

# KAROON REVIEW

October 2009

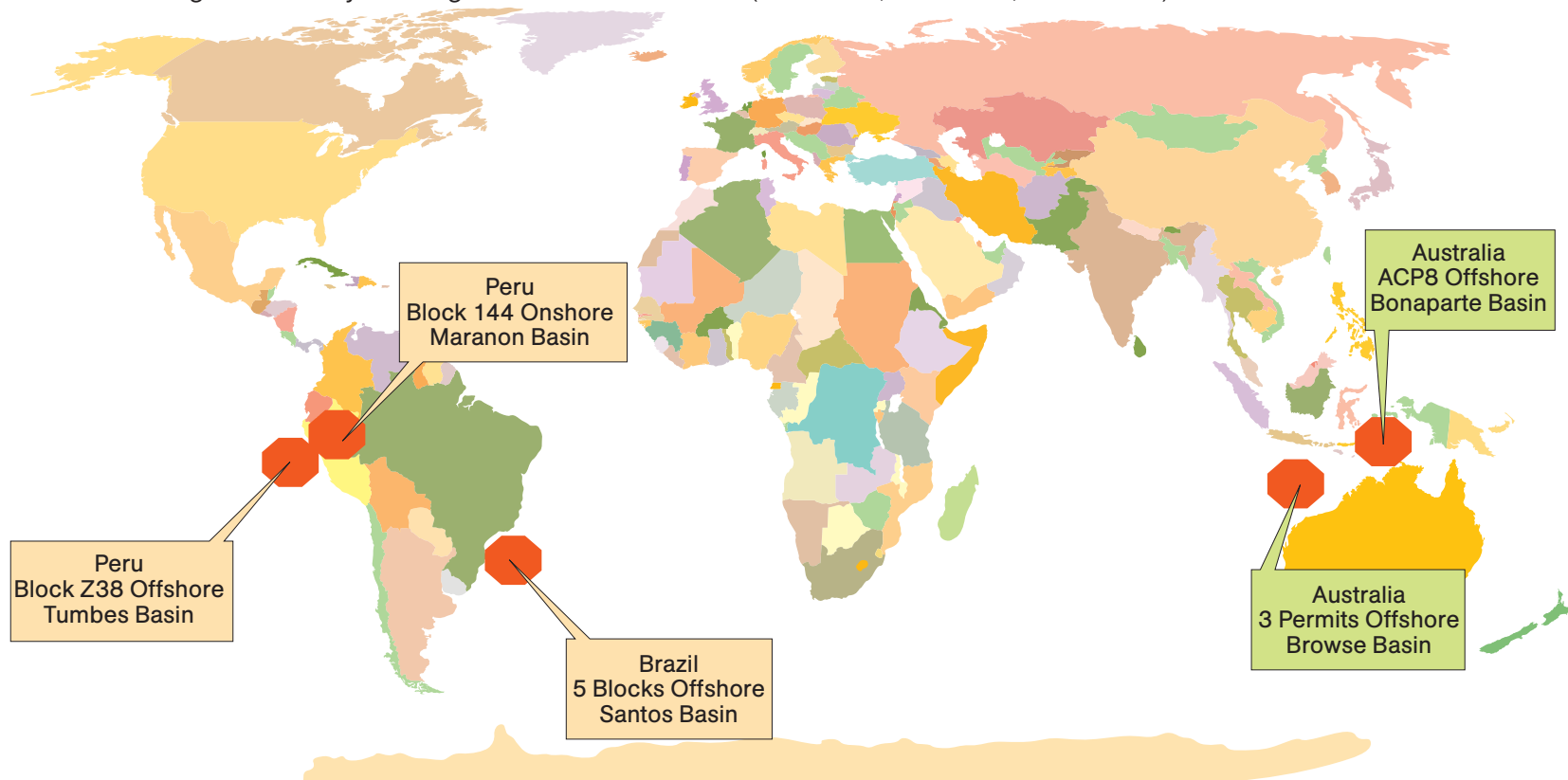


**KAROON**  
Gas Australia Ltd



## Karoon Gas snapshot

- Approximately 177 million shares and 8.4 million options
- Market capitalisation approximately A\$1.3 billion @A\$7.50
- Cash in bank A\$240 million
- Company in S&P/ASX 200 Index
- Browse Basin drilling program underway
- Poseidon-1 gas discovery Contingent Resource estimate (P90-3TCF, P50-7TCF, P10-15TCF)



- Karoon has a diverse portfolio of high value exploration acreage in its Australian and South American focus areas.

## Karoon Gas Australia's key personnel

### Board

#### **ROBERT HOSKING** Executive Chairman

Founding Director of Karoon Gas with 30 years of commercial experience. Involved in the oil and gas industry for 15 years. Founding director of Nexus Energy.

#### **MARK SMITH** Executive Director and Exploration Manager

28 years' experience as a geologist and exploration manager in petroleum exploration and development, mainly with BHPB in Australia, Southeast Asia and North America.

#### **GEOFF ATKINS** Director

35 years' experience as a marine engineer with involvement with design and construction of LNG facilities.

#### **STEPHEN POWER** Director

25 years as a commercial lawyer providing advice to participants in the resources industry in Australia and overseas.

#### **SCOTT HOSKING** Company Secretary

International financial and commercial management background with expertise in equity capital raising.

### Technical

#### **LINO BARRO** Engineering Manager

28 years' experience in reservoir and development engineering with Delhi, BHPB & Kufpec.

#### **JORG BEIN** Geophysics Manager

36 years' experience as a geophysicist and manager with Exxon and BHPB.

#### **DAVID ORMEROD** Exploration Manager South America

20 years' experience as a geophysicist and manager with Petrofina, BHPB, Woodside, Sterling and Tap Oil.

#### **ANDREW MORRISON** Senior Geologist

25 years experience as a geologist with BHPB and Hamilton.

#### **HYWEL THOMAS** Senior Geophysicist

34 years experience as a geophysicist with BP and BHP

#### **HIEP LAM** IT Manager

10 years experience in IT most recently with Thomas Duryea.

### Consultants

#### **RALPH SPINKS** Drilling Consultant

40 years in the industry including 13 years with Phillips Petroleum.

#### **JOSE COUTINHO BARBOSA** Brazilian advisor

Geologist 38 years with Petrobras rising to CEO.

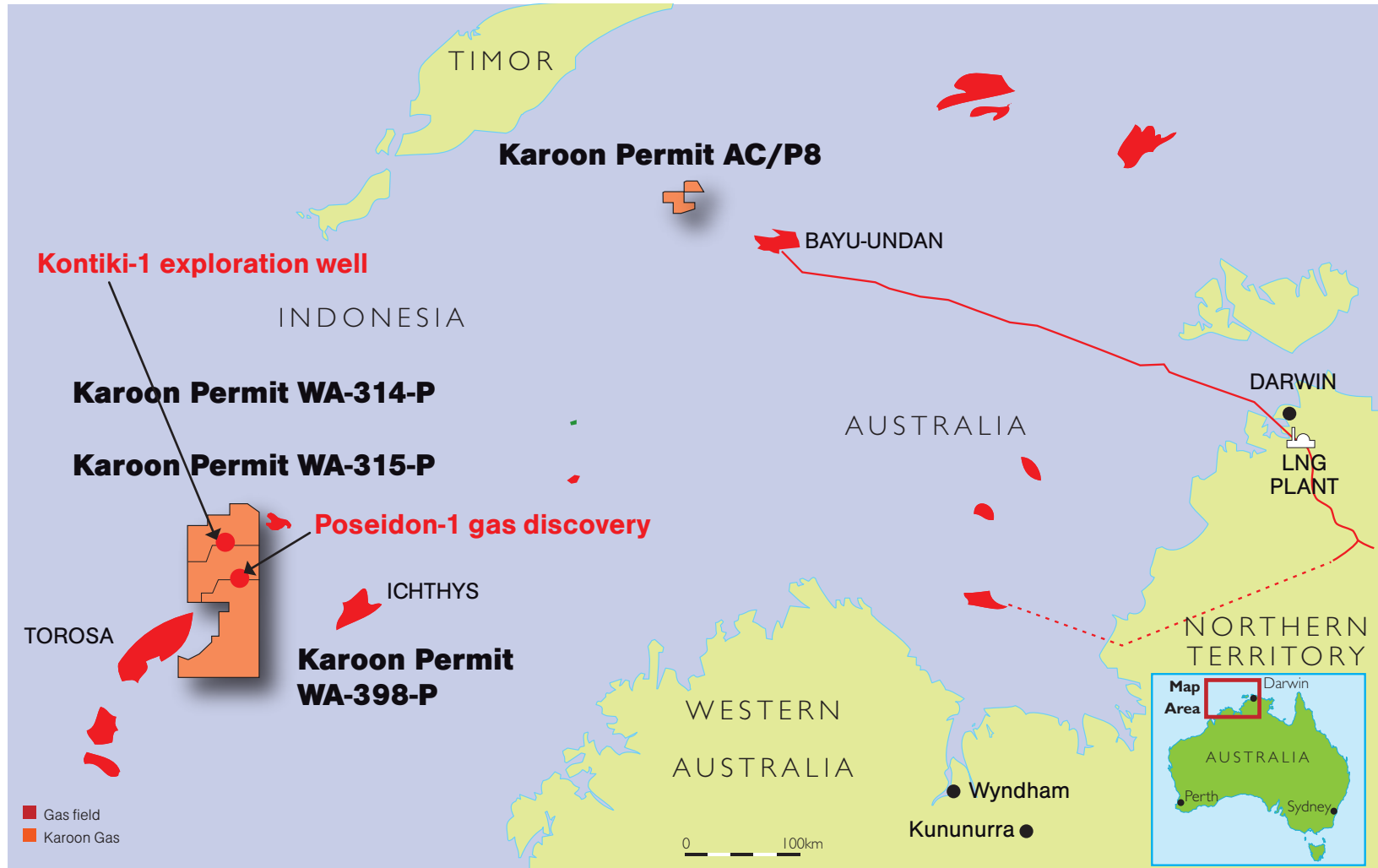
#### **CARLOS URIEN** South American Geologist

40 years with Belco Oxy & Noble.

#### **GUSTAVO BORJA** Peruvian advisor

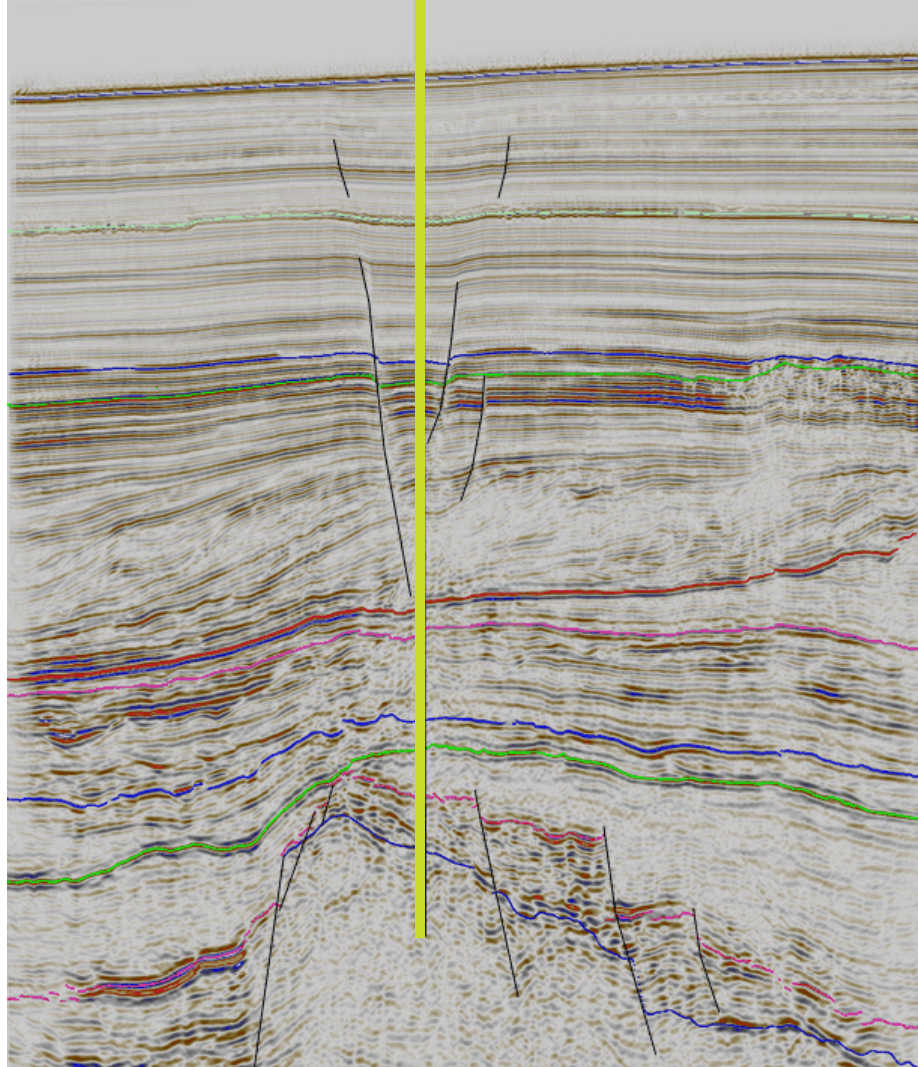
Geologist 35 years with Petroperu.

# Australian Assets





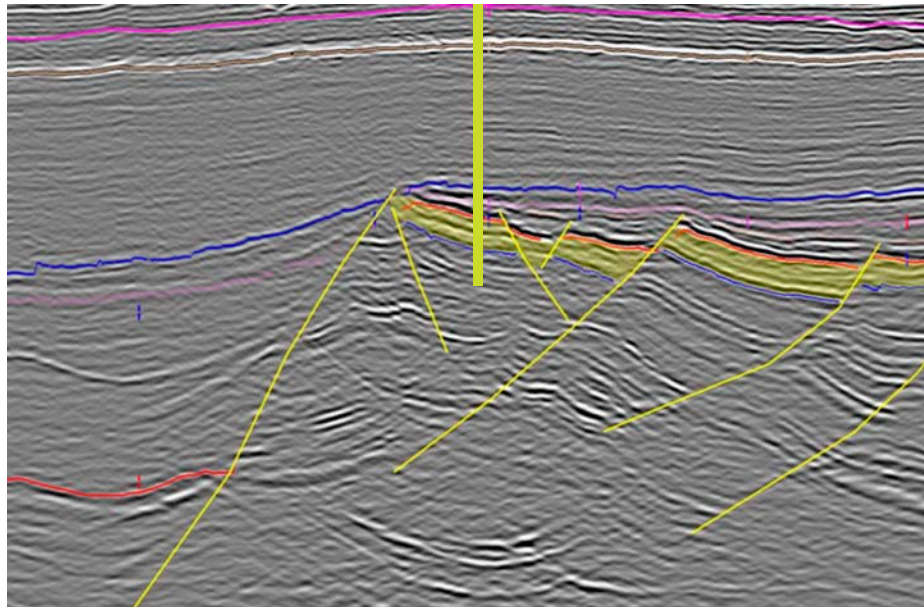
## Browse Basin - Kontiki-1 exploration well



- Kontiki-1 spudded – 22 July 2009
- Target- Middle and Upper Jurassic sandstones
- Prospective Resource 7TCF (P50) (Karooon mapping and volumetric calculations)
- Planned Total Depth 4610mrt.
- Intersected 40m gross of interbedded sands in the reservoir section.
- Petrophysical analysis indicates sands are gas bearing but with poor reservoir characteristics.

## Browse Basin - Poseidon-1 Gas Discovery

### Poseidon-1 well location and seismic section



The Joint Venture has commenced planning a Poseidon Field appraisal program comprising 3D seismic and a multi-well drilling program.

The Joint Venture has secured the Transocean Legend for a minimum term of 148 days which will allow:

- the drilling of the upcoming Kontiki-1 well together with the Poseidon-2 appraisal well, plus;
- One option for up to 2 additional wells exercised on 31st August 2009.
- Four options each to drill one well to be exercised prior to the end of the drilling contract and subject to mutual agreement between the parties.

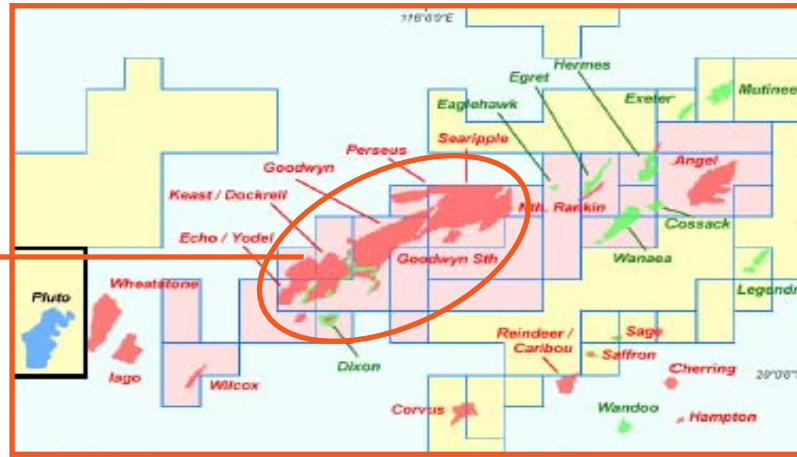
- The well has penetrated a 317m gross gas bearing Plover Formation. over the interval 4795 to 5112 mRT with three gross gas bearing sands totaling 228m.
- Wireline pressure testing of four data points and sampling (MDT tool) in the lower sand interval shows a gas gradient, indicating that the reservoir contains gas.
- The gas water contact has not been penetrated, indicating the potential for additional gas below the total depth of Poseidon-1.
- Estimations of reservoir permeability (indicative of flow rates) based on log derived porosity and four pressure data points, suggest that reservoir section will flow gas.
- As Karoon has currently mapped, the well is located over 100m below the trap crest of the Poseidon structure with an interpreted gross gas column for the structure of over 430m. The area of the structure as currently mapped is around 280 square kilometers. Remapping is underway.
- Karoon's analysis of seismic and well results to date indicate the Contingent Resource discovered in this well is likely to be consistent with or exceed Karoon's pre drill prospective resource range (P90-3TCF, P50-7TCF and P10-15 TCF).

# Comparisons

WA Fields Reserves v. Karoon's Exploration and Appraisal Opportunities.

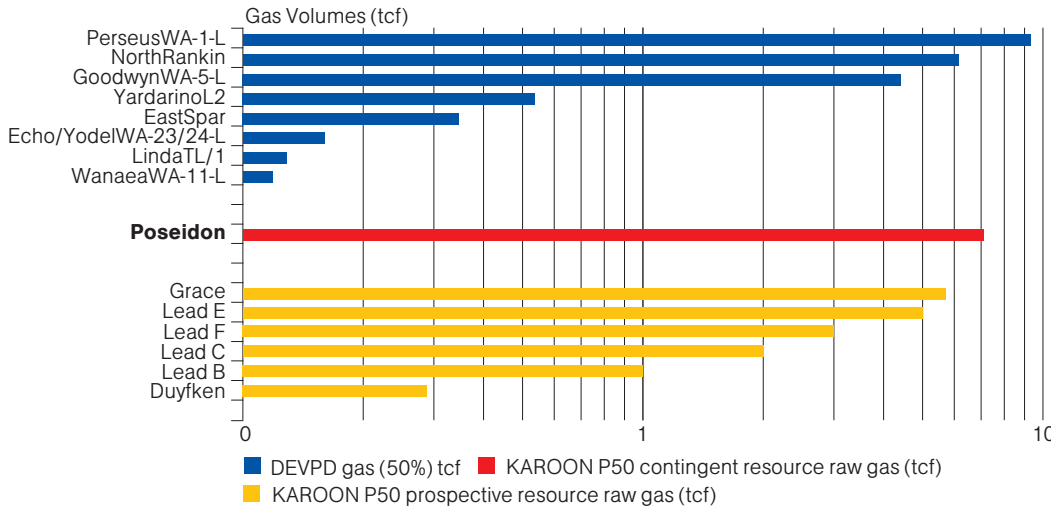


WOODSIDE'S  
NORTHWEST  
SHELF  
PROJECT



WA PRODUCING FIELD RESERVES & KAROON PROSPECTIVE RESOURCE ESTIMATES

■ Allowing for some exploration and appraisal success, there is potential in the Karoon permits for the discovery of reserves of similar magnitude to that of the North West Shelf project.



SOURCE: WA DOIR

## Browse Basin acreage position

WA-314-P and WA-315-P

Karoon Gas Australia Ltd has entered into agreements to farm out up to a 60% interest in its Browse Basin permits to ConocoPhillips.

### Acquisition of 51% Interest

ConocoPhillips will acquire a 51% interest in the permits by:

#### Seismic back costs US\$9.6 million

**1** Paying Karoon US\$9.6 million in reimbursement of approximately 80% of the costs incurred in carrying out the second year work programme for the permits. This involved the acquisition, processing and interpretation of seismic surveys completed throughout 2006, comprising approximately 1200 sq kms of 3D Seismic and 800 kms of 2D seismic.

#### Fund 80% of two wells including testing

**2** Funding 80% of the costs of the third year work programme for the permits, which will require the drilling of one exploration well in each permit, including testing. The total cost of the third year work programme, which is subject to the 80% funding arrangement is estimated to be US\$120-160 million.

WA-398-P

ConocoPhillips and Karoon are 60/40 partners in this permit

### Option to Increase Interest to 60%

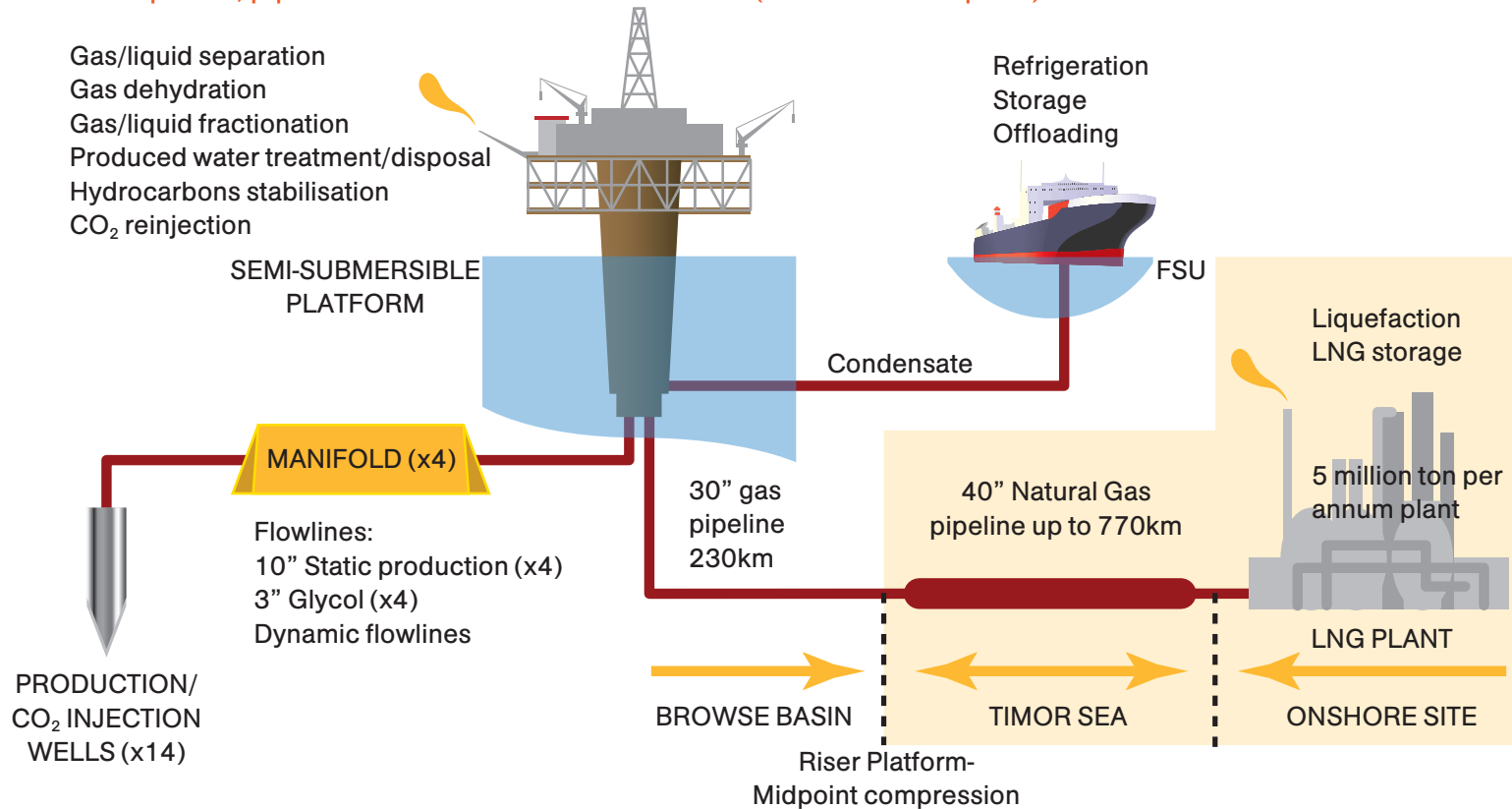
Fund 80% of next US\$125 million of expenditure

**3** Pursuant to the agreements, ConocoPhillips has an option, upon completing its obligations relating to the acquisition of its 51% interest, to acquire a further 9% interest in the permits by paying 80% of the next US\$125 million of joint venture expenditure.

# Indicative project concept

Karoon LNG/condensate indicative development model economics (assuming a discovery of 7 TCF and based on independent third party design concepts).

Field development, pipeline and LNG facilities schematic (onshore LNG option).



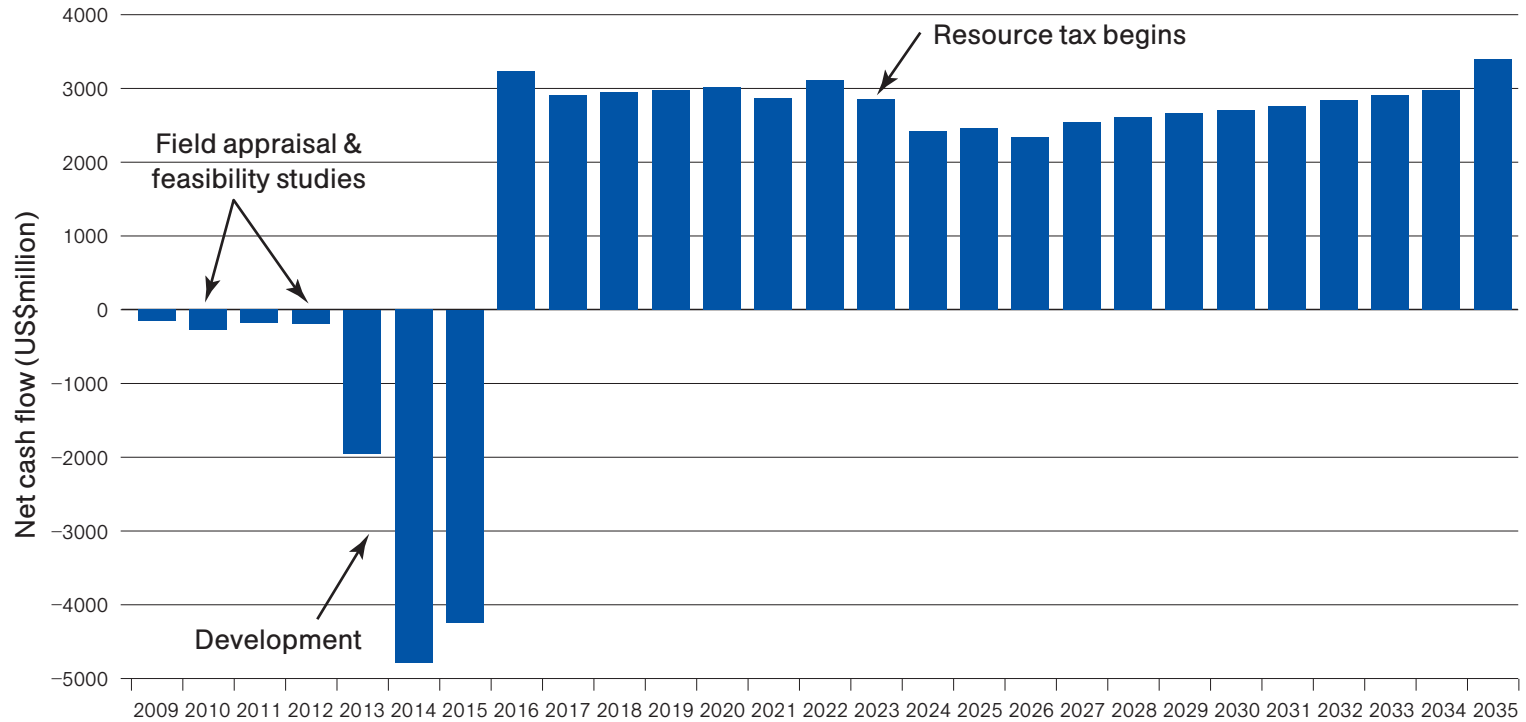
## LIQUID PRODUCTS ASSUMPTION

**Condensate 30bbls/million cubic feet**

# Combined net cash flow

Karoon LNG/condensate indicative development model economics.

Net cash flow for combined offshore liquids removal and onshore LNG – 100% Share.



**Project NPV US\$6.9 Billion, IRR 20%**

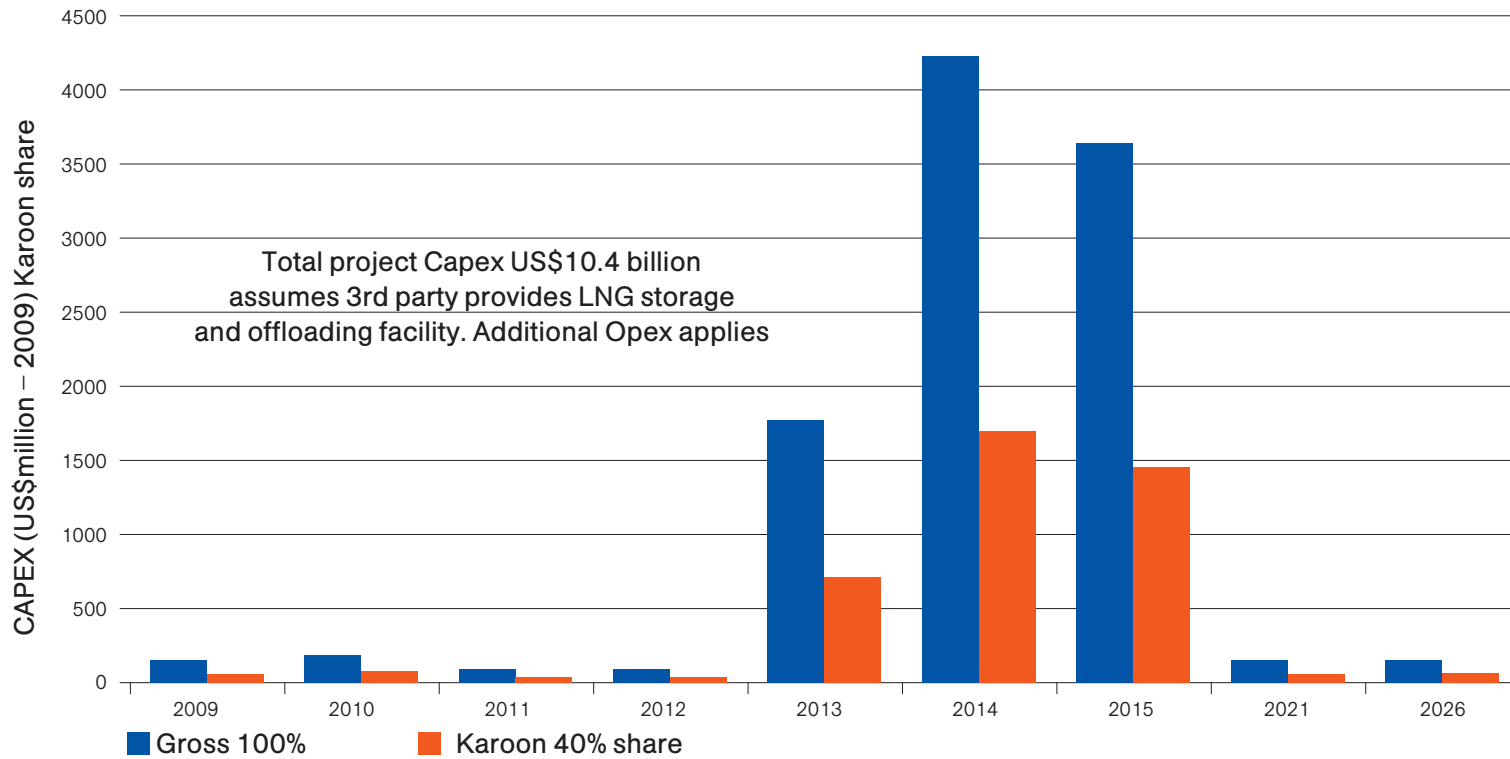
**Assumptions: Condensate US\$70/bbl, LNG US\$10/mmbtu**

Royalty: 1.5% ORR for first 5 years going to 2% thereafter (not included)

# Capex profile

Karoon indicative development model economics.

– 2009 US dollars



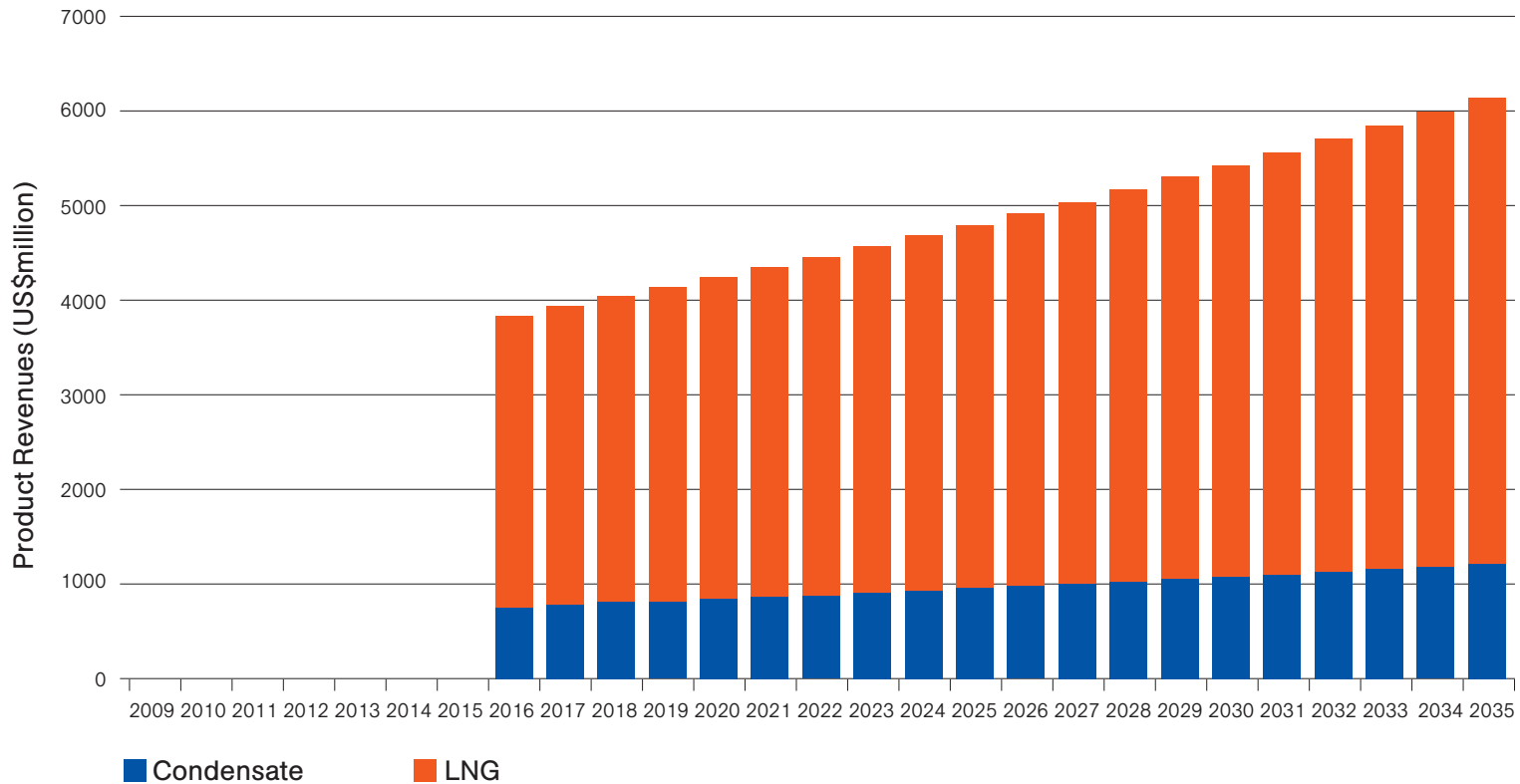
**Total Karoon Capex = US\$4.2 billion**

**Total Capex = US\$10.4 billion**

# Product revenues

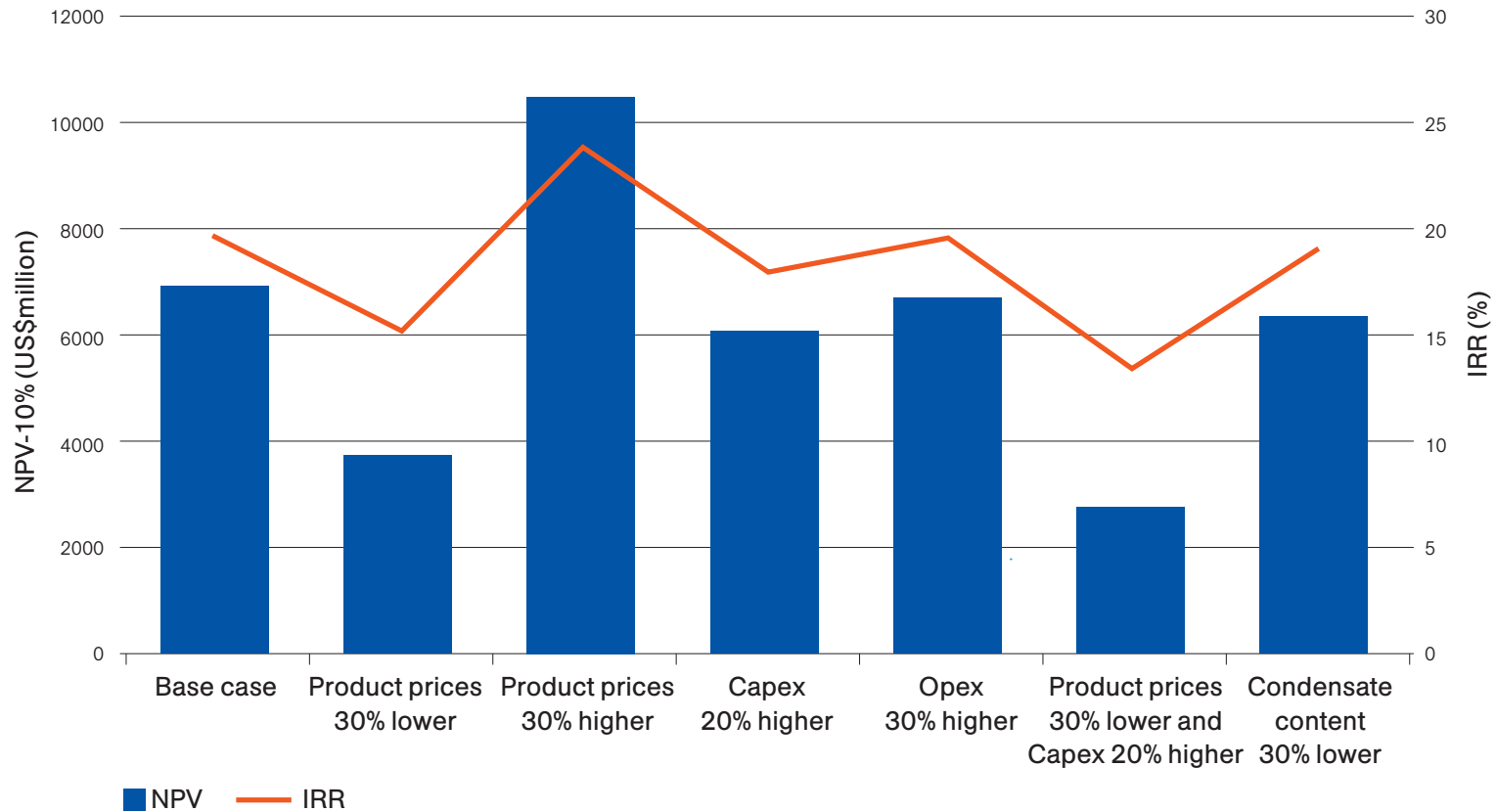
Karoon indicative development model economics.

Product revenues for combined offshore liquids removal and onshore LNG – 100% Share.



# Economic sensitivity analysis

Karoon indicative development model economics.



## Market Update

### LNG SALES AGREEMENTS

2007, Woodside signed a Key Sales Terms Agreements with the Chinese for approximately 2TCF at a price of approximately A\$9-10 billion per TCF for delivery over the next 20 years ex. Browse Basin.

### LNG SPOT SALES AGREEMENTS

Oct 2008, Chinese buy Algerian LNG Cargo at record price to boost supplies. US\$20.43 per mmbtu  
(Source; Bloomberg, Oct 2008) (US\$20.43 billion per TCF).

### IRON ORE PRICES

Since July 2008 Chinese domestic and imported iron ore prices have dropped from around \$US 175/ton to around \$US 75/ton.  
(Source: AFR, 12/11/08)

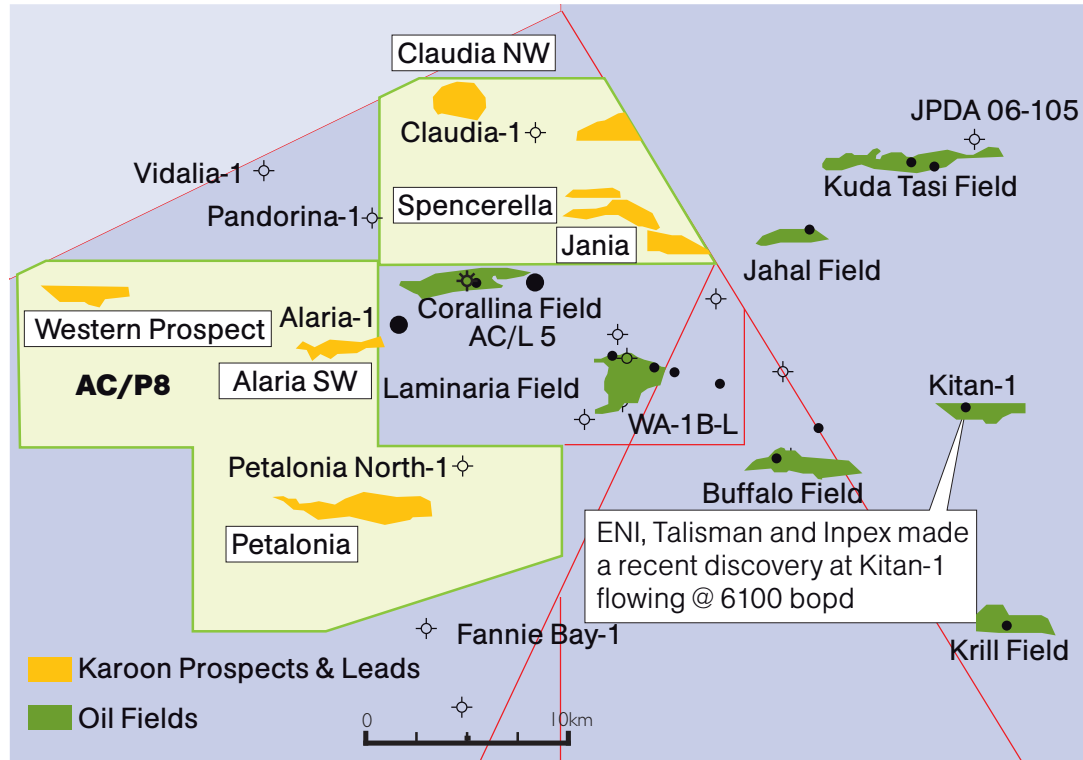
### STEEL PRICES

Since July 2008 Japanese domestic Rebar Steel prices have dropped from around \$US 1050/Ton to less than \$US 600/ton.  
Chinese domestic prices have dropped from around \$US 800/Ton to around \$US 500/ton. (Source: AFR, 12/11/08)

## Commercial considerations

- Australia domestic consumption is approx 1 TCF per annum.
- USA consumes 23 TCF per annum.
- International gas/LNG prices are approximately two to three times higher than the Australian gas price, ie. A\$4 billion per TCF versus A\$8-10 billion per TCF for long term contracts.
- International spot prices are usually a lot higher.

# AC/P8



**Location:** Close to the Laminaria/ Corallina production facility with production tie in potential.

**Potential:** Main prospect 'Jania' with up to 20mmbbl potential prospective resource.

5 additional leads with similar size potential.

**Interest:** 66% equity purchased from Woodside Petroleum.

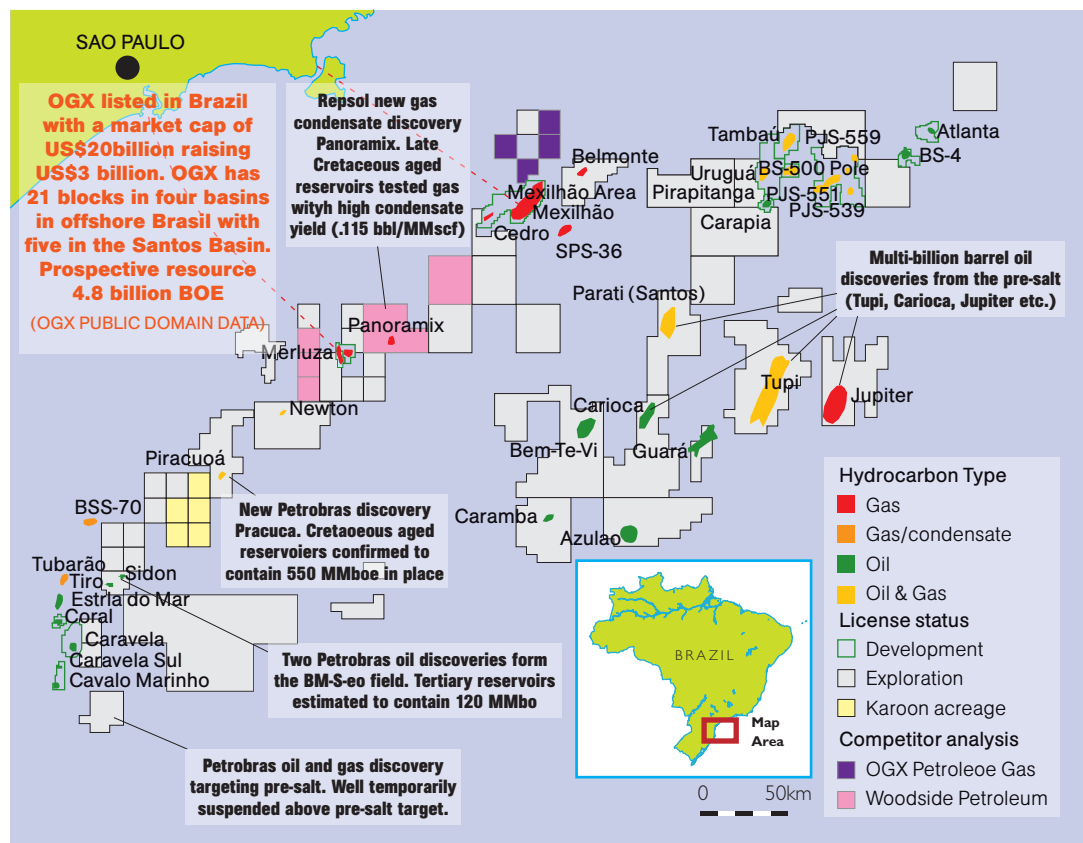
**JV and work program:**  
Year-1 work program start date 3 October 2008.

Requires more geological and geophysical studies to identify targets for drilling.

Talisman Energy 33%.

**Forward plan:**  
Perform CSEM survey 2009.  
Drill in 2012.

# Brasil Santos Basin



**Location:** Santos Basin shallow water 300-400m, on trend with Caravela, Piracua, Newton and Merluza fields.

**Potential:** 3 main leads with 100 to 200mml oil and/or multi TCF of gas prospective resources.

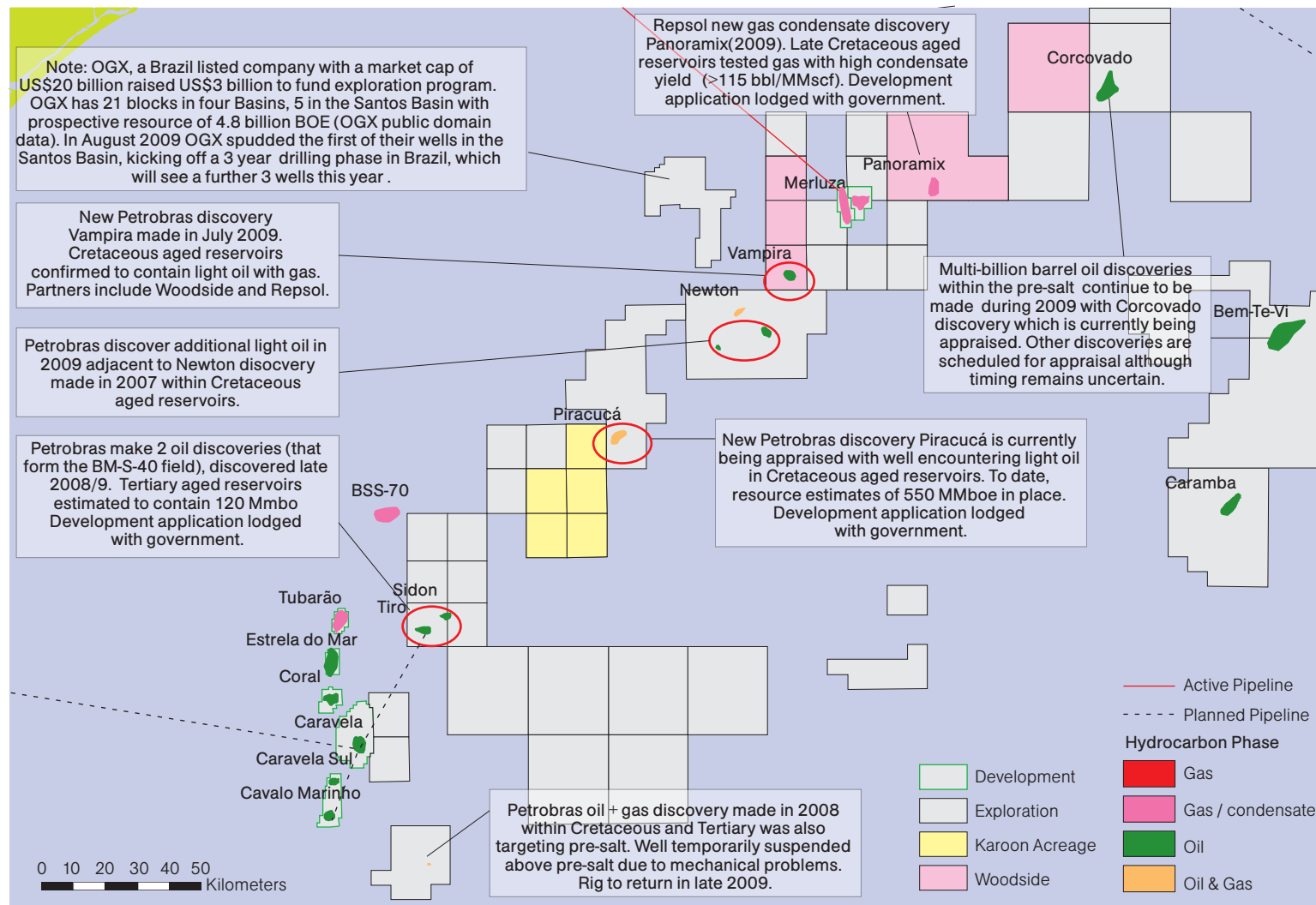
Additional leads potential recognised but yet to be defined.

**Interest:** Karoon 100% equity from bid round.

**JV and work program:**  
 3 year Work Program.  
 Awarded March 2008.  
 Purchased 3D seismic for PSDM.  
 Acquire 510 sq km. 3D over three blocks.

**Forward plan:**  
 Acquire 3D seismic in 2009.  
 Drill in 2011.

# Brasil Santos Basin - Recent activity



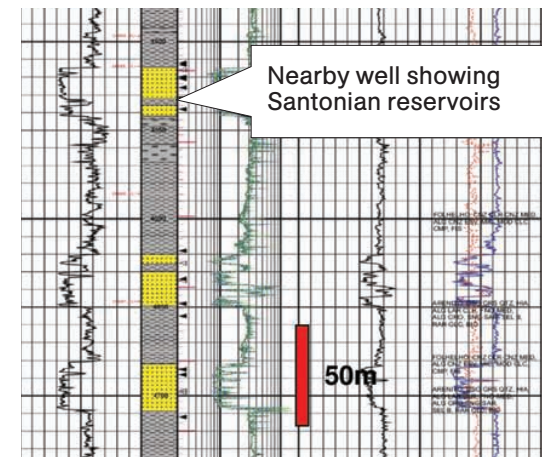
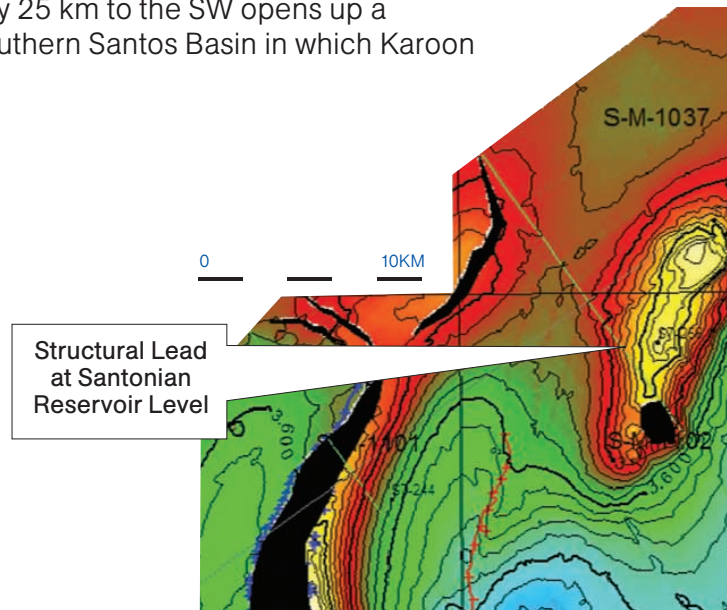
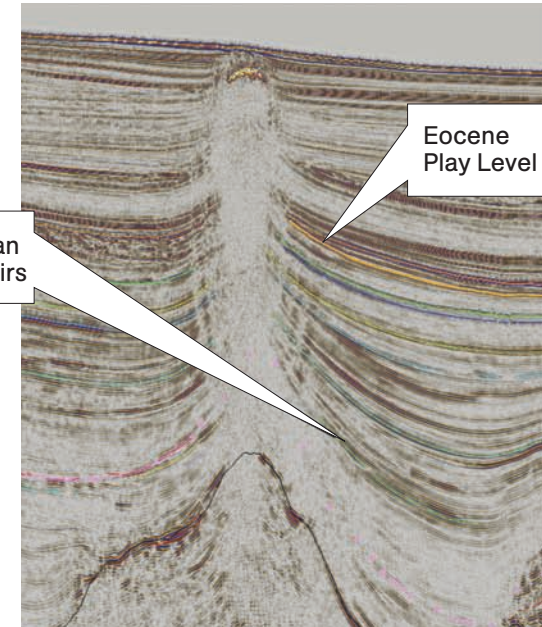
# Karoon Santos permits

## Santonian Play Summary

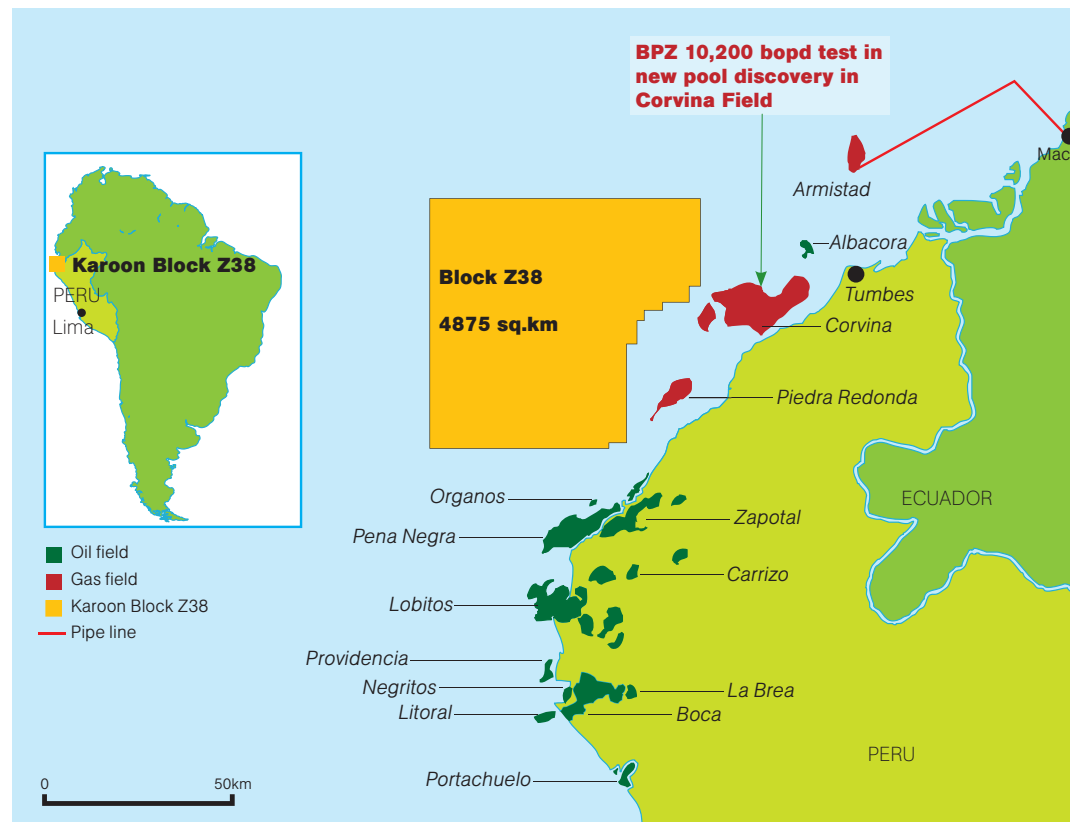
- The salt related structural style in the Santos Basin creates large scale structures in Karoon’s acreage where high quality Santonian reservoirs are interpreted to be present.
- The oil and gas charge from both the pre salt (Tupi style) source rocks and the post salt source rocks is modeled to be sourcing the mapped structures providing sizeable prospective resources.
- The Merluza Field is in a similar play type in the southern Santos Basin.

## Eocene Play Summary

- The 1-SPS-56 Discovery 25 km to the SW opens up a new play type in the southern Santos Basin in which Karoon is well positioned



# Peru Tumbes Basin Z38



**Location:** Offshore Peru close to producing fields and discoveries.

**Potential:** 2 main leads with 100 to 200mmbbl oil or multi Tcf gas prospective resources potential.

Additional leads potential recognised but yet to be defined.

**Interest:** Karoon earning up to 60% equity from funding of 2D and 3D seismic.

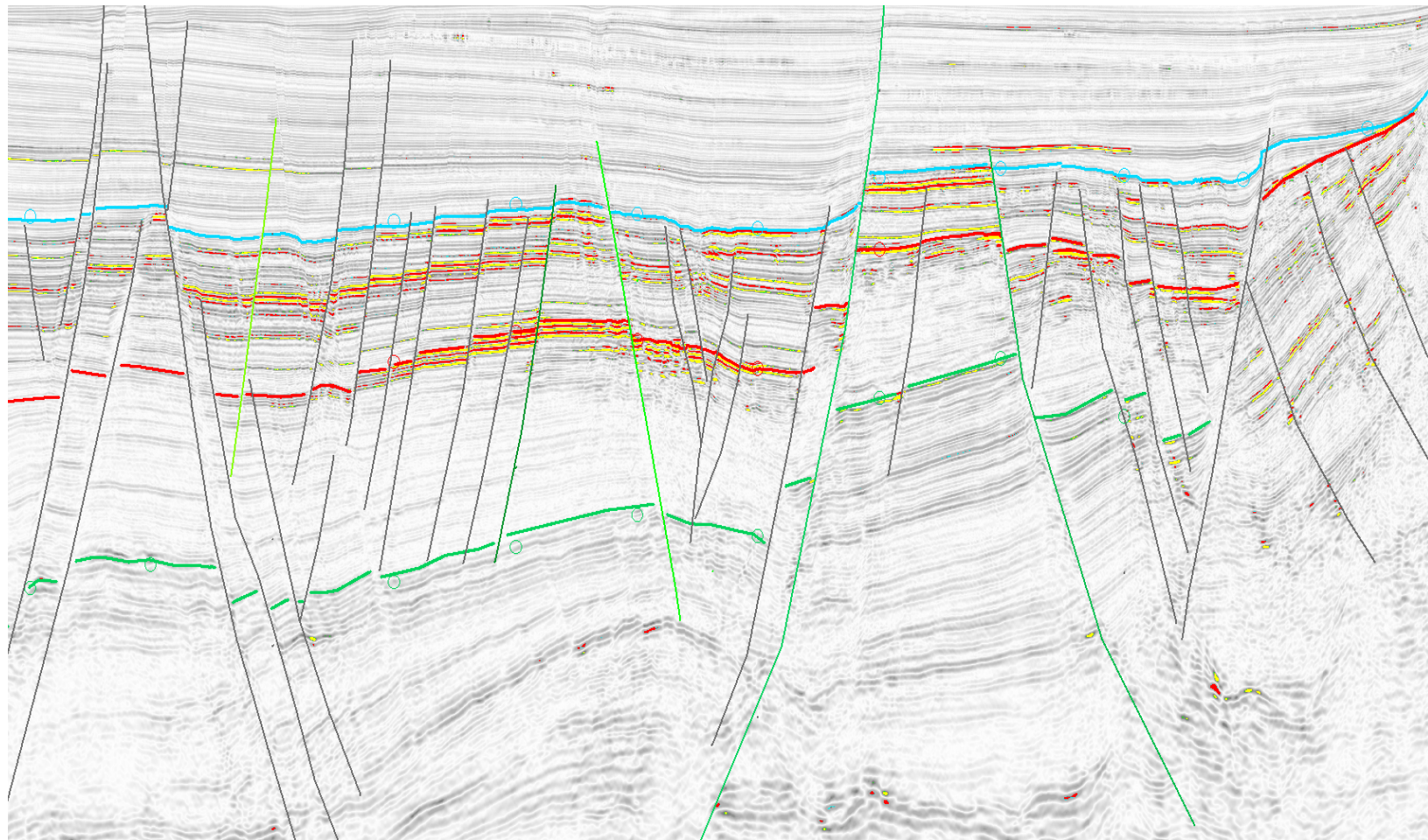
**JV and work program:**

Vamex farm down to 40%.  
 First phase (1.5 year) Work Program.  
 Fund 2000km 2D seismic.  
 Second phase acquire 600 sq. km. 3D seismic.

**Forward plan:** Acquire 2D and 3D seismic in 2009.  
 Drill in 2010/11.

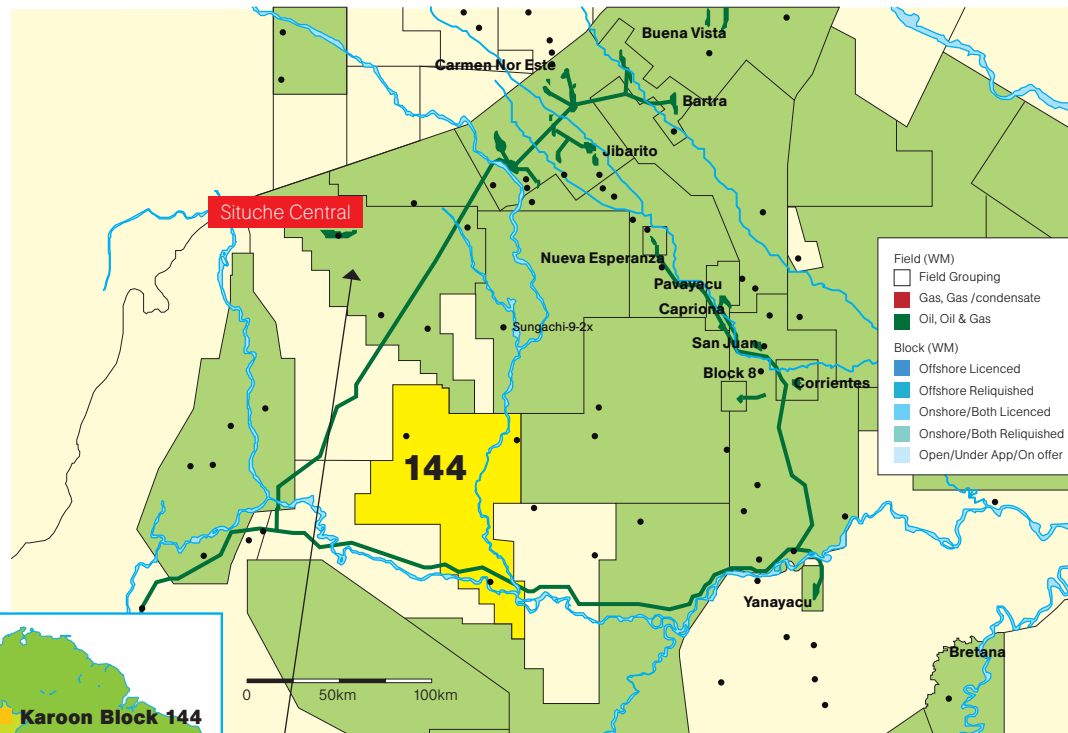
## Peru Tumbes Basin Z38

Seismic line example.



■ Clear gas DHI's with amplitude ratio up dip to down dip around 5 to 10 times.

## Peru Marañon Basin Block 144



18th August, 2009 Scout Meeting, TALISMAN has reported that the well Situche 3 is drilling to the depth of 15,900 feet and found the Vivian Fm. sand with a 90 ft oil column, ave. porosity 16 % and permeability 300/350md. Oil 35° API. Estimated to confirm prediction of 120MM to 150MM of barrels of oil reserves.

**Location:** Onshore Peru close to existing infrastructure and producing fields.

**Potential:** Leads with 50 to 250mmbls prospective resource potential. Additional leads potential recognised but yet to be defined.

Along trend from from Situche oil field (100+mmb).

**Interest:** Karoon holds the permit 100%.

### Work program:

Phase-1 April 16 2009 - October 2011  
Reprocess 1000km 2D seismic, geological and geophysical studies.

Phase-2 October 2011 - April 2013  
Interpretation of 300km 2D seismic.

Phase-3 April 2013 - October 2015  
Drill one well to a minimum depth of 4200m.

**Forward plan:** Work up acreage in preparation for drilling in 2013.

## DeGolyer & MacNaughton Assessment

Karoon (August 2008) engaged the services of international consulting company DeGolyer and MacNaughton to provide an independent report on the prospective resources of the company's portfolio of exploration assets.

**DeGolyer and MacNaughton have reported that Karoon has mean estimated risked prospective resources of 1.23 billion barrels of oil equivalent (BOE) in 19 prospects in Australia and South America.** (This Report predated the successful drilling of the Poseidon-1 well in the Browse Basin, Western Australia.)

The prospective resource estimates presented in the report have been prepared in accordance with the Petroleum Resources Management System (PRMS) approved in March 2007 by the Society of Petroleum Engineers, the World Petroleum Council, the American Association of Petroleum Geologists, and the Society of Petroleum Evaluation Engineers.

The PRMS reporting system provides uniform guidelines for the evaluation and reporting of petroleum reserves and resources. Under PRMS, a "prospective resource", as reported by DeGolyer and MacNaughton, are defined as those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective resources have both an associated risk of discovery and a risk of development.

The prospective resources reported by DeGolyer and MacNaughton have also been "risked" whereby each prospect has been subjected to a probabilistic analysis to reflect risks within the prospect associated with reservoir parameters, recovery efficiency and the like.

The prospective resources reported on by DeGolyer & MacNaughton are based on the statistical aggregation method. There is no certainty that any portion of the prospective resources estimated herein will be discovered.

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Petroleum exploration relies on the interpretation of complex and uncertain data and information which cannot be relied upon to lead to a successful outcome in any particular case. Petroleum exploration is inherently uncertain and involves significant risk of failure. All information regarding Prospective resource estimates and other information in relation to Karoon's assets is given in the light of this caution.

## Index of terms

**TCF:** trillion standard cubic feet ( 1,000,000,000,000 cubic feet)

**Mmbbls:** Millions of barrels ( 1,000,000 barrels)

**Bbls:** Barrels

**BOE:** A means of expressing gas volumes in barrels of oil equivalent.  
(1BOE equals approx. 5500 standard cubic feet of gas)

**PSDM:** Pre-stack depth migration

**CSEM:** Controlled source electromagnetic (survey)

**Monte Carlo simulation:** Where there is uncertainty in the variables used in the calculation of reserves, the ranges of possible values of each variable can be incorporated in a Monte Carlo simulation calculation to produce a range of probabilistic outcomes that reflect that uncertainty.

The "Mean" is the expected outcome. The P10 (probability greater than 10%) is often used as the maximum case, the P50 (probability of 50%) the mid case and the P90 (probability greater than 90%) the minimum case.

**Risk:** Prospect Risk or Geologic Risk is the assessed chance that the drilling of the prospect will be successful in finding significant volumes of hydrocarbons. The risk is calculated by multiplying the chance of success of each of the Petroleum System Elements involved in the prospect.

**Prospective Resource:** A 'Prospective Resource' is the term used to describe undiscovered volumes in an exploration prospect yet to be drilled.

**Contingent Resources:** Those quantities of petroleum which are estimated, on a given date, to be potentially recoverable from known accumulations, but which are not yet currently considered to be commercially recoverable.

**ORR:** Over-riding royalty

**Prospect:** Target ready for drilling

**Lead:** Potential target under evaluation