

## ASX ANNOUNCEMENT (ASX: CVN) 13 July 2011

### Phoenix progress report

Dear Shareholder,

As outlined in my letter to Shareholders on 8 July 2011, we plan to provide you with regular progress reports on each of Carnarvon's assets as they reach relevant news worthy junctures.

In that letter I briefly covered the Phoenix asset and said that we intended to provide Shareholders with a separate and more fulsome update shortly. We are now pleased to provide the attached progress report covering the Phoenix asset.

This presentation and further information on the Company are available on Carnarvon Petroleum's website at: [www.carnarvon.com.au](http://www.carnarvon.com.au).

Yours faithfully



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**Managing Director**

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# Phoenix asset – progress report

## July 2011

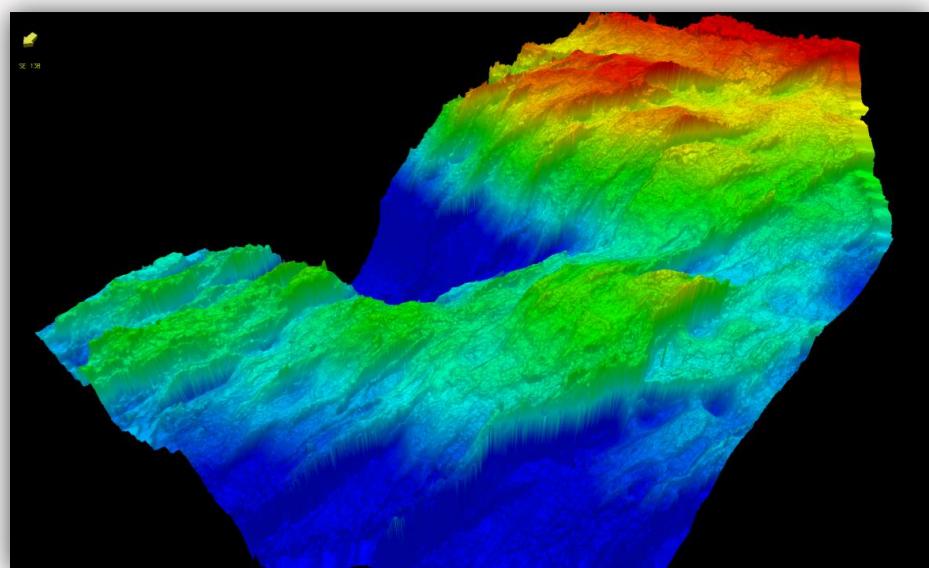
# Overview

# Gas discovered + New 3D data + Strong demand for gas

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The Phoenix asset has the potential to generate material value for shareholders and with a high level of interest in the asset, value realisation may occur sooner than planned.

- This presentation is intended to provide shareholders with a progress report on the “Phoenix” asset, as new 3D seismic data processing nears completion.
- The joint venture acquired a large 3D seismic survey ( $1,100\text{km}^2$ ) over the WA-435-P and WA-436-P Permits, including the Phoenix-1 gas discovery.
- The preliminary 3D data supports several multi Tcf recoverable prospects. Well log data and regional field assessments also suggest potential for condensate.



Preliminary 3D visualisation of the Phoenix 3D seismic survey.  
Base Cossigny Limestone Formation two-way-time surface

The “Phoenix” asset refers to Carnarvon’s 50% interest in the WA-435-P, WA-436-P, WA-437-P and WA-438-P Permits and its 100% interest in the WA-443-P Permit situated off the Western Australian coast, some 150km north of Port Hedland in 140m of water.

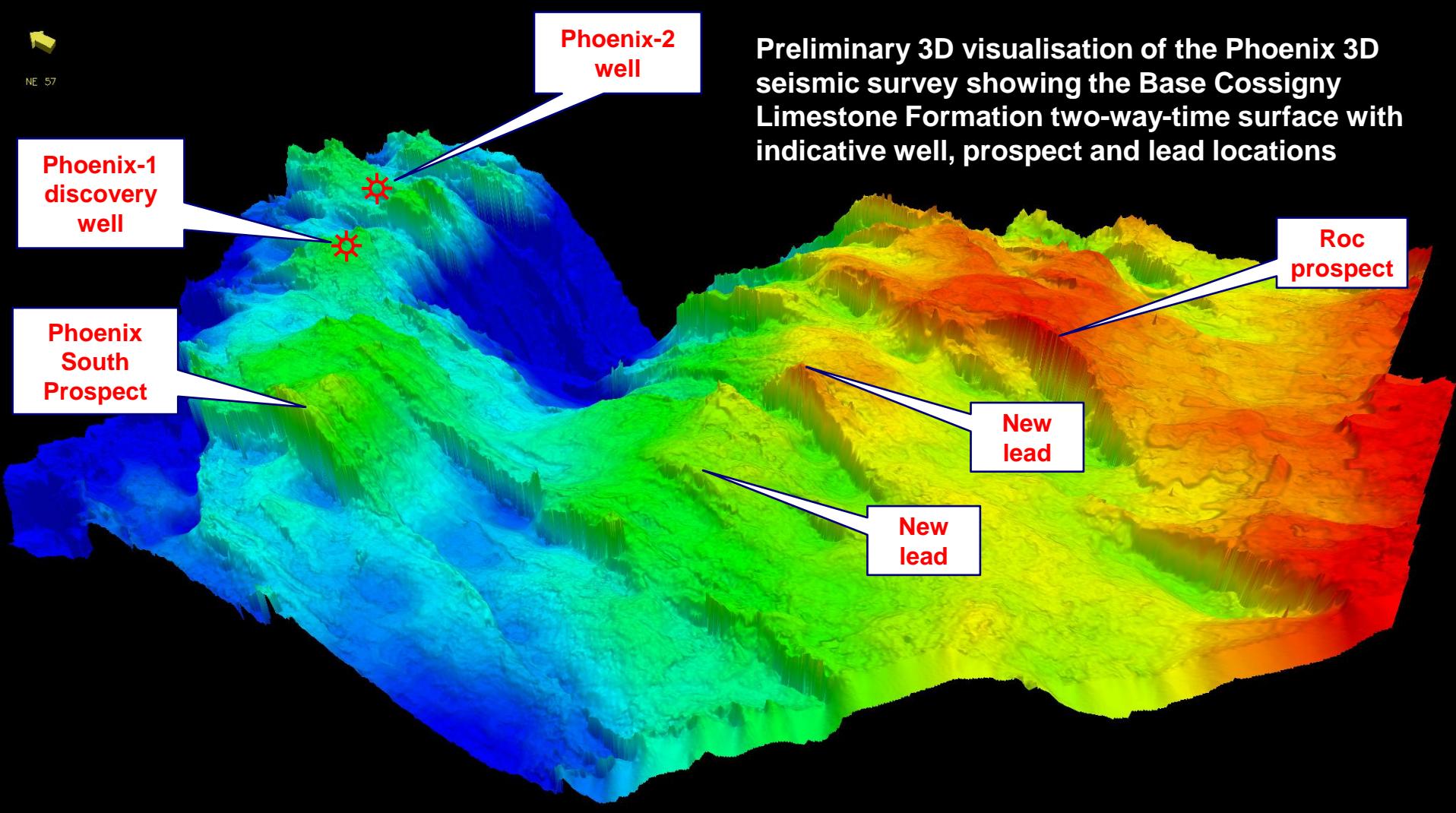
# Technical update – Processing of 3D data

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**Preliminary 3D data supports several multi Tcf prospects with potential for highly valuable condensate.**

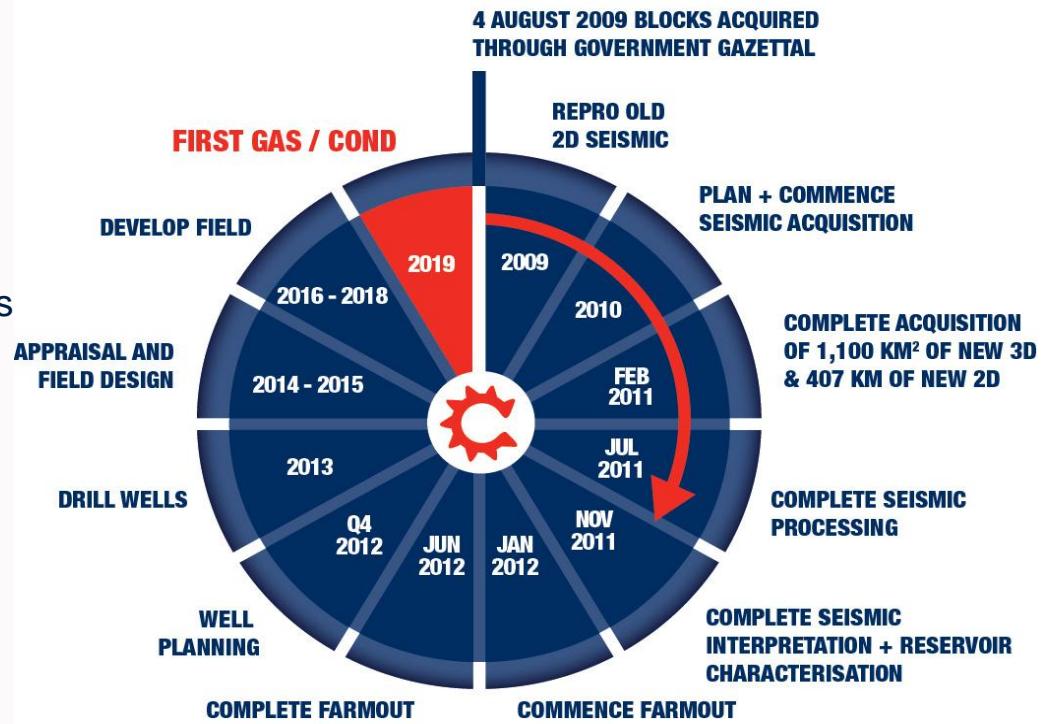
- ❑ Processing of the new 3D seismic data is nearing completion
- ❑ The initial data quality is very good and confirms structures previously identified on 2D seismic
- ❑ The Phoenix-1 gas discovery, by BP in 1980, is clearly delineated by the 3D data.
- ❑ The Phoenix-2 well, that also intersected gas but in a lesser quality reservoir, is also delineated by the 3D data.
- ❑ The Kerauderan-1 well (drilled some 50km to the southeast of the Phoenix wells) intersected thick, high quality sands, but lacked suitable and/or timely structural closure (per BHPP's Well Completion Report (1974)).
- ❑ The joint venture is seeking to confirm new drill prospects by correlating these wells results with:
  - ❑ the new 3D seismic data;
  - ❑ reservoir characterisation, intended to identify reservoir "sweet spots"; and
  - ❑ new 2D seismic data tying in regional wells into the 3D survey;
- ❑ The next stage is to complete the interpretation of the 3D seismic and related data before commencing a farmout process to defray geologic and execution risk.

# First images from the 3D seismic data set



# Clear plan – achievable timeline

- The joint venture is working through a structured program designed to create maximum value at each stage.
- The 3D seismic acquisition and processing are important stages and preliminary results show high quality data that supports the prospects and leads identified on the reprocessed 2D seismic data.
- Oil and gas projects have inherent risk and consequently, the joint venture is working toward farming out a portion of its interest to balance risk and reward for shareholders.



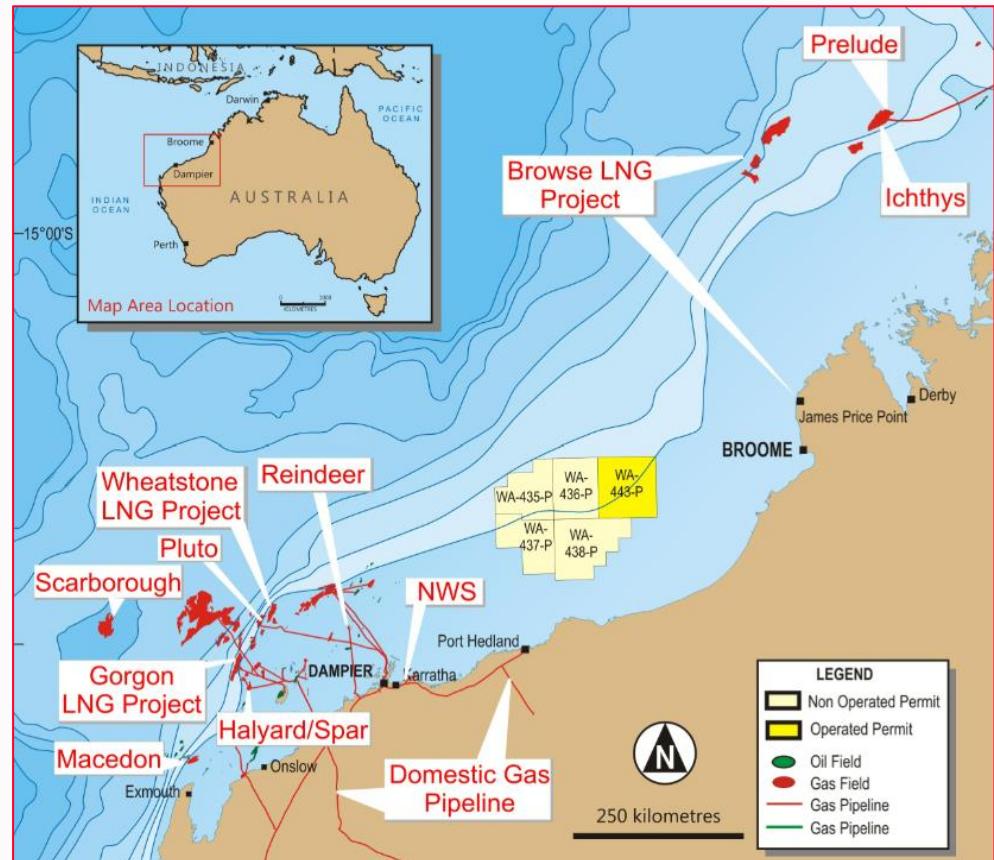
*The time line above is indicative only*

**Strong interest in this asset may result in an acceleration of the farmout and drilling program.**

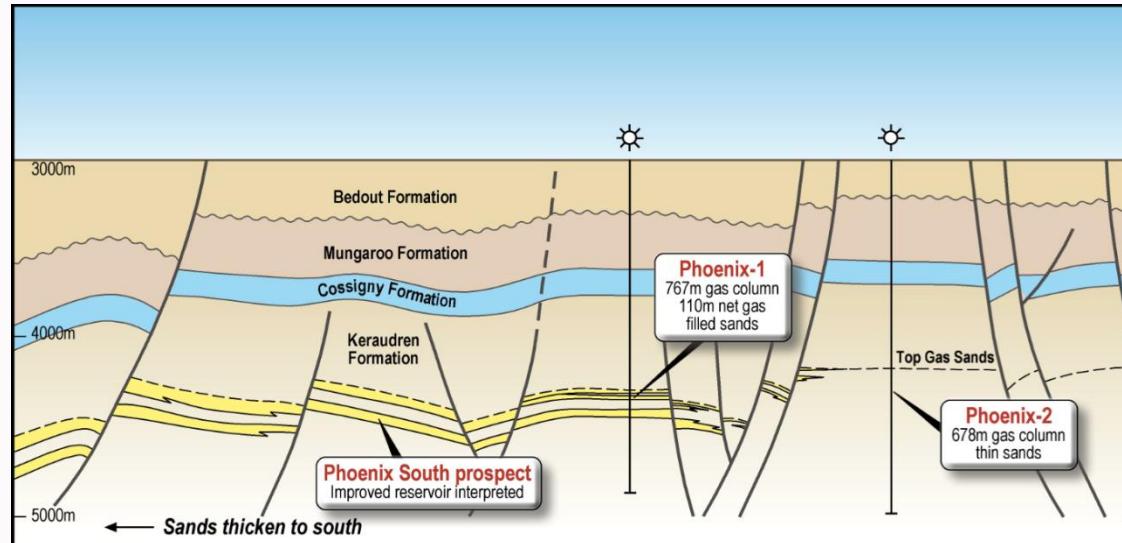
# Context and Background

# Material interests, large acreage, near infrastructure

- Carnarvon holds substantial interests in 5 key Permits covering the Bedout Sub-basin north of Port Hedland.
- The 5 permits cover a significant 28,300km<sup>2</sup> containing existing gas discoveries and a number of prospects and leads derived from reprocessed 2D seismic data and the new 3D seismic data set.
- Drilling success at Phoenix would likely enhance opportunities in the WA-436-P, WA-438-P and WA-443-P Permits.
- Identified prospects and leads have the potential to include material recoverable gas volumes and possible condensate.
- The initial focus will be in the lower risk WA-435-P and WA-437-P Permits containing the discovered gas and the new 3D seismic dataset



# Phoenix-1 well – estimated 110m of net gas pay



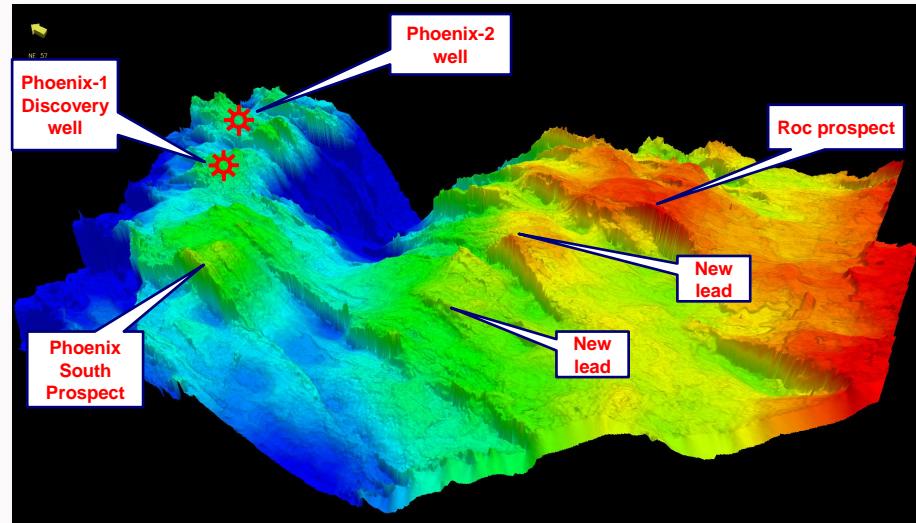
Phoenix-1 well de-risks multi Tcf accumulations, particularly the Phoenix South prospect.

Extracts from BP's Phoenix-1 well Geological Completion Report (July 1980) and Well Evaluation Report (Nov 1980):

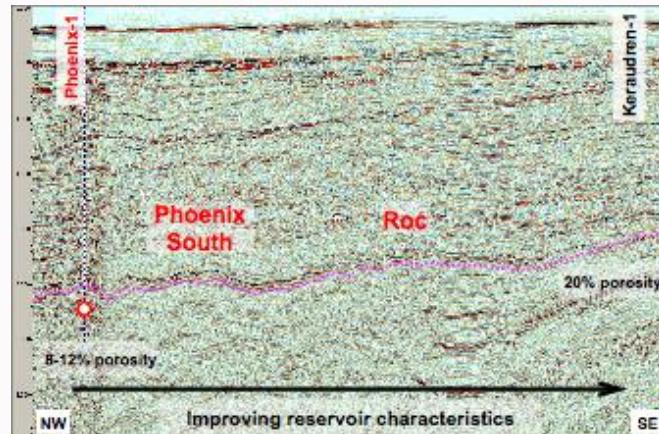
- “Thicker sandstones below 4113m yielded significant gas shows”
- “Net gas-bearing pay is estimated to be 110.5m”.
- “Drilling was suspended (at total depth 4880m) without testing when it was considered unsafe to continue with available pressure control equipment”.
- “WELL STATUS: Suspended with gas shows”.

# Prospects confirmed on new 3D seismic

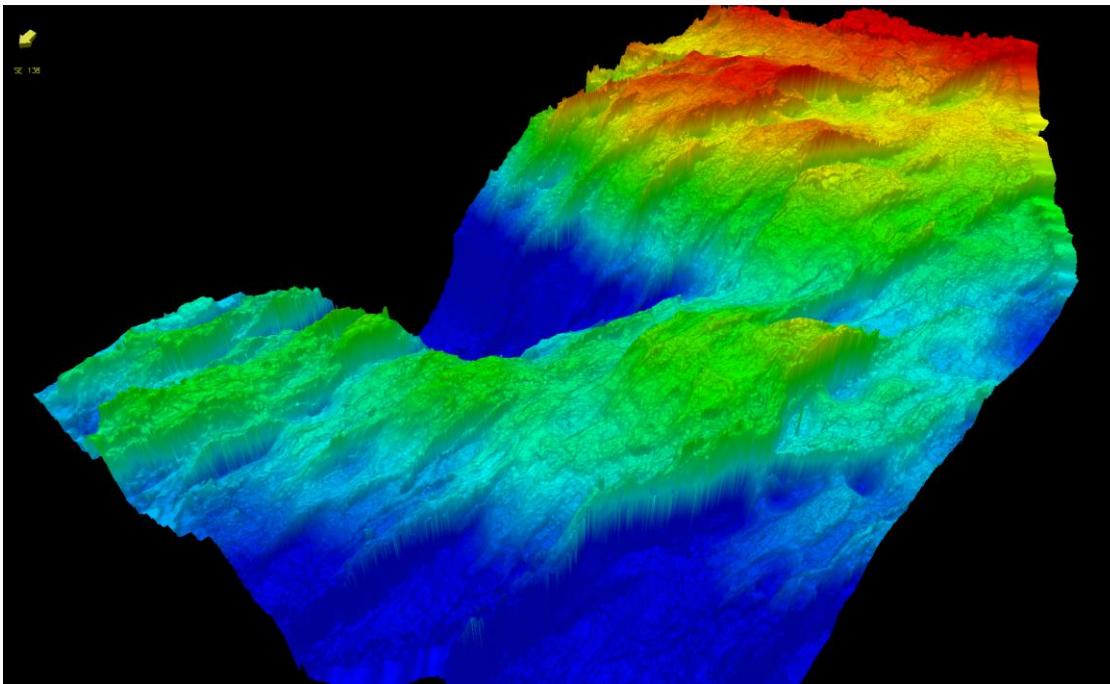
- ❑ A high quality new 3D seismic survey incorporating the Phoenix-1 and 2 wells is providing greater insight into prospects and leads identified from the reprocessed 2D seismic data.
- ❑ 407km of new 2D seismic data was also acquired to tie in existing wells drilled in the region to enhance the 3D seismic interpretation.
- ❑ Additional new studies are being undertaken, including reservoir characterisation and rock physics studies, to assist in identifying reservoir “sweet spots”.
- ❑ The joint venture is seeking to correlate known gas discovered in the Phoenix-1 well with accumulations in better quality reservoirs. A critical element of de-risking Phoenix is the acquisition, processing and interpretation of the new 3D seismic data



Preliminary 3D visualisation of the Phoenix 3D seismic survey  
Base Cossigny Limestone Formation two-way-time surface with indicative well, prospect and lead locations



# Substantial structures capable of multi Tcf's

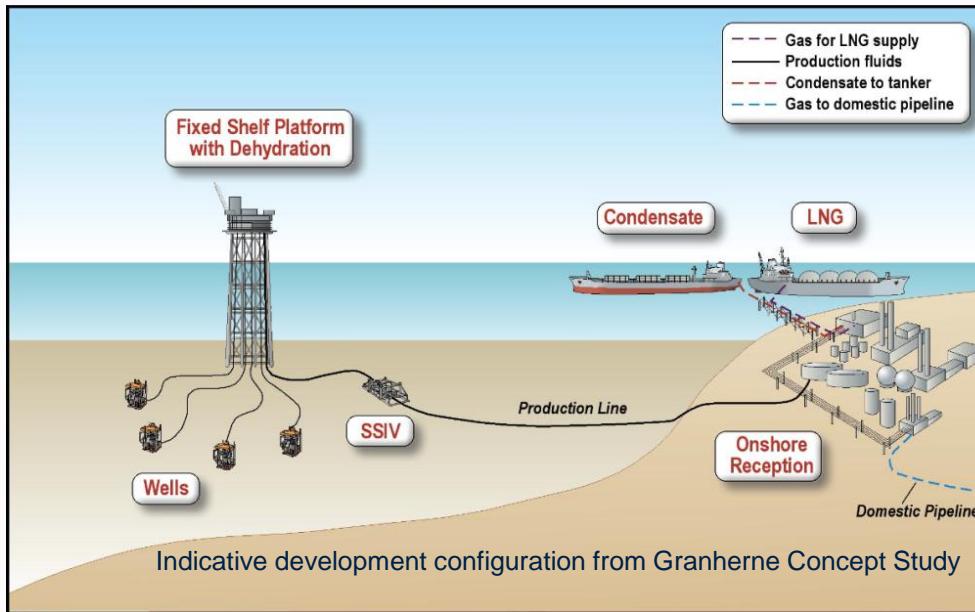


Preliminary 3D image shows well defined structures capable of holding substantial volumes

Preliminary 3D visualisation of the Phoenix 3D seismic survey  
Base Cossigny Limestone Formation  
two-way-time surface

- Prospect sizes are significant and range from 0.5 to 3.0 Tcf of recoverable gas.
- Drilling activities are expected to focus on prospects within the 3D survey and on trend with the Phoenix gas discovery
- Drilling would likely be in water depths of around 140m, similar to the Phoenix-1 and 2 wells.
- Wells depths are also expected to be similar to the Phoenix-1 and 2 wells at around 5,000m.

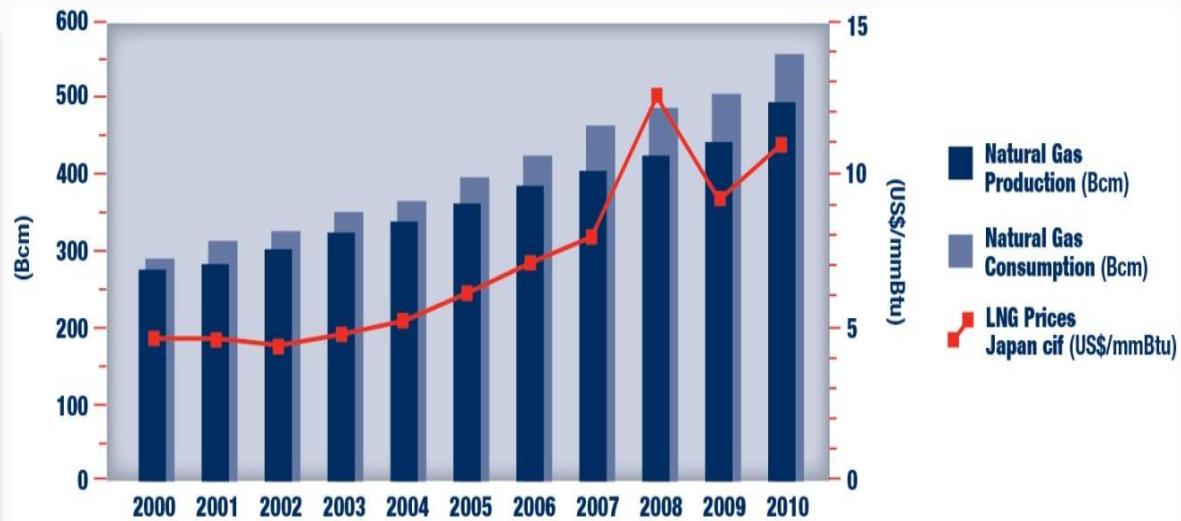
# Field development – well understood configuration



## Planning for:

- Gas with potential for condensate, based on Phoenix well results and regional field assessments.
- LNG or domgas configuration options.
- Shallow water development in approximately 140m.
- Options to utilise existing infrastructure, such as the domestic gas pipeline near Port Hedland.
- A Granherne Concept Study supports a conventional field development.

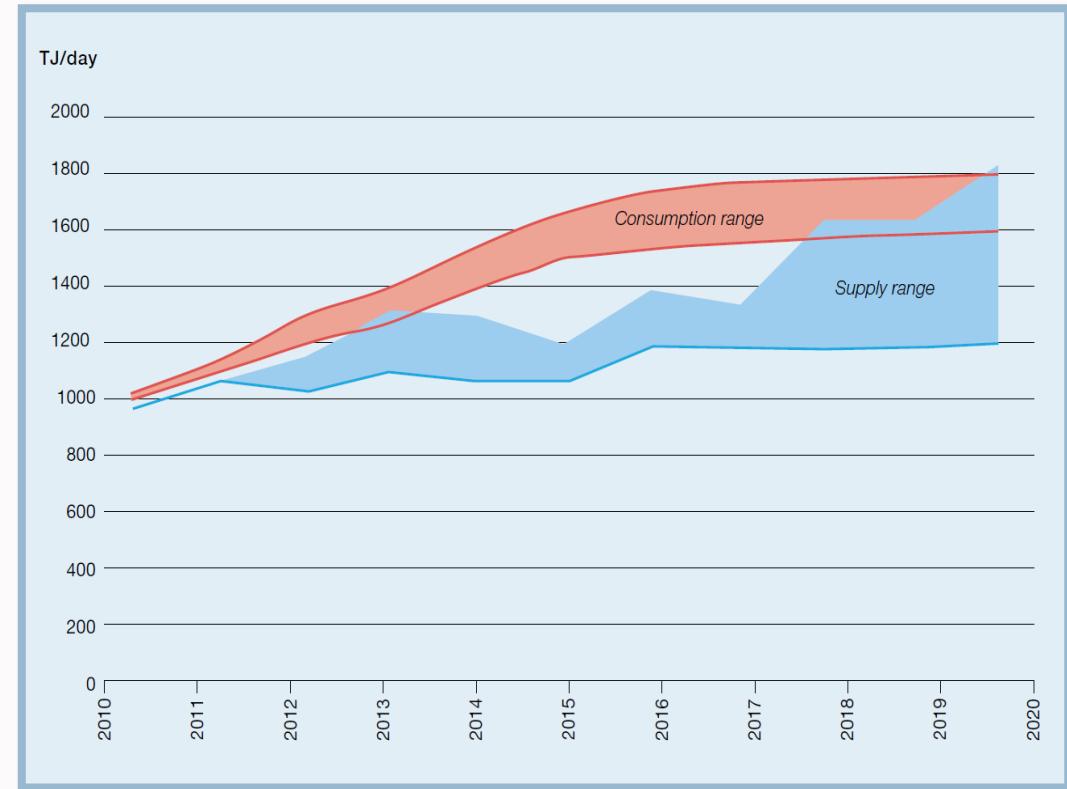
# Gas markets - Asian demand on the rise



- In the last decade demand for natural gas in Asia has been steadily increasing and has consistently exceeded production levels from the region.
  - Chinese energy consumption (in 2010) grew by 11.2% and China surpassed the US as the world's largest energy consumer.
  - World natural gas consumption grew by 7.4% (in 2010), the most rapid since 1984.
  - LNG now accounts for 30.5% of global gas trade, with China and Japan being the most significant consumers of gas within the Asian region
- The statistics quoted above and included in the graph on this page were sourced from the BP Statistical Review of World Energy Report (June 2011)

# Gas markets – potential future WA shortfall

- “Natural gas supplies close to 60% of the [Western Australian] State’s primary energy and 70% of its electricity generation.” (1)
- “Western Australia is experiencing a serious shortage of domestic gas. Current and prospective gas users are unable to secure gas supplies in substantial quantities.” (1)
- “There is clearly a large gap of up to 600 TJ/d between known production and potential demand in the next decade. To place this in perspective, this is equivalent to more than half the State’s current domestic gas consumption”. (2)



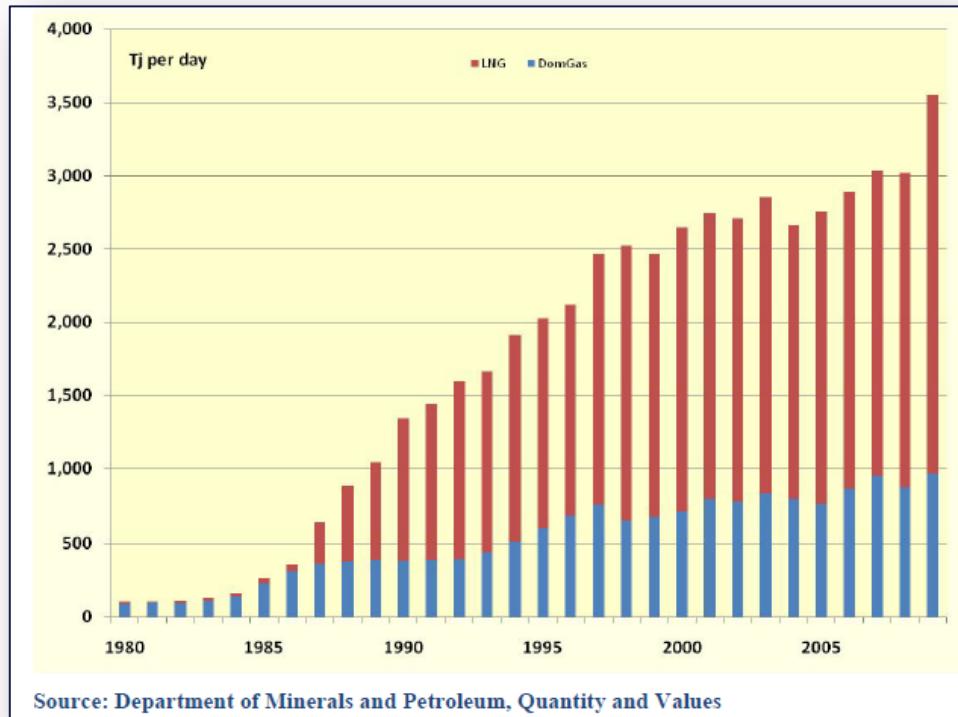
Source :

- (1) Domgas Alliance's Western Australia's Domestic Gas Security Report 2010
- (2) Economic Consulting Services Report for Domgas Alliance, Western Australia Natural Gas Demand and Supply – A Forecast, June 2010

Source: Domgas Alliance's Western Australia's Domestic Gas Security Report 2010

# Gas markets – multiple options for Phoenix

- Asia's demand for LNG is growing rapidly.
- The Phoenix asset is close to LNG projects and could be used as a feed gas and exported as LNG.
- Western Australia's demand for gas is also growing and remains an important source of energy for the State.
- Western Australian Government and industry estimates project a potentially significant gap between natural gas demand and supply in the future.
- The Phoenix assets are close to existing domestic gas pipeline infrastructure at Port Hedland and could be an important source of gas for Western Australia.

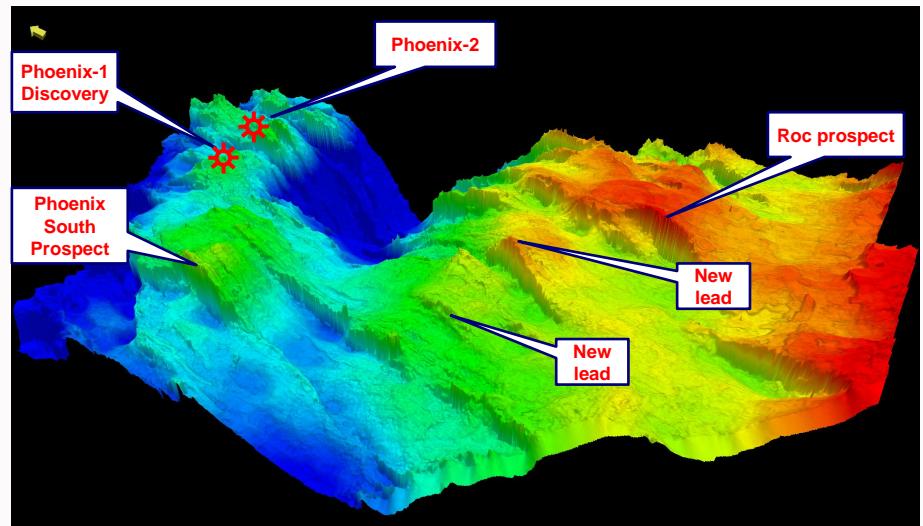


**There are multiple paths by which to commercialise Phoenix gas**

# Conclusion

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- ❑ The Phoenix asset has been significantly de-risked following the discovery of gas by BP in 1980.
- ❑ A new large 3D seismic survey has been acquired and preliminary results confirm material prospectivity.
- ❑ The asset's position and proximity to relevant infrastructure is an important advantage for any development .
- ❑ Markets for gas, condensate and LNG in the region continue to grow and support the development of any Phoenix resource.



Preliminary 3D visualisation of the Phoenix 3D seismic survey  
Base Cossigny Limestone Formation two-way-time surface with  
indicative well, prospect and lead locations

Several gas (and potential condensate) prospects have the capacity to hold significant recoverable volumes and therefore material value for Carnarvon shareholders.

## **Disclaimer**

The information in this document, that relates to oil exploration results and reserves, is based on information compiled by the Company's General Manager (Operations), Mr Philip Huizenga, who is a full-time employee of the Company. Mr Huizenga consents to the inclusion of the reserves and resource statements in the form and context in which they appear.

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