basin, this is a fairly standard process.

***Does someone inspect these caps?***
We hope you would let us know first if we haven't done a good enough job, but there are ways to bring this to the government's attention. We need to drill every year to hold our exploration permits, but wet weather this year has prevented this. We have 12 holes to drill (at Back Plains) when the land dries up.

***What is the lifespan of the mine?***
35 to 40 years.

***Project construction will impact on the road network, it's not designed to take the vehicles you're talking about.***
We will be talking with all potential technology suppliers (or large items that need to be transported) and asking for the size and weight of the equipment they expect to bring to the site, this information will be part of a roads survey; roads must be adequate before we start. Some of the roads we will impact are under state control, others are under local government control.

***Mining companies contribute to roads and the money goes to other regional road projects. Can the money be kept for the local roads that need it?***
We may be required to use certain roads and to avoid others, and infrastructure would need to be in place. It would not be unreasonable for council to request a contribution, but how this is used would need to be discussed.

***Will you base the upgrades on what is needed or on what government tells you to do?***
We will model impacts on the road network as part of our EIS process, and will consider the potential impacts of extra trucks, with varying loads and capacities. This will help identify any upgrading needed, and we will develop some options for the Department of Transport and Main Roads and for the Toowoomba Regional Council to consider.

***Will you put on trains?***
We will look at all options and evaluate their feasibility as part of our planning. At the moment, most fuel in Australia is transported by trucks. The rail network is limited between this region and Brisbane, but rail is something that we will consider.

***Is the company Australian-owned? Will the final profits stay here?***
We have Australian and US shareholders, but the company is majority Australian-owned. Whether profits stay here will depend on the investment partner who comes onboard, but there will still be massive income to government here through payroll tax, fuel excise and other taxes, and significant economic benefits locally.

***What is the likelihood of you selling to a bigger corporation?***
This is not our intention. And this is why an Environmental Management Plan and the conditions attached to project approvals will be so important, the conditions stay in place irrespective of the owner, as they relate to the project.

***Is there any requirement for you to hold it for a certain number of years?***
No, but selling is not our intention.

***So you could make a quick dollar?***
This is not our intention.

***If another company was involved, would that impact your rehabilitation intentions?***
We expect the Strategic Cropping Land policy to set the requirements for the amount of land to be returned to productive capacity, the quality of this and the timeframe. We don't know the level of the government will take its conditions/requirements to, but they will be set for us or for whomever may be involved at a later date.

***How do you return a 70 metre coal mine to its productive capacity?***
It will not be 70 metres. Material not containing carbon is taken out along with the coal; the amount (volume) of rock and clay will be larger when returned to the pit as it has expanded. Topsoil will be stripped and stockpiled so that it can be placed back as close as possible to where it came from.

***Once you've finished, you must have a hole?***
Yes, you do end up with a final void. As far as the Department of Environment and Resource Management (DERM) is concerned, we need to have a void that is 'sustainable', which will involve negotiating its future use, such as grazing or a lake, with landholders. I was in the US last year, and saw a number of voids that had been turned into lakes, which have become ecosystems in themselves, supporting aquatic and bird life. Upper Coomera is an example of this, where a massive old quarry has been turned into a lake?

***What are the ongoing service and maintenance requirements for the project, i.e. what about local suppliers that deserve to be looked after and not ignored? What type of contracts or agreements would you look to?***
Using local suppliers and service providers where possible is our primary goal. We already have an avenue, through our website, where companies interested in supplying goods and services can register their interest; a comprehensive database is already being built and we will contact people when

opportunities arise. This makes good business sense and good community sense. If businesses do list with us, we will be able to discuss capabilities and opportunities for upskilling so they can work with us.

***Local suppliers need to have a commitment from you before they expend any money.***
Many of the larger specialised components are likely to come from overseas, but there are all sorts of businesses we also need to use. The 'every town and every person within the town will do well' thinking is a fallacy. Ambre Energy will set up a business relationship with local suppliers; it is a dangerous situation when you encourage a small business to over invest or give them false promises; we won't do that.

When looking at larger supplier arrangements, we will look at economies of scale and the supplier's ability to deliver. We will also work with local companies to help them improve their capacity to deliver where it is appropriate for us to do so. I don't have a complete solution now, if anyone does, please give us your thoughts.

Some companies in areas like Chinchilla and Dalby say that mining has helped them to live through the drought.

***How much coal exists onsite?***
The resource is about 500 million tonnes.

***Where does the coal go?***
The coal goes to the onsite gasification facility. It has proven more economical for us to have the CTL facility near the mine.

***Where does the coal go then?***
Nowhere else. Liquid fuel is produced and transported offsite.

***How often will the trucks be there and which direction will they go from Toowoomba, near Heifer Creek (Gatton Clifton Road)? James Street and surrounding roads are also in poor condition, the road between Dalby and Mitchell has no overtaking lane. The infrastructure should be there before the mine goes anywhere.***
We expect around 50-60 trucks a day will transport fuel when the project is operational. From the government's perspective, there needs to be a critical mass of projects (or population) resulting in greater road use before a major upgrading, such as a second range crossing, can take place. We will be talking with government on the impacts of our project on the road network.

***Government built a pipeline fast, Wivenhoe to Toowoomba, maybe that's an option to transport your fuels.***
That's a clever idea and a fair proposition.

***Is there a set dollar capital contribution cost for road infrastructure?***
There will be a contribution that we are required to make which we need to consider and then determine what we want to contribute as a good corporate citizen.

***Isn't this how the Moonie pipeline started?***
Yes and the easement is still there.

***Xstrata has around 800 people in Mounts Isa now, there were a thousand 10 years ago. We don't know how you're going to get permission; you should be looking at renewables.***
We're not ignoring renewables and are looking at ways to incorporate renewable energy sources into the site. But you need to take the Green's 'reducing reliance on coal' proposition and overlay it with reality. We all got here today in diesel or petrol vehicles and will continue to need fossil fuels for many years to come.

Renewable energies and technologies (solar, wind, geothermal) are on the horizon, but we could not produce the same amount of energy from the site using renewables as we can through the production of unleaded petrol from coal. We want to drive up to this project in 10 years time and be proud of it. We believe we have a better use of this energy rich coal resource.

***Who will put in the roads? If it's either the state government or yourselves, it won't happen.***
We can't give you a definitive answer now, we need to know the impacts on the local road network and hold discussions with state and local governments.

Comment: When you head west over the Toowoomba Range, government's interest in providing infrastructure is non-existent, there is no equity in funding. The people here are interested in infrastructure – and the people in this area have inherited Toowoomba's debt (post council amalgamations).

***What will happen to the royalties?***
On the whole, the Queensland Government receives royalties from coal across the state. In some cases, the landholder may be entitled to royalties, depending whether the freehold title was held pre March 1910; if it has continued it's possible that royalties will go back to the landholder. There are many parcels of land involved and each one needs to be considered individually. Our legal advice states that royalties will be paid to the government. You need to look at the history and see how each title deed has changed through the years. The information is in the title deed.

Government is paid royalty rights per tonne and the proposed resource rent tax may change royalties to be a profit-based arrangement. Royalties contribute a relatively small amount overall, but no value can be realised until the coal is mined.

***What happens if the story going around is true that a Native Title claim will be granted from Stanthorpe right through this area?***
Like most things, this project needs to be assessed on its relative merits and impacts. If there are Indigenous areas of significance found, we will work to come to an agreement with the traditional owners, the Western Wakka Wakka tribe, on the best way forward. We will undertake works onsite in accordance with a Cultural Heritage Management Plan that is to be developed with the traditional owners.

***Did you know there was a Boora ring on your site?***
We have heard that and we will check and see how it should be managed. The project will take into consideration Cultural Heritage or European Heritage.

***Regarding paleontological research, I would like to see a process where if significant things (artefacts) are found, there is a way in which they can be studied scientifically. I would like to see recognition of this in the EIS.***
Palaeontology is important (it is after all linked to the coal we have) and we would encourage submissions to the draft Terms of Reference. There may be some things done in other mines about how to preserve and protect artefacts that we can learn from and we would welcome the opportunity to progress this discussion further.

Acronyms:

| | |
|---|---|
| CTL | Coal-to-liquids |
| CSG | coal seam gas |
| DERM | Queensland Department of Environment and Resource Management |
| EIS | Environmental Impact Statement, which comprises studies as part of an environmental impact assessment process required by government |
| EPC | Exploration Permit for Coal |

## Community information session notes

## Pittsworth

## Wednesday 6 October 6.30 – 9.30am

| | |
|---|---|
| **Location:** | Pittsworth Community and Technology Centre |
| **Ambre Energy:** | Neil McGregor, General Manager Business Development and Marketing (Presenter)<br>Jannie Grove, General Manager Projects Australia and Asia<br>Matt Adams, Manager Business Development |
| **Sinclair Knight Mertz:** | Damien Taylor, Project Manager Water and Environment |
| **JTA:** | Brad Perry, Facilitator<br>Liz Edwards, Project Manager<br>Cate Mansfield, Project Support |

About 55 people attended the Pittsworth community information session. It comprised formal presentations from environmental consultants (SKM) and Ambre Energy with questions taken from the floor after the presentations.

The purpose of these meeting notes is to reflect the questions asked and answers provided during the ambreCTL community information session in Pittsworth. The session was not audio recorded by JTA Australia. The notes are based on a written record of the questions raised and include some paraphrasing; every attempt has been made to preserve the integrity of discussions. Where the same or a similar question has been asked in other sessions, the most complete answer has been provided.

**Questions:**

***How much $CO_2$ will you produce a day?***
Approximately 10,000 tonnes per day (or 79% of the $CO_2$ produced at the plant) will be captured and potential future uses for it are under investigation. Until there is a solution the $CO_2$ will be safely vented on site.

Carbon Capture and Storage (CCS) is a well established industry term and consists of two parts - capture on the one hand and storage on the other. Approximately 79% of the $CO_2$ produced at the plant is produced in a pure form, suitable for storage. There are a number of initiatives under way (by the Queensland Government and others) to investigate possible storage sites and solutions which, once available, we would be able to utilise.

***How many trucks per day will be on the roads?***
50 to 60 trucks per day will be needed to transport fuel offsite, based on using B-doubles. The size of the trucks will obviously impact the number required. Which direction they will travel will depend on the location of the market.

***Which direction will you mine?***
The coal seam starts about 1km from Hodgson Creek on the western side, it is most likely that the pit will head west but around the hills, as they are uneconomical to mine.

***What caused the delay in planning and releasing the new project?***
We have had a number of things to factor in like the potential impacts of carbon taxes, the carbon pollution reduction scheme, mineral rent taxes, the federal government's 'super tax' and state government's pending Strategic Cropping Land policy.

***What if you don't get significant project status?***
Significant project status involves central government coordination of the process by the Department of Infrastructure and Planning (DIP), when the complexity of a project and its proposed benefits and impacts mean a greater number of agencies/government stakeholders are involved.

If our significant project status application isn't granted, it's essentially the same process we follow. We still develop an Environmental Impact Statement to inform the approvals process, there are still rounds of consultation and ongoing opportunities for public input, but this is overseen by the Department of Environment and Resource Management (DERM) under different legislation.

***What if DERM says no?***
There would have to be reasonable grounds as to why DERM wouldn't consider it, i.e. the Strategic Cropping Land policy, which is still to be finalised. However DERM would allow full assessment of the project's relative benefits and impacts before such as determination was made.

***Significant capital needs to be raised for this project; do you propose a listing on the Australian Securities Exchange?***
Yes, we are working on a number of US acquisitions before going to the market.

***You have some good cropping land onsite, but will it be considered strategic cropping land?***
We have done a soil survey and identified eight different types of soil onsite, there is good quality agricultural land onsite but pockets are limited, including some on the western side of Hodgson Creek. As yet we don't know what the impacts of the new government policy will be.

***So you could set the precedent (for mining) on good quality agricultural land?***
We can't comment on the policy and not all of the soil types identified will be impacted by mining. About 1200ha will be mined and other land in the project site will be taken up with the processing facility, dams and other infrastructure. Criteria for evaluating 'strategic cropping land' and guidelines for development assessment are still to be determined and we need these to understand the policy's impacts. Our current assessment is that only a small percentage of the site may be specifically impacted.

***What is the anticipated lifespan of this project? Who will manage the farm land in a productive way?***
The lifespan of the project is 35 to 40 years. We will not mine all of the 1200ha at once, only 300 to 400ha will be mined at any time. The pit is likely to move from east to west; as coal is taken out, the pit is filled and topsoil is stockpiled and for rehabilitation. We won't be waiting 35 to 40 years to do this, we will contract a farmer (or a consortium) to manage the process.

***You have stated that Ambre Energy's intent is not to extract groundwater, but you talked about dewatering coal, isn't that extracting groundwater?***
There are three types of gasification activities:

1. coal seam gasification (CSG) – CSG extraction involves dewatering deep underground coal seams to release the gas which is compressed and transported for direct use, or for liquefaction and export
2. underground coal gasification (UCG) – which produces a syngas by igniting the coal underground and piping the gas to the surface. This coal doesn't come out of the ground
3. aboveground gasification – as will be used in the ambreCTL process. This involves a standard open cut mine (there are 54 in Queensland), we wash the coal and transport it to a gasification facility where it is converted to liquid fuels. This process is contained in aboveground gasifiers (tanks).

The CTL process doesn't involve dewatering coal seams. We will pipe water in, treat it onsite. We need to understand the interaction between groundwater and the coal seam, and we need to undertake hydrological studies of the site and surrounding areas to understand how potential impacts can be minimised.

We do wash the coal to make it suitable for gasification and the water will go into a tailings dam. Traditionally these are lined with bentonite clay or some other artificial liner, to avoid leaching.

***With regard to the blue line on the map showing where coal is (referring to presentation), given the area close to Hodgson Creek is shallow (less than five metres), will that be a starting point?***
It is likely that we will start mining where the coal is shallowest.

***What protection do you offer Hodgson Creek in a 1:100 year flood event?***
We have a large amount of background data to tell us how high water flood waters rise. We will construct levy banks so the flood waters aren't pushed to the other side of the creek. This is designed as a zero-liquids discharge facility, we will store water or use it onsite, we will not export water.

***If the dams fail, what will happen?***
This is a valid point and we need to know the impacts through hydrology studies.
Understanding hydrology is not enough, we also need to know how it impacts with the mine plan, where we should put the water storage dams etc to know how this will impact overland flow. We need all of this information before we can make definitive statements.

Groundwater impacts will be clearly addressed as part of the EIS process. We also need answers, but we need the data first. I would hope to have a hydrologist out here to address these specific questions at the next round of consultation sessions, to talk about water issues and impacts.

Coal seams on the eastern side of Hodgson Creek have been washed away, so there is little to no interaction now between the eastern and western sides.

***With reference to rehabilitation of the land, can you give me any examples in Australia or overseas where land has been returned to a condition where it can be farmed with the same crops as it currently has?***
Yes, there are examples in Australia, Europe and in the US. But we can't give you an example of successful rehabilitation of these exact eight soil types which have been found to exist (through our site surveys) on this site. We'd all like to increase our understanding in this area and further work is needed.

***When you have extracted the coal, what happens to the water table? Does it stop flowing east to west? Can you demonstrate that water removed can be put back into the ground?***
We need to understand where the water is. We have 35 piezometres (water monitors) in place measuring what is already there. This information will be used to develop a 3D model, which will enable us to develop a complex plan which shows water pressures and detects whether there will be a slight fluctuation downstream from the mine from place to place, so we can monitor our impacts. The plan will also be informed by a hydrocensus which will start shortly, where we will talk with all landholders on the site and within a few kilometres of it, to determine their water use and the location of their water sources.

Then we will be able to assess the impacts on groundwater. It is too early to know what they are. From around 200 drill holes to date we have found minimal water.

***What is your guarantee that you will not interfere with the water table that people rely on; we use bore water, we have no town water?***
We will need to demonstrate (to government) how we will impact deeper water tables. We need to understand the sources and usage of water (bore water, irrigation etc.) before these questions can be answered. 'Make good' agreements will be in place with landholders, so if someone's bore was affected, we would compensate for that.

***Where is the water likely to come from?***
The base case is we will bring water from the south east Queensland water grid up the range via a pipeline and we are having discussions with the SEQ water grid managers on this possibility.

***I don't like the fact that you can't give us a guarantee on our water. We rely on our water so what happens our water is gone, we can't supply our stock?***
Compensation arrangements would be in place to cover such circumstances. We will have excess water available onsite; a number of scenarios will be played out in the EIS process.

***What will this mine look like?***
Our mine is comparable with Millmerran, a 3.8 million tonne per annum (Mtpa) mine, we need 4Mtpa. We do understand the debate around water; we understand the food security arguments and can also make a strong case around fuel security. This is the reason we're here.

***Can you guarantee dust won't be the same as (named local mine)? We are concerned about the health issues of dust including asthma and other conditions.***
Yes, this will be a high impact operation, there will be heavy earthmoving equipment onsite and blasting. There are a number of technologies in use worldwide to control dust, including compounds that bond dust together and contain plumes. We will model dust impacts and see how far it could travel under various conditions, and we'll study what's in the dust, whether it will settle in tanks and how farmers can confidently contend their crops are safe. We will investigate the impacts and it will be up to government to make a determination.

Facilitator: Ambre Energy needs to complete its hydrological studies and bring an expert back to the community to answer questions.

***We know a lot of farmers in surrounding districts have water issues from mining and are desperate for answers. We need guarantees.***
We have a lot of work to do before we present a 700-800 page EIS, we would love to give you the answers now.

Comment: I think you should come clean and admit the full impacts of the mining to the people of Pittsworth. At the meeting at Felton last night, there was a man who spoke about blasts happening daily, with clouds of toxic gas and dust that would go where the wind blows – which will be here and in Cambooya. There will be dust and traffic. I have a copy of the Pittsworth Shire Council planning scheme 2006 which identifies Felton as a key resource area. This will be a high impact proposal, and there will be lots more, like Singleton. This will turn into another Hunter Valley. (Facilitator interjected and asked for the question).

We have not done mine scheduling, the statement made on blasting was based on other similar-sized mines around the world. Our company is solely focused on ambreCTL, I can't comment on other companies' activities or intentions. The cumulative impacts of ambreCTL will be addressed in the EIS. When we have the evidence and have done an analysis of blasting patterns and dust plumes under various conditions, then we can say who may be affected.

The response is the same in relation to questions about roads – we need to first understand what parts of the network may be under stress. This is a high impact operation, there will be dust, there will be noise. I can't say you won't be detrimentally impacted in Pittsworth at this point, but I can say the project will increase the prosperity of the area.

***Is it true that cadmium and mercury come up with the coal?***
The coal is comprised of ash and carbon. A chemical analysis of the ash has shown there are heavy metals present and we are studying their behaviour through leachate studies. We have a lot of samples now that are leaching constantly in a controlled laboratory environment; from this testing, we will have a good idea and understanding of the chemicals coming out of the site material and how they behave.

***You haven't mentioned what you offer the landowners, whose lands you're going to destroy. I would like you to tell everyone the prices and offers you are giving to landowners. You have had them in limbo for three years and they are going to be in limbo for another three years. What are you offering these people?***
We will not give out information from individual landholder discussions, this is our consistent response. We are offering very fair compensation and we are giving people the choice of where they wish to live afterwards.

***And if they all refuse to sell?***
We would work on an arrangement suitable to them, but if they don't want to participate then we don't have the powers to acquire properties compulsorily.

***What are the white crosses around the site and all around the mine and power stations near Millmerran?***
(SKM) They are GPS markers for aerial surveys.

***What if someone doesn't want to sell, will they be forced off? Surely government will step in and make a compulsory acquisition happen for you?***
I restate that, in good faith, we would hope to reach a compromise in relation to settlement and relocation.

Comment: Representative (Mining Registrar) from the Mines and Energy (Department of Employment, Economic Development and Innovation) confirmed that no compulsory acquisitions would apply; landholders may choose to settle or have a matter dealt with in the land court.

***Do you (question addressed to specific team members) plan to be in Pittsworth in five years time?***
If living in the area is best, then that's where we would be. I understand the premise of the question and it would be a difficult situation if you have lived on the land for many years. You're asking whether we really understand the impacts if we're living in Brisbane and coming up once a week.

***I doubt you will live in the area, you'll fly in and fly out because of the health problems and the dust. You have no answers and no guarantees to make us safe and happy.***
I'd like to offer you certainty, you've given us issues around dust, noise, water and transport and we will get back to you. Some will not be satisfied with our answers.

***I am a bit confused about leachate and the tailings dam, you mentioned it (the tailings dam) would be near Hodgson Creek, isn't this a zero liquids discharge operation? If the dam is lined, will the toxic sludge be at the bottom and what happens to the water?***
Yes, it's a zero liquids discharge operation. There will be no wastewater released from the site. Any water used onsite will be recycled, used in water storage dams, tailings dams or for dust suppression. The tailings dam and water storage dams will most probably fall into natural areas suitable for dams, not Hodgson Creek. The tailings dam will be lined with a material that will prevent any chemicals leaching into the ground.

***What happens (to the tailings dam) when you leave?***
We have taken a number of samples of the overburden and interburden (material above the coal seam and between the layers) and we are conducting kinetic leach tests in a laboratory at the moment. This involves trickling water over the samples for six to eight months so we can see exactly what is in the material and how these chemicals behave. Within the dam, there would be in impermeable layer of material. Eventually (at the end of the mine's life) this will be capped over, rehabilitated and returned back to land. This is standard mining practice.

***What happens to the toxic water in the tailings dam? How can you rehabilitate this?***
I can't answer your question now, it will take time and research to be able to answer the questions now being raised on dust, noise, blasting frequency. This will be part of the EIS.

(Description of CTL process was given by General Manager Projects Australia and Asia.)
In the gasifier, we burn off the ash product, the ash is returned back to the mine, which is not unlike a coal-fired power station. Through coal gasification testing at the University of Aachen in Germany and the leachate work we're doing means we are in the process of understanding what comprises these materials and how they behave.

***You will have interrupted the natural water flow and you're putting waste material back into a hole, what is the impact?***
We need to understand the behaviour of the materials (through the leachate tests) under a variety of climatic conditions before we know this answer.

***So when will you have the answers? You've been working here for a long time.***
We won't submit an EIS without the final answers to these questions.

The former dimethyl ether (DME) project was based on a 750ha site and producing DME from coal. This is a similar process (producing fuel from coal) but will produce a different product. The mine size is different, the technology is different, and the modelling work needs to be redone. We need final Terms of Reference before we can do this modelling, which is why we don't have detailed answers at this point. We can give you information on cultural heritage and soil surveys, which have been done and closed off.

***We have pipes lying in our shed as you were going to come and monitor bores, we're tripping over them. Are you going to do this monitoring?***
Yes and we will arrange for them to be collected. The hydrocensus will involve talking to people within 2kms to the north of the site, we will follow up.

***In terms of water security, is there any chance of compensation if you lose water?***
Yes. Arrangements will be in place with landholders to ensure they have access to water and/or appropriate compensation. We will have extra water onsite to cover such events.
***You've already used up all the water, where's it coming from?***
The project will need large quantities of water, up to 22 mega litres (ML) a day, and there is nowhere near enough local water to satisfy our needs. We would need to bring water in from outside, we are investigating a number of options:

- build a pipeline and pipe waste water from the south east Queensland water grid and up the range, in which case we would build a bigger pipe than we would need to bring more water to the region for other purposes
- purified recycled water is another option (recycled water used at the Bundamba Advanced Water Treatment Plant is Class A or better)
- coal seam gas (CSG) water. All options are being considered

***What or who is planning the tailings dam. A dam near my property had to be undone because it leaked. Can it be tested?***
The EPA (now part of DERM) sets the standards for hazards dams and liners and yes, it will be tested.

***What do you do for the people who get health problems from the dust? What are you going to do for the people who get health issues from the project?***
I can't give you an answer now. There are a number of ways to prevent the spread of dust and health issues will be extensively studied as part of the EIS. We would like to speak to you about treatments and way to minimise and manage any risks. The coal seam gas industry is also going through an assessment process of health risks. Breathing difficulties and health risks due to proximity to a mine site are important issues that we need to consider. Does anyone have any suggestions on how we best do this? Mining operations are subject to the Environmental Protection Act, administered by DERM, so there are standards and requirements relating to emissions.

Comment: But what's acceptable to government may not be acceptable to us? We're living and working and dust and noise, will have to have air-conditioning if we live within 5km of the site, the poor people will suffer because of the mine.

***The amount of money that Ambre has spent on this project thus far is significant isn't it? There have been a few experts working through these kinds of questions – so it's likely this project will go ahead isn't it?***
We are investing fairly significantly in the EIS process, and a fair few experts are finding this to be a reasonable proposal, but government needs to agree. We know some things but not all and $12 million doesn't go far in this industry. We need to invest much more effort ($40 million+ overall) to have the answers.

***What is your total cost and expected return on capital for this project?***
The financial return is dependent on a number of things including oil prices, carbon taxes, what we will need to pay for water and we don't want to disclose this information. We believe the project is financially attractive enough for us to keep investing in a bankable feasibility study, which will enable us to go to the market for capital raising purposes.

***Will ambreCTL be sold to another mining or investment company?***
It's not uncommon for attractive mining projects to be bought and sold, this is a natural part of the business world. This process (EIS process) will define the conditions by which the project will operate, regardless of whether it is owned by Ambre Energy of BHP for example. However it is not our intention to sell.

***If you're going to have 1800 workers there will be a construction camp, where will it be?***
Yes, we will need construction camps, there is not enough available accommodation locally. It is highly unlikely workers would all be located near the Felton site, they could be split up and the accommodation extended to Toowoomba and surrounding towns. We will consider the services available in the towns and whether they could support it (e.g. Cambooya is unlikely).

***I am concerned about tailings dams. Knowing the storm ratios and the storms that come through here, I can't see how the site will escape. Anything that comes off the ground goes straight into the Murray Darling Basin and the Condamine.***
We will need a high level understanding of the water quality in Hodgson Creek and also of the flora and fauna species onsite. The site will be designed so that runoff from disturbed areas is captured on site.

***On some of the more positive aspects, do you offer apprenticeships, traineeships; will you poach from other companies or provide local employment opportunities?***
Yes, we will offer apprenticeships, traineeships and local employment. At the moment, we get a steady stream of enquiries through the web and 1800 number for employment from engineering and other potential contractors. There will be a range of people we need including boilermakers, electrical contractors, chemical engineers, administrators, waste management specialists and cleaners. Some of the 'high level' skills may need to be imported from elsewhere if they relate to specialist technical roles, but many opportunities will exist for local residents to apply for and win jobs onsite.

***The 50 to 60 trucks a day that will head 'away' from the site, where is 'away', how will they get down the Toowoomba Range crossing?***
Trucking fuel offsite is, at this stage, the most obvious solution to transporting the fuel. The direction they head will depend on the location of the market. If it's south, they could use the New England Highway, if west, the Warrego Highway. If it's east or possibly north, they could use James Street and then on to Brisbane from Toowoomba. Brisbane is a major market.

***Is this product taken to a distillery or is it distilled?***
You could drive up to a bowser and use the fuel produced without further refining.

***Will we be able to do this?***
Ambre Energy is not a fuel retailer, we won't dismiss the possibility that some fuel could be available locally, but we would need to look at the impacts on local retailers. The quality of the fuel will be 92RON. The product has no sulphur; benzene is present in all fuels but its content is lower in ours (due to the CTL process). The fuel could also be blended with other fuels or with ethanol (the use of which will be mandated by government next year).

***What about diesel, could you produce this?***
The technology is not suited to diesel production.

***What will the buffer zone be?***
We will conduct risk assessments for various buffer zones and this information will be released with the EIS. We need to conduct work to know things like wind patterns, blasting patterns. There could be different radius of influence for noise and vibration.

***How do you do these studies?***
Through computer modelling, we look at natural land forms, wind speed and a number of variables to model the potential impacts over time, calibrated to real mining activity.

***So you don't know how big the buffer zone will be. Will you buy properties in this area?***
I can't answer that yet.

***In your EIS, it looks like you will be producing a figure of the carbon produced by this project. Are you also finding a figure on the carbon that will be generated from the fuel?***
We are required to do a whole greenhouse gas assessment, which includes looking at the trucks used to mine the coal, the CTL process itself, fuel in the cars of end users – it's a 'cradle to grave' assessment. Determining the carbon footprint in this way is now standard in most EIS processes.

***As we haven't seen a lot of CTL processes in Australia, how will the components be supplied? Will we just put the nuts and bolts together or will they be designed here?***
We will have an overall contractor that manages major components (some parts will be manufactured overseas, some here in Australia, generating local employment). We will look to do offshore fabrication in low cost centres (China and Thailand) to keep costs down and there need to local fabrication of some components due to their size limitations.

***My main concern is underground water and you can't give me any guarantee. If everyone refuses to sell, would you just cut your losses and move away?***
We would hope land negotiations wouldn't shut the project down. We are confident we can secure a reliable water source.

***If my cattle run out of water at 7pm or 8pm, will you supply 300 head (that's 3 kilolitres)? You'd have to continue supply.***
I don't expect that this would suddenly happen, we would notice an effect based on the piezometre readings (water monitors placed around and adjacent to the site). There would be high quality water available onsite to cover urgent situations.

***You can't answer questions about water, the Felton people are concerned, their lives are being turned upside down, the uncertainty continues and causes stress. It's too late when the water is gone, we need answers.***
We acknowledge all these issues and yes you need the answers, so do we. It would be ideal if we could come to you with all the answers now, but there is a process we must follow and we are in the early stages of an EIS. Environmental studies, land acquisitions and project design will happen, some in parallel.

***So you'll work on what you will do when we start running out of water? You will work on a plan because the people at (named another mine) ran out of water and the areas surrounding them ran out of water, so we know if happens. We need guarantees not 'what if's'.***
We know it happens that landholders' water sources can be disrupted and this needs much further discussion with a hydrologist. Comprehensive studies on local water sources are being undertaken and this information will enable us to develop a complex plan which shows water pressures and detects whether there will be a slight fluctuation downstream from the mine from place to place, so we can monitor our impacts. The plan will be informed by a hydrocensus which will start shortly, where we will talk with all landholders on the site and within a few kilometres of it, to determine their water use and the location of their water sources.

'Make good' agreements will be in place with landholders, so if someone's bore was affected, we would compensate for that.

***I am one of the landholders in the mine area. If I take up your option and sell my place tomorrow, what will you do with it for the next 30 years, have you considered a lease back situation?***
We would intend to manage it, spray it for weeds, use it for cropping, land will not sit dormant. A lease back option is a possibility, but this would be something we would need to discuss with the individual landholder as it won't suit everyone.

***There has been a lot of talk about offers to landholders and I don't mind you talking about mine because I find it laughable and we could all use a good joke. In your financial modelling, did you take into account how this project will devalue properties in this area and the affect this will have on the people here?***
Discussions with individual landowners are confidential. You need to have a firm basis for your figures if you want to sell.

***Valuation plus 20% is fine if you want to buy but not if you want to sell.***
As part of the Social Impact Management Plan we need to develop (which is a government requirement), we will be looking at property values in this area and the region, making a number of assumptions and modelling likely scenarios. We don't look at individual properties/valuations, we look generally at the price per hectare (before the mine is built) in comparison with other areas to do the modelling.

***The EIS goes before the mine. What does generally happen to property values when the mine goes in?***
We can't put a formula on this, some property values go up and some may go down.

***You talked of piping water up the Toowoomba Range, where is this at?***
One option for water is to build a pipeline and pipe water from the south east Queensland water grid and up the range. We are having discussions with the SEQ water grid managers on this possibility and we are looking at potential easements or pipeline routes at present. We would use pipe larger than it has to be for our needs and bring extra water in for other uses.

***Is the track (pipeline route) organised?***
No, we haven't settled on the easement.

***On the subject of transport, our roads are shocking now before more heavy traffic. Why is there no mention of using rail as a transport option?***
We have discussed rail and we will investigate whether the investment required makes this a feasible option. Fuel trucks are an obvious solution.

***Why not get involved with other mining companies you need to get momentum behind using rail.***
We would need to consider the limitations of rail locally, such as a single line enclosed in a heritage-listed tunnel. Some of the western suburbs of Brisbane (on the way to the Port of Brisbane) cannot handle more rail traffic, so other options are being considered.

***People and big companies need to be forceful with government.***
Projects like this help to build the case for larger infrastructure projects.

***With the buffer zone, would you be happy to live in that buffer zone with your family?***
We do get asked that question. I can't tell you whether I'd be happy to live in the buffer zone or not as I can't put myself in these shoes, I don't live here. We can only acknowledge that we are from outside this area and that the company believes it to be a good project and that there are many positives for those who live here.

***If we get two kids riding a motorbike on a farm, the council comes out and shuts us down for breaking the rules. We can't clear trees on our land but you can. Now we're talking about opening a mine here, there are two sets of rules.***
Yes. It's true to say that government considers it appropriate for companies to undertake some activities that farmers cannot as we can offset the risks.

***Do you have to plant a buffer?***
Yes, we have planted a buffer of trees on Ambre's property on Pittsworth-Felton Road and one on another site to the west – we will continue to plant six rows five metres apart on certain properties.

***Along with water and capital, what are the other critical factors for the company to determine whether this project proceeds?***
We wouldn't release this information, but we are confident enough to be spending $40 million to get the proposal to a bankable feasibility study stage. We are building a case based on a number of assumptions, should these assumptions change or the project does not become viable in a business sense, then we wouldn't proceed. However we've done enough research at this point to keep going ahead,

***If our bores run dry, would we be expected to provide proof that the mine was responsible? If so, what kind of evidence would be needed and how would we get it?***
The hydrological studies are important for us to understand what's there now. We would retest the site and see if there had been change.

***Would you be prepared to come out to my place and test my bores?***
We are conducting a hydrocensus of landholders within the site, 5km to the east and west and 2km to the north and south.

***What about 15km away? Water is my livelihood.***
That's the point of the hydrocensus, it will enable us to deal with the 'what ifs'. If you have specific concerns, please speak with us after the session about your individual circumstances.

***It just sounds like if we run out of water, we can't wait around for you to do your surveys. What process would we have to go through to get water from you?***
I don't mean to undermine the concerns in relation to water supply, if there is anything specific you would like us to take onboard, please talk to Liz Edwards from JTA and we will record and respond to your specific issues.

We can't see how this project could impact those ¾km away from the site. There are people in this room who are 15km away and we can't see how it would possibly impact.

***Does the EIS consider the potential risk as a result of the dangerous goods produced due to war or terrorism? You're creating a pretty effective target.***
Yes, the EIS does require consideration of sabotage and terrorism. We need to consider and model a variety of potential risks.

***Will there be a large fuel storage facility onsite?***
Yes, it will be similar to the BP refinery at Pinkenba or the Caltex refinery at the Port of Brisbane.

***How much money will it cost you to produce one litre of petrol?***
This is commercial-in-confidence and not something we're prepared to release.

***Does it get sold on the price per barrel?***
Yes.

***Will you keep the dust off the gear, is it truck and shovel mining or will you use draglines?***
Yes. The pits aren't deep enough for draglines and we need to be selective with respect to clay bands, and remove the coal with some 'finesse'.

***Do you intend to operate the mine yourself or will to use a contractor?***
We would use a contractor, in the same way as we would manage an EPC (engineering, procurement and construction) contractor.

***How does the timeframe become realistic? (Reframed by facilitator – Can the EIS be completed in under 24 months?)***
Yes, we're not starting out from scratch. We have noise and air quality background data collected; water and air monitoring are under way. Twenty-four months is the statutory timeframe we have to conduct an EIS after Terms of Reference are finalised, after which the government can throw the project out. The EIS can certainly be completed in less time.

Acronyms

| | |
|---|---|
| CCS | Carbon Capture and Storage |
| DIP | Queensland Department of Infrastructure and Planning |
| DERM | Queensland Department of Environment and Resource Management |
| EIS | Environmental Impact Statement, which comprises studies as part of an environmental impact assessment process required by government |

## Community information session meeting notes

## Toowoomba

## Thursday 7 October 12 – 2pm

| | |
|---|---|
| **Location:** | The Moat House, Toowoomba Showgounds<br>Glenvale Road |
| **Ambre Energy:** | Neil McGregor, General Manager Business Development and Marketing (Presenter)<br>Matt Adams, Manager Business Development |
| **JTA:** | Brad Perry, Facilitator<br>Liz Edwards, Project Manager<br>Cate Mansfield, Project Support |

About 35 people attended the daytime Toowoomba community information session. It comprised a formal presentation from Ambre Energy with questions taken from the floor at the end.

The purpose of these meeting notes is to reflect the questions asked and answers provided during the daytime ambreCTL community information session in Toowoomba. The session was not audio recorded by JTA Australia. The notes are based on a written record of the questions raised and include some paraphrasing; every attempt has been made to preserve the integrity of discussions. Where the same or a similar question has been asked in other sessions, the most complete answer has been provided.

**Questions:**

***Can you tell us how much $CO_2$ will be produced?***
Approximately 10,000 tonnes per day (or 79% of the $CO_2$ produced at the plant) will be captured and potential future uses for it are under investigation. Until there is a solution the $CO_2$ will be safely vented on site.

***So is it (the $CO_2$) the main product?***
It's a by-product, petrol is the primary product created.

***And you're going to capture it ($CO_2$) and then store it in the atmosphere?***
Carbon Capture and Storage (CCS) is a well established industry term and consists of two parts - capture on the one hand and storage on the other. Approximately 79% of the $CO_2$ produced at the plant is produced in a pure form, suitable for storage. There are a number initiatives under way (by the Queensland Government and others) to investigate possible storage sites and solutions which, once available, we would be able to utilise. Until there is a solution, 10,000 tonnes per day will be vented.

***Eight million tonnes per annum (Mtpa) will be mined, four Mtpa will be washed away, where is it going to go?***
It will go back into the pit. This will change the final landform, which will be considered as part of the Environmental Impact Statement (EIS) studies.

***So this (rehabilitated soil) will be dead soil?***
The topsoil will be stockpiled and treated as a precious commodity.

***What about the microorganisms in the soil, will they stay here?***
How to achieve this is also part of the studies. We will look at slope angles, nutrient content etc. to ensure we achieve the best outcomes.

***Do you have an Australian advising you? Can you point to an Australian example where rehabilitation has been done successfully?***
We have a number of people advising us. Yes, there are examples in Australia, Europe and in the US. But we can't give you an example of successful rehabilitation of these exact eight soil types which have been found to exist (through our site surveys) on this site. We'd all like to increase our understanding in this area and further work is needed. We expect that the government's strategic cropping land policy will set criteria for the return of soil.

***You mentioned a major consideration was trucks and buses; already Toowoomba infrastructure is failing, what do you mean by major consideration? You're talking 50 to 60 trucks daily plus all the workers. I wonder how much of this traffic our roads can take. Is this covered in the EIS?***
Yes, we conduct background studies where we model the traffic movements needed to move the product and the workforce. There are obvious impacts to the network and we would consider an infrastructure fund or contribution (as required by government) and then determine what we want to contribute as a good corporate citizen.

***This is an ongoing project, 35 years is a lot of time to impact road infrastructure. How can we be sure Toowoomba has a commitment over a long period of time?***
Comment by Mines and Energy representative (Department of Employment, Economic Development and Innovation): There is provision under the Mineral Resources Act for a percentage of mining royalties per tonnage to be paid to the local council.

***You say 1,170 jobs will be created over two years, the next figure was 530 in the Darling Downs area? Can you clarify how many jobs will be created?***
During the two year construction phase, the average number of workers is 1,170. This increases to 1,880 during peak construction. The 530 figure relates to the permanent jobs needed to operate the facility and the mine. These are direct jobs, there will be a number of indirect employment opportunities also created by the project.

***Do your mining leases go from Warwick to Pittsworth?***
Ambre Energy holds 840km$^2$ of exploration tenements in Queensland, located roughly between Millmerran, Pittsworth and Warwick. These are public record and can be verified through government web sites.

***How many mines will you have and what are your plans for expansion?***
One and none. As part of the obligation to hold an Exploration Permit for Coal or EPC, we must maintain an active drilling program.

***Will there be other mines in this area as a result of this?***
I can't tell you what the future holds. There is coal in the basin extending from the NSW border west to Wandoan and up to Taroom. Each project would be assessed on its merits by the proponents and government.

***You said there are 530 ongoing jobs in the Darling Downs but 1,600 in total. Where are the other jobs located and what types of jobs will they be?***
Around 1,600 jobs will created Australia-wide to meet the project's ongoing needs. This is a large operation requiring a lot of suppliers. We will need suppliers of materials for the larger project components – such as the gasifier and the air separator. Many of the larger specialised components are likely to come from overseas, but there are all sorts of businesses we also need to use. We will need heavy earthmoving equipment (trucks and excavators) that will come from across the country.

***22ML is Toowoomba's daily consumption and is an enormous daily requirement. The cost of this project for water alone will be enormous and there must be a tipping point? (Taking water from Greater Brisbane in times of drought is not feasible). Add the cost of the pipelines and the carbon tax that's just around the corner, when does this project become uneconomic? At what price per barrel (of oil) will this fall over?***

The project will need large quantities of water and there is nowhere near enough local water to satisfy our needs. We would need to bring water in from outside, we are investigating a number of options, including:

- build a pipeline and pipe waste water from the south east Queensland water grid and up the range, in which case we would build a bigger pipe than we would need to bring more water to the region for other purposes
- purified recycled water is another option (recycled water used at the Bundamba Advanced Water Treatment Plant is Class A or better)
- coal seam gas (CSG) water. All options are being considered.

Yes, we have done substantial modelling and water will be expensive and we would need to secure a reliable source of water for the entire life of the project. We will reassess all costs, including the costs involved with piping water 130km (up the Toowoomba Range), when we start to raise the full amount of capital needed for the project.

***Are all $CO_2$ inputs being considered? Recycled water has a huge $CO_2$ input (and outputs from trucks).***

Yes. We are required to determine our overall carbon emissions footprint, which includes looking at the trucks used to mine the coal, the CTL process itself, fuel in the cars of end users and the emissions from the water treatment plant – it's a 'cradle to grave' assessment. Determining the carbon footprint in this way is now standard in most EIS processes.

***I take exception to an earlier comment (from a government representative) regarding infrastructure contributions. I don't know of any community that isn't screaming at the mining companies to finance the infrastructure they damage throughout the life of projects.***

Some government programs, such as the Western Australian Government's Royalties for Regions program, are proving very effective. It's not justifiable for large companies to use infrastructure without paying compensation and contributing to upgrades. Where large projects (with significant road use requirements) are involved, it does reach a tipping point for government where there is greater justification for major upgrades, such as another Toowoomba Range crossing or increasing the capacity of the rail network, which is already under stress.

***Will this project be covered by the Petroleum and Gas Act or the Mineral Resources Act?***

(DEEDI representative) The Mineral Resources Act applies when tonnage is over a certain level. This project is likely to be subject to the provisions of the Petroleum and Gas Act and the Mineral Resources Act, and a Petroleum Facility Licence (relating to the distillation, processing, refining, storage and transport of petroleum) would be needed.

***How do you get the local investment figure ($10 million to date)?***

Our accounting systems have tracked what we have contributed to local businesses and the community so far; we use local drilling contractors, local earthmoving firms, we have upgraded the house and property we own at Felton to improve safety, we have invested in moving containers that store coal, sponsorship and community events, purchased one 96ha property at market value and paid option fees on a number of properties.

***Tell us about the solid waste (the Initial Advice Statement refers to 35% ash), will you put it back in the pit?***

Yes, it is returned back to the mine, which is not unlike a coal-fired power station. Through coal gasification testing at the University of Aachen in Germany and the leachate work we're currently going under laboratory conditions, we are in the process of understanding what comprises these materials and how they behave.

***So if there are one or two nasties, I get the sense that they will be dumped in a recharge area at the base of Hodgson Creek, which will impact the underground aquifers.***
We have taken a number of samples of the overburden and interburden (material above the coal seam and between the layers) and we are conducting kinetic leach at the moment. This involves trickling water over the samples for six to eight months so we can see exactly what is in the material and how these chemicals behave. There will be a tailings dam lined with an impermeable layer of material to prevent leaching.

***Where is the water used to wash the coal going?***
Water is used to wash the clay and other materials from the coal; this will go into the tailings dam which will be lined with a bentonite clay or synthetic material. Tailings dams are commonly used in mining operations and the technology and materials used continue to improve.

***Do you know of any other projects like this?***
There are none in Australia but many in China and the US.

***Will there be any interaction with Hodgson Creek?***
We need the results of hydrology studies to determine and prevent any interaction with Hodgson Creek; it's too early to say. Current indications are that because the coal has been eroded away on the eastern side, there will be no interaction.

***You can't be confident the tailings dam won't overflow or leak, what measures are being put in place to restrict the ability of tailings dams to leak? There is greater climate change and a likelihood of rain. What if Hodgson Creek floods, won't it take some of the chemicals back into it?***
Tailings dams in Queensland are highly regulated to prevent this. The tragedy in Hungary which has just happened would be on everyone's mind and is not something that would happen here due to our planning and construction (reference to a burst tailings dam in a Hungarian alumina plant that resulted in injury and loss of life).

In relation to rain events, we have factored in a one in a 100 year flood into our planning. This would be an extreme weather event. This area is one of the most highly studied in Queensland, we have information on rainfall and wind patterns and will build additional capacity into the dam. Wivenhoe for example is at 100%, but can take double the water. It will be the same here. We would make the cut off mark for inflow well below what the dam can contain.

***There was a CTL project up in Rockhampton about 10 years ago which failed, is there a comparison to be drawn?***
We understand the project was under-developed, we are using technologies that have been developed to achieve commercial-scale operation. At this project, it was the level of emissions that triggered the Environmental Protection Act and the project was shut down.

***Smell was an issue there, will it be one here too?***
This was not a gasification project, it was a retorting project, which involved heating the shale rock to high temperatures to extract oil. We will carefully model and monitor emissions from the facility so we know what is coming out.

***What measures will you have to reduce dust? Here at Felton, we have small productive cropping areas and restrictions on the chemicals we can use. Will there be any such restrictions on the chemicals at the mine?***
We understand the issue and know that farmers need to sign statutory declarations on spraying and irrigation, but there is a history of mining and agriculture co-existing in other parts of the state.

***But we have small crops going directly to markets in South East Queensland, we are not large crop producers.***
This is a mining operation, there will be large machinery onsite and we will be blasting. Dust doesn't stop at the boundary. We will do a model to determine the likely spread of dust that takes into considerations the types of vehicles and mining equipment used, truck movements and prevailing south westerly and north easterly wind movements. There are some natural barriers on site (i.e. hills) that will restrict the height and distance dust will travel, all scenarios will need to be modelled. We will also study what's in the

dust, whether it will settle in tanks and how farmers can confidently contend their crops are safe. We are aware of these issues and they will be part of the studies undertaken.

***Isn't dust controlled by the environmental protection authority?***
We will endeavour to have someone from the Department of Environment and Resource Management at the next round of consultation sessions, to outline government's requirements.

***If you use CSG water, would you use it as is with all the salt?***
We would treat the water, we wouldn't bring highly salted water into the area.

***People at (named two local mining operations) had coal dust in their water, will we have the same issue?***
The issue on acceptable emissions is one for DERM, I can't comment on other operations. There are a number of technologies in use worldwide to control dust, including compounds that bond dust together and contain plumes. Dust modelling is part of the EIS and we need to look specifically at this site.

***When you dig a big hole, will the water go back into it and have you plotted what will happen?***
Hydrological studies are an important part of the EIS. Our site plan will be informed by a hydrocensus which will start shortly, where we will talk with all landholders on the site and within a few kilometres of it, to determine their water use and the location of their water sources, Matt Adams from Ambre Energy will be talking to landholders shortly.

***What will the quality of the wastewater be and can we use it after it's been used for mining operations?***
It will contain materials or chemicals that were there when we brought it out of the ground. This is designed as a zero liquids discharge facility, which means the water we bring in is either used, recycled or lost through evaporation (through the cooling towers and tailings dam), we will get a full chemical composition of this water. There is only a minimal amount left over.

***There are similar projects in the US where they use fraccing to open the ground, installed explosive that resulted in chemicals runoff into the water. Isn't there a risk of explosion of other catastrophes?***
We won't be using fraccing to open up the ground, this is used in CSG projects. There are three types of gasification activities:

4. CSG - extraction involves dewatering deep underground coal seams to release the gas which is compressed and transported for direct use, or for liquefaction and export
5. underground coal gasification (UCG) – which produces a syngas by igniting the coal underground and piping the gas to the surface. This coal doesn't come out of the ground
6. aboveground gasification – as will be used in the ambreCTL process. This involves a standard open cut mine (there are 54 in Queensland), we wash the coal and transport it to a gasification facility where it is converted to liquid fuels. This process is contained in aboveground gasifiers (tanks).

***It would be nice to read a plain English brochure or some material on coal gasification.***
There is literature available from The Gasification Technologies Council (www.gasification.org) which explains the process. The ExxonMobil and TransGas websites also contain useful information on the process. Methanol plants are of a similar appearance to the gasification facility.

***When you leave in 30 to 40 years time, what happens to the tailings dam?***
A cap is placed on top of it. What we put into the tailings dam doesn't have to be in a liquid form, we can use material from around the site that it less likely to leach.

***But what if it leaks?***
In Queensland, tailings dams are incredibly highly regulated to prevent this. Tailings dams would be engineered to prevent leaking.

***Is it common for industry to monitor tailings dams throughout the life of the project?***
Yes, we ensure what's in it is well understood, we monitor the behaviour of the materials and chemicals and we monitor the tailings dam's capacity.

***What level of royalties will you be paying to the Queensland Government and will revenue be going back to this area?***
Royalty payments are an issue between the government and the company. Royalties payable on the amount of coal is one economic return to governments, others include company taxes, stamp duties, payroll taxes, rates. Royalties is a sizeable issue.

On the whole, the Queensland Government receives royalties from coal across the state. In some cases, the landholder may be entitled to royalties, depending whether the freehold title was held pre March 1910; if it has continued it's possible that royalties will go back to the landholder. There are many parcels of land involved and each one needs to be considered individually. Our legal advice states that royalties will be paid to the government. You need to look at the history and see how each title deed has changed through the years. The information is in the title deed.

Government is paid royalty rights per tonne and the proposed resource rent tax may change royalties to be a profit-based arrangement. Royalties contribute a relatively small amount overall, but no value can be realised until the coal is mined.

***Unless the project couldn't be done anywhere else, I understand an open-cut coal mine wouldn't happen under the strategic cropping land policy. How confident are you that the project will go ahead given that the area is over a strategic cropping land?***
We can't have any level of confidence without knowing the criteria for 'strategic cropping land' and guidelines for development assessment, which have yet to be released by the government. Most of the best land is down near Hodgson Creek. We need to consider where the mine sits in relation to the soil types we have identified onsite. We don't know whether certain small pockets of land will be covered by this policy; all we have is a soil study and suitability classes of land.

Some of the best land is characterised by higher hills and slope angles which make it more difficult to sustain cropping. The green areas shown in the Queensland Government's 'trigger maps' for the policy are high level and not an indicator of strategic cropping land. They fall over roads, mines and tailings dams.

In soil surveys, soils are normally mapped at an approximate scale of 1:25,000, our survey was done to a 1:15,000.

Acronyms

| | |
|---|---|
| CCS | Carbon Capture and Storage |
| CSG | coal seam gas |
| CTL | coal-to-liquids |
| DERM | Queensland Department of Environment and Resource Management |
| EIS | Environmental Impact Statement, which comprises studies as part of an environmental impact assessment process required by government |
| EPC | Exploration Permit for Coal |
| Mtpa | million tonnes per annum |
| UCG | underground coal gasification |

## Community information session meeting notes

## Toowoomba

## Thursday 7 October 6.30 – 9.00pm

| | |
|---|---|
| **Location:** | The Moat House, Toowoomba Showgrounds<br>Glenvale Road |
| **Ambre Energy:** | Neil McGregor, General Manager Business Development and Marketing (Presenter)<br>Matt Adams, Manager Business Development |
| **JTA:** | Brad Perry, Facilitator<br>Liz Edwards, Project Manager<br>Cate Mansfield, Project Support |

About 20 people attended the evening Toowoomba community information session. It comprised a formal presentation from Ambre Energy with questions taken from the floor at the end.

The purpose of these meeting notes is to reflect the questions asked and answers provided during the evening ambreCTL community information session in Toowoomba. The session was not audio recorded by JTA Australia. The notes are based on a written record of the questions raised and include some paraphrasing; every attempt has been made to preserve the integrity of discussions. Where the same or a similar question has been asked in other sessions, the most complete answer has been provided.

**Questions:**

***Can you give us the full story about $CO_2$, your slide said CC and storage, could you please explain?***
We will produce 10,000 tonnes per day at the facility. As a part of this process between the syngas and methanol production stages we remove sulphur and $CO_2$. The sulphur is converted to a product, i.e. elemental sulphur and sold for use as a fertiliser. The $CO_2$ is vented.

Carbon Capture and Storage (CCS) is a well established industry term. 'Capture' refers to the capture within the stream and is the language commonly used when talking about sequestration and geotechnologies. There are potential uses for $CO_2$ which we are exploring, such as pumping it into depleted oilfields for use in enhanced oil recovery. We have met with a US company called Denbury Resources which buys depleted oil wells and uses $CO_2$ to extract oil that hasn't been removed by conventional methods. The Queensland Government is conducting trials to soak up $CO_2$ emissions using algae, but these trials are not at a stage yet where they can handle commercial-scale emissions. We are working to find a solution for $CO_2$, if we had an opportunity to sequester it for future use then we would.

***You're venting 10,000 tonnes per day? You've said you'll vent the $CO_2$ and given that you'll be producing approximately three times as much $CO_2$ than petrol, petrol is really the by-product? How can you assume the bank would lend you money on this?***
The $CO_2$ footprint will be well modelled and considered, and it's your opinion as to whether it's a by-product or not. Fuel is our product.

***Ten thousand tonnes per day or 4.2 million tonnes per year (Mtpa) is up there with an aluminum smelter. This is 2% of all Queensland's greenhouse gas emissions. How many wind turbines and solar panels will you install to counteract these emissions?***
This is a fairly small site, it could not generate a comparable amount of energy through wind and solar. We may move around in the future by electric cars but we don't know. This is an interim step in moving towards the future.

***What do you mean by interim step?***
We're talking about a cleaner use of coal compared with traditional uses. It is interim while oil supplies are declining (i.e. you can look at the recent disaster in the Gulf of Mexico and see the wide-ranging impacts that events like this can have on fuel supplies and costs).

***As an interim step, this is not environmentally friendly as it is still a fossil fuel. So it's interim not transitional?***
Yes.

***This will be a huge contribution to Queensland's greenhouse gas emissions without a considerable offset program. If there was a transitional element to this, you could talk about wind farms or solar panels – that's transitional.***
We are not against renewable energy sources and are pursuing some alternative energy sources (i.e. solar) to provide some of our onsite energy requirements. If you compare the number of wind turbines and the space you would need with the energy we will produce from a 500 million tonne resource you would clearly need an enormous site area. Renewable energy will not provide the same scale of energy we can produce through coal-to-liquids conversion.

***Looking at your system, I can't believe it won't emit sulphur dioxide and nitrous oxide, both of which have significant health impacts.***
The process takes place in an enclosed facility. Particulates, such as sulphur oxides and nitrogen oxides are removed as part of the process. We can confirm this through standard knowledge of the gasification process and the significant gasification testing conducted in Germany as part of this project.
The EIS studies will consider $CO_2$ capture, emissions from the power plant and odours, and will propose mitigation measures. We have a good feel for CTL facility emissions based on experiences world-wide.

***You're obviously very aware of the $CO_2$ produced, at what carbon price does this become uneconomically viable?***
We model a range of figures, i.e. $20, $30, $50 per tonne plus we factor in the price of oil, the price of water, the implications of the resource rent tax and a number of other potential costs. We are comfortable with our assumptions at this point in the process.

***You haven't answered the questions you can talk about variables but what carbon price is going to stop this project?***
That's commercial-in-confidence information I will not provide, it's a matter for the company.

***Your company also has a history of proving up coal and selling it later on. You seem to have a good model for doing it again. What guarantee do we have another company will continue with this gasification project?***
Selling is not our intention. The conditions attached to project approvals stay in place irrespective of the owner, as they relate to the project. Another company couldn't come in and do it differently, they couldn't get it off the ground.

***The open-cut coal mine and coal washing area is a simple coal export plant. I can't imagine another player would need to do another EIS to convert it to a straight coal export site and skip the whole gasification business. Putting a CTL label on a project gives it a bonus to get it through.***
Producing 22% of Queensland's unleaded fuel locally should be attractive to government. There is always the possibility that another company would buy this but selling is not our intention.

***This 1,000 tonnes you talk about being sent to China for testing, was it taken from Felton because I missed the explosions and the dust? You told us that it was the only coal suitable for gasification?***
We don't have to have coal from the Felton site to do this particular testing. We have done a characterised chemical analysis of the Felton coal and need to know it will be suitable. There are seams that run over vast distances in this region and the coal we are testing has almost identical specifications to the coal at Felton.

***Can you tell us where it has come from?***
Unfortunately I can't.

***You've provided some impressive figures in terms of jobs and revenue, but did they take into account the loss of jobs and farming revenue for the area?***
There are 14 landholders (including Ambre Energy) within the site. The size and scale of the project may impact the productivity of the land, and all impacts will be extensively modelled. It is an early assumption to make that we would be displacing a huge number of affected landholders. The net job losses will be addressed as part of a social impact assessment plan, which is a formal government requirement.

***What will the buffer be, it should be 500 metres.***
We need to know noise, dust, light and visual impacts before we can determine a buffer. We do recognise that farmers need to sign statutory declarations on spraying, fertilisers and irrigation, and that there is wonderful land near the site that needs to be kept under production.

***Can you just explain what it is that you're hoping to get at the end of this project, a mining lease?***
We would be hoping to have the environmental approvals for the project; mining leases are also required but they fall under a different act (the Mineral Resources Act). Mining leases would give us the authority to conduct mining activity onsite.

***Is a mining lease a tradeable commodity?***
Is does increase the value of the site.

***There is a long history of leases, people have been talking about mining coal in Felton since the 1970s. If it is only five metres down, why hasn't the coal been mined before?***
We have an Exploration Permit for Coal or EPC, which gives us the opportunity to drill for minerals. There is a Mineral Development Licence to the south of our site which has not yet been developed. There is some magnificent coal in the area, but it has limitations – if you can't get it down the range, to a port, or through suburbs because of competing needs, then that coal resource is not realised. Our project is highly self-sufficient, we will be converting it to fuel onsite and upgrading the value of the resource.

***In terms of getting through the approvals, it was much easier to get it in the 1970s. If the whole area was drilled 30 years ago, why hasn't it been exported? We had a mine in Millmerran in 1994, why wasn't this site mined then?***
I expect many people in the room would know why it wasn't mined. The site was drilled by Amax; Millmerran was chosen as a site for a power station. In the Pittsworth Planning Scheme MDL 304 has been identified as a major coal resource. This may be devalued by the strategic cropping land policy, I can't tell you that. As long as it sits there, there will be changes in its value. As mentioned, exporting may have been impacted by access to markets (New Hope has been exporting for a number of years); the Port of Brisbane is almost at capacity. Millmerran represents another use of coal for energy generation.

***You're telling me tonight that this mine in Felton is suitable to be exported? We were told that this is a type of coal only used for this gasification process. Why is it now coming out that it is 'suitable for export' and it may be sent overseas?***
The coal in MDL304 could be considered export quality. Our site contains coal with a reasonably high ash content. It is ideally suited to gasification.

***Your intention is not to export it, but somebody else could come in and export it.***
Within our project site, we have coal suitable for gasification. We have one aim, that's to gasify it and produce fuel. Other potential uses are not relevant would need to overcome hurdles to market.

***The 50 to 60 trucks a day figure, is that both going out and coming back?***
This is the number of trucks leaving the site with product.

***Before this goes any further, you really need to do something about transport. The increased traffic in Toowoomba will be detrimental to people's health, there will be noise and the existing roads will be ripped up. It can't go through James Street, there are already health issues for people living there and the rail is also impacting the area. All this money coming out and very little is coming back in. You need to do something about it now not once it's started, by then it's too late.***
We do need to work out suitable road infrastructure contributions, as we would if we were subdividing land. We will look at existing traffic volumes and model what we're going to add to them. All truck movements will not be down the range, the direction they take will depend on where the market is. Cumulative impacts will be considered and we will need to contribute to upgrade state and local government-controlled roads. We can study the impacts, but we may not fix all current bottlenecks - there may be a critical point where suddenly this project provides the necessary justification for government to bring a major road upgrading project forward.

***You start with six trucks, before you know it you've got 160 trucks and the roads just can't take it. You can't hear on James Street because of the noise.***
Part of our allocation may go towards improving this part of the network, I have no final answer at this stage.

Comment: Some people in Toowoomba might think this is an advantage in terms of the Range Road. I understand that in Sydney and in the Clem 7, trucks carrying toxic goods aren't allowed in tunnels and given that the Range Road consists of a long tunnel, many of your trucks would still be going down James Street.

***Water is a requirement for washing coal. Do you know what the capacity of the wastewater plant in Toowoomba actually is? There are other requirements of it as well.***
Yes there are other allocations and the figures are available. Government is doing future growth projections, and we wouldn't get the water if there was not enough for residents. We're mindful of wastewater issues, Toowoomba voted against taking it. The pipeline from Wivenhoe to Cressbrook Dam has increased Toowoomba's water security but there are still supply issues.

Comment: It does have other uses, farmers downstream have lost out.

***Is there enough water (22ML of water a day) available from the SEQ water grid to support your project or not? The waste water isn't going to be available forever. As soon as there is a drought, this water will go straight to the dams and reservoirs in cities not to coal mines.***
We would look to put a long-term water supply agreement in place. This water is not being used and it's not being paid for.

***It's all part of a network built as an integrated long-term water supply for South East Queensland, the wastewater plants were developed to aid cities in times of drought.***
We'll leave that to the grid managers to assess. They wouldn't enter into a long-term supply contract if they couldn't provide the water. We are looking at a number of options for the supply of water:

- build a pipeline and pipe waste water from the south east Queensland water grid and up the range
- purified recycled water and
- coal seam gas (CSG) water.

Extensive discussions are still to take place, but our base case is waste water from the grid.

***What happens when this water is unavailable? The project won't go ahead.***
If we can't get 22ML guaranteed supply, we won't be able to raise the capital.

***You're going into the EIS without the answers – it's not a planning process, it's an approval process.***
We do need to consider the costs of the pipeline corridor; this is a business decision, separate to the EIS.

***What affects will your open-cut coal project have on shallow aquifers?***
There are 35 water monitors in place now which are gathering data to inform development of a 3D model, From the 3D model, we will be able to develop a complex plan which shows water pressures and detects whether there will be a slight fluctuation downstream from the mine from place to place, so we can monitor this. This will enable us to match up water bore logs and mine planning. We are also about to embark on a hydrocensus of landholders within the site, 5km to the east and west and 2km to the north and south, to determine their water needs, sources and usage; we will have a good understanding of water in the existing area. Our drilling hasn't come across extensive water.

***Are you able to rehabilitate the land you're going to mine?***
A fact sheet on rehabilitation has been provided in the information packs. We have been researching rehabilitation around the world and it has been done quite successfully in other parts of Australia, Europe and in the US. But we can't give you an example of successful rehabilitation of these exact eight soil types which have been found to exist (through our site surveys) on this site. We'd all like to increase our understanding in this area and further work is needed.

***So doesn't it make it harder if you've got eight different soil types, how are you going to keep them separate?***
The different types of soil will be factored in to the rehabilitation plan. We have some very experienced experts here and in the US who are working with us on this, the issues will be addressed.

***What happens to the wastewater you use to wash coal and the wastewater the project will produce?***
After coal washing, this water will be put into a tailings dam; the dam is dewatered to remove the water for reuse and produce a reasonably solid waste product. There will be a water storage area near the gasifiers and a tailings dam. This is designed as a zero liquids discharge facility, which means the water we bring in is either used, recycled or lost through evaporation (through the cooling towers and tailings dam). There are tailings dams all over Queensland, lined with impermeable liners to prevent leaching.

***No-one has mentioned dust. You're going to be blasting, you will have trucks running around, you'll be mining and crushing coal, and there will be huge amounts of dust. How are you going to control this?***
There are a number of technologies in use worldwide to control dust, including compounds that bond dust together and contain plumes. There will be large machinery operating and yes, this will create dust. We also need to consider wind speeds and direction, which we need to include in EIS studies. We will model a particular amount of dust sent up to a certain height to see how far it could travel under various conditions. We will also study what's in the dust, whether it will settle in tanks and how farmers can confidently contend their crops are safe. We are aware of these issues and they will be part of the studies undertaken. Dust has been studied in mines all over the state and the country and we need to know what impacts it has when it settles.

***When will we be told the results of this (coal dust) analysis?***
In the next round of community information sessions we will bring specialists who can talk about hydrology, dust and other issues. We are at an early stage in the process, everything interacts with everything else – we will provide information when we can.

***Why don't we know how dangerous it is, you haven't been able to tell us much.***
This is the fifth of three to four hour sessions and the answers have been consistent. They reflect the stage we're at in the process. We would sincerely love to give you definitive statements but we can't, there are comprehensive studies required first.

***You mentioned earlier about water storage. Hodgson Creek flows into the Condamine, and from the Condamine into the Murray Darling. Restrictions were placed a few years ago on ring tanks. I would be interested in why overland flow harvesting would be allowed for mining but not for food production activities?***
The water storages will be designed by a geophysical specialist to provide a structure capable of accommodating a 1:100 year flood event; this is used in planning processes all over the world. Water storage dams will be required to supplement water needs and control overland flow. Some legislation does allow mining companies to conduct certain activities, i.e. tree clearing, water harvesting, that

farmers cannot. The economic benefits to the state are deemed significant enough to permit these activities.

***Will the dam be like the one that busted overseas (reference to a burst tailings dam in a Hungarian alumina plant that resulted in injury and loss of life)?***
We will be using quite a different product and the dam will be designed to ensure that doesn't happen. It is difficult to comment without knowing the regulations controlling storage dams in Hungary.

***It's not just your project, government allows water harvesting for mining but not for food production. Mining is no good if there's nothing to eat.***
Government is trying to address issues like this through the strategic cropping policy. Mining may seem like it covers much of the state as it's so visible, but in reality, it covers only 0.1% of the state.

***Please tell us about the solid waste from your place, we understand from the IAS (initial advice statement) that there will be 35% ash content as solid waste?***
The leftover material is put back into the pit. Determining the impacts is part of the reason we sent coal to China for testing.

***The pit will be in a basalt recharge area for Hodgson Creek. Surely there would be serious concerns about dumping toxins in an area with underground aquifers?***
We undertake extensive geochemistry analysis of interburden and overburden. We have a lot of samples now that are leaching constantly in a controlled laboratory environment; from this testing, we will have a good idea and understanding of the chemicals coming out of the site material. We need to understand the composition of the coal and consider how to line the pit – i.e. look at the process end to end.

***So what happens if you line your pits according to best practice (whatever that is), and 50 years after you're gone, the lining crumples and toxins run into the Murray Darling?***
We need to know whether and what toxins are in there before we make assumptions.

Comment: You need to have the capacity to offset impacts if they are not managed well. You need to pay a security deposit to cover cost of a burst dam; Queensland has $4 billion in liability for mines around the state and $1 billion in security deposits. Hardly a mine site in Queensland has not been signed off by government as being properly rehabilitated, so there is a lot of justified cynicism.

***I get the impression that a lot of your information is about the average coal mine but we're talking about an industrial coal processing plant. How is your waste going to be different from that of a straight coal mine and what are the risks, how will they be managed? What toxins are going back in the ground? The risk of an environmental disaster is just too big a risk on too many counts.***
Through the gasification process, wastes are mostly burnt off; the waste water which comes out of the process is treated and returned to the process through recycling.

If we take the emotion and assumptions out of that question, then it's one of identifying and managing risks (the basis of the EIS process).

***But this is where the EIS process fails – it's about mitigating and managing risk which we don't want in the first place.***
Your assumption is that there are toxic materials going back into the pit; and that toxins will be near and could impact Hodgson Creek.

***The EIS is really a best case scenario – I want to see a worst case scenario EIS in terms of economics and water, because there are too many risks even with what we have talked about today. What happens if, down the track, the mining lease gets approved and the water runs out? The government compensates you and there will just be a factory and an open-cut coal mine sitting there.***
All risks are considered and modelled extensively as part of the EIS and we wouldn't expect that government would renege on a water supply arrangement. We wouldn't proceed without securing a reliable water source. As part of the process, we develop a decommissioning plan, which covers closing the project, closing the pit. This is an EIS requirement.

***There are mineral leases in any other areas in Queensland, there are too many issues here so you should just get out.***
You could look at any project – from a CSG project to a shopping centre development, none are without issues. A significant portion of Queensland (about 80%) is covered by exploration permits. We have 840km$^2$ of exploration permits throughout this region. The coal at the Felton site is suitable for gasification, we have a project proposal before the Queensland Government and we will keep working through the issues. We will keep turning up at events like these to hear your concerns, we are tenacious and determined.

***The people at Felton don't seem to be happy with your answers.***
Through the process we hope that people will feel they have received adequate information and that we feel we're provided them opportunities to contribute. There is a divide now and we hope that we reach a point where this changes.

***But you've got 530 people who have to eat and if you put a great big hole in the middle of food production area, how will they be able to eat?***
There is not that much food being produced from this site and we all have to eat. Mining and agriculture can co-exist.

***If the project goes ahead (covering the map shown), the whole of the eastern Downs is under threat - and this is the dress ring of food production.***
Our company is solely focused on ambreCTL, I can't comment on other companies' activities or intentions.

***You said you'd got the coal that you tested (3,000 tonnes) from another area. If so, why would you ruin the Downs?***
I'm not able to comment on where the coal came from, but it has similar properties to the coal at the Felton site.

***If it is as profitable as you think it is, there will undoubtedly be other mines.***
It is difficult for one company to speak on the cumulative effects of potential mining projects. We think (ambreCTL) falls into an area that doesn't involve mining the best Darling Downs land, the project area fortunately does not fall into this category. There are arguments for food security and there are arguments for fuel security. The land we're proposing to mine is not intensively cropped and if we have the opportunity to rehabilitate it, we would hope to return a larger plot of land that can be used for agriculture.

***We won't need the fuel if we haven't got the food will we?***
We have a cyclical problem – the world's getting bigger, hungrier for energy, it needs fuel.

***Are you intending to set up construction camps or will it be a fly-in/fly-out workforce?***
Yes we will need construction camps, there is not enough available accommodation locally.

***You'll have to provide them with all the necessary infrastructure and services?***
Yes, food, fuel, water etc. will need to be supplied. At this stage we doubt the workforce will be accommodated onsite, it could be split up and the accommodation extended to Toowoomba. We will consider the services available in the towns and whether they could support it.

***Your intention will be to put them up in the towns? The people who work at the mines will have more money and will take all the rental places cause locals (people earning $30 or $40,000/year) won't be able to compete. You think you're doing good but you will have negative impacts. People working ordinary jobs (part timers at the piggery of egg farm) will be forced out of town, and local business will struggle, as people are tempted by higher paying jobs at the mines.***
There are two sides to everything and this won't be good for everyone. Chinchilla, Dalby and Roma have had similar experiences from mining and energy developments. We need to look carefully at the social impact on everyday life. The government attached 600 conditions to its approval of Santos' GLNG project (including establishing community consultative committees) relating to social and environmental impacts, which is recognition of the importance these issues have. We are not denying the effects.

***You have to look at the social impact on everyday normal working people who pay up to half their wages in rent now and on those on welfare. The company must have a conscience about those who live there now.***
Not everyone benefits, there are impacts (which we seek to identify and mitigate through the process), which are balanced by knowing that we have provided work and taxes which will go to government and flow back to the community.

***Have you had any thoughts about running a pipeline down to Brisbane to transport the fuel to this market?***
This option will be considered as part of the EIS studies.

Acronyms

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| CCS | Carbon Capture and Storage |
| CSG | coal seam gas |
| CTL | coal-to-liquids |
| EIS | Environmental Impact Statement, which comprises studies as part of an environmental impact assessment process required by government |
| EPC | Exploration Permit for Coal |
| IAS | Initial Advice Statement |
| MDL | Mineral Development Licence |
| Mtpa | million tonnes per annum |