Welcome and introductions

Arrow Energy update

Arrow LNG Plant update

Arrow LNG Plant Environmental Impact Statement (EIS) overview
ARROW ENERGY
CURRENT OPERATIONS

• Commenced gas production in 2004
• 1100 wells – 600 producing
• Providing energy to 400,000 homes

Domestic - Surat Basin
• Tipton
• Daandine
• Kogan
• Stratheden

Domestic - Bowen Basin
• Moranbah Gas Project

Arrow LNG
• Surat Gas Project
• Bowen Gas Project
• Arrow Surat Pipeline
• Arrow Bowen Pipeline
• Arrow LNG Plant

Power supply
• Braemar 1, Braemar 2 (100%), Yabulu, Daandine, Moranbah, Swanbank
Gas Sales: 100% of LNG sold

Reserves: 8000PJ – equal to or greater than other proponents when FID was taken

Budget: $1-Billion approved to spend in 2012

Staffing: Largest single accommodation contract in Brisbane (13 floors) signed in March for 1500 staff by FID. New accommodation for Moranbah and Dalby

EIS Approvals

Arrow Surat Pipeline – approved in 2010

LNG Plant, Surat Gas Project and Bowen Pipeline out for public consultation

Bowen Gas Project – IAS submitted

Land Access: 476 agreements in place; 270 underway in 2012; no cases before Land Court

FEED readiness review underway, LNG Engineering tender end 2012
### ARROW ENERGY

#### EIS APPROVALS – STATUS

<table>
<thead>
<tr>
<th>Proposed Project Timeframes</th>
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<tbody>
<tr>
<td><strong>2011</strong></td>
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<tr>
<td><strong>Arrow Surat Pipeline</strong> – approved</td>
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<tr>
<td><strong>BGP IAS submitted</strong></td>
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- **EIS Submission**
- **EIS consultation**
- **Approval decision expected (2yr approvals)**
## ENVIRONMENTAL IMPACT STATEMENTS
### ARROW LNG PLANT PROJECT

<table>
<thead>
<tr>
<th>EIS</th>
<th>Legislation</th>
<th>Details</th>
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</table>
| LNG Plant          | SDPWO Act (Qld) EPBC Act (Cwlth) | • ToRs finalised Jan 2010  
• Draft EIS submitted to Qld Govt Dec 2011  
• EIS submission period 14 April – 28 May 2012  
• Targeting supplementary report to EIS for submission Q4 2012  
• Qld State approval expected Q1 2013  
• Commonwealth approval expected Q1 2013 |
| Arrow Surat Pipeline | EP Act (Qld) EPBC Act (Cwlth) | • EIS and EA approved by Qld Govt Jan 2010  
• Pipeline licence awarded Feb 2010  
• Commonwealth EPBC approval received April 2010 |
| Arrow Bowen Pipeline | EP Act (Qld) EPBC Act (Cwlth) | • Route selection advanced  
• Draft EIS submitted to Qld Govt Dec 2011  
• EIS submission period 23 March – 24 May 2012  
• Qld Government approval expected Q4 2012/Q1 2013  
• Commonwealth approval expected Q1 2013 |
## ENVIRONMENTAL IMPACT STATEMENTS
### ARROW LNG PLANT PROJECT (CONT)

<table>
<thead>
<tr>
<th>EIS</th>
<th>Legislation</th>
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</table>
| **Surat Gas Project** | EP Act (Qld)                  | • ToRs finalised Sep 2010  
• Draft EIS submitted to Qld Government Dec 2011  
• EIS submission period 16 March – 14 June 2012 |
|                    | EPBC Act (Cwlth)              |                                                                                                                                         |
| **Bowen Gas Project** | EP Act (Qld)                  | • Seasonal ecological surveys commenced Q4 2011  
• EIS planning underway, EIS field surveys commence April 2012  
• ToR for EIS expected June 2012  
• Draft EIS expected to be submitted Q4 2012  
• Qld Government and Commonwealth approval targeted in Q3 2013 |
|                    | EPBC Act (Cwlth)              |                                                                                                                                         |
Phased construction of four trains of up to 18 million tonnes per annum (mtpa) capacity on Curtis Island.

Initial development of two trains of approx. 4 mtpa each

**The project involves:**

- Construction of a gas pipeline to Curtis Island
- Construction of a liquefaction facility where CSG will be converted to Liquefied Natural Gas (LNG) and stored for shipment to growing LNG markets
- Construction of marine facilities on the mainland
- Construction of jetties, offloading facilities and a LNG carrier terminal on Curtis Island
- Localised dredging at marine facilities
Two mainland marine launch site options are being assessed for the transfer of personnel to and from Curtis Island:

- Launch Site 1 – located in the mouth of the Calliope River adjacent to the RG Tanna Coal Terminal
- Launch Site 4N – located on the northern tip of the Western Bay Dredging Reclamation area

Two mainland temporary workers accommodation facility (TWAF) site options are being assessed:

- TWAF 8 – located on Targinie Rd
- TWAF 7 – located adjacent to Gladstone
ARROW LNG PLANT PROJECT UPDATE
BOATSHED POINT

- Preferred option for the Materials Offloading Facility (MOF) and passenger ferry terminal
- The main construction camp with a capacity of 2,500 people will be located on Boatshed Point on Curtis Island
- Peak Construction workforce of 3,500 people
ARROW LNG PLANT TIMELINES

- 2010: QCLNG - FID
- 2011: GLNG - FID, APLNG - FID
- 2012: FEED Engineering complete July 2012
- 2013: ITT issued late Q3/early Q4 2012, FID and EPC Contract Award
- 2014: EPC Contractor employment and contracting opportunities
- 2015: Arrow operational employment commences
- 2016: Maintenance contractor employment and contracting opportunities
- 2017:
- 2018:

Timeline:
- 2010:
  - 2011:
    - 2012:
      - 2013:
        - 2014:
          - 2015:
            - 2016:
              - 2017:
                - 2018:

- Project construction and start up
- Civil Works
- Mechanical Works
- Maintenance Commences
Potential for localised dredging adjacent to Arrow’s Marine facilities additional to the Western Basin Dredging Project.

**Localised dredging at the following locations:**

- Boatshed MOF and passenger ferry terminal on Curtis Island
- North China Bay LNG jetty at Hamilton Point
- Mainland launch site 4N, located on the Western Basin reclamation area
- Mainland launch site 1 in the Calliope River

Total estimated volume is approx 1,000,000m³ (maximum)

Anticipate disposal of dredge spoil in the Western Basin reclamation area
ARROW LNG PLANT
DREDGING – BOATSHED POINT MOF & LNG JETTY

Curtis Island
North China Bay

Boatshed Point
Hamilton Point
ARROW LNG PLANT
DREDGING – CALLIOPE RIVER & LAUNCH SITE 4N

Legend:
- Proposed launch site layout
- Proposed launch site footprint
- Proposed Arrow Energy dredge option
- Shipping channels and dredging
  - Existing channels, swing basins and berths
  - Wiggins Island Coal Terminal
  - Western Basin Dredging and Disposal Project
  - Western Basin Reclamation Area
ARROW LNG PLANT
Geotechnical Investigations

- Arrow is commencing a drilling program in June 2012 with both marine and land based drilling rigs.

- The drilling program will target the soil, rock and sediment located at the mainland launch site, cross harbour tunnel, marine facilities and LNG Plant on Curtis Island.

- The program will assess the following:
  - Geotechnical properties
  - Acid Sulfate Soils (ASS/PSS)
  - Dredge sediment characterisation
ARROW’S KEY COMMITMENTS FROM 2010

- Quality community and stakeholder engagement
- An open and honest dialogue about issues and opportunities with our stakeholders
- Mitigation and management measures in place to address potential impacts
- Recruit locally as a priority
- Actively seek local and Australian industry participation
- Benefits delivered to the community
Questions?