

CVN

Corporate presentation January 2018

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Business	Oil & gas exploration / development in North Western Australia
Financial	Market capitalization ~A\$108m, cash A\$49m, enterprise value A\$59m
Ownership	Top 20 hold ~24%, Board & management hold ~6%
Catalysts	2018 Phoenix South-3 & Dorado-1 wells, Buffalo & Laybrinth projects



Carnarvon's Roc-2 appraisal well testing 53 mmscf & 2,943 bbls per day (2016)

Extensive project portfolio







2018 Focus





2018 focus

Phoenix Sth-3 well (March 2018) 29 mmboe net CVN

Dorado-1 well (May 2018) 25 mmboe net CVN (primary) 89 mmboe net CVN (secondary)

Progress to drill in oil field 31 mmbbls net CVN

Labyrinth

Farm out large oil target Farm out / ready for farm out Value Belgravia prospect (Swell-1)

Note: Phoenix South and Dorado shown above are Pmean prospective resources and Buffalo is the 2c contingent resource

Refer to Carnarvon's ASX announcement of 14 November 2016, 28 March 2017 & 28 August 2017 for comprehensive details of these volume estimates. These resources were calculated using a combination of probabilistic and deterministic methodology.



Phoenix project





History

2014 Phoenix Sth-1 oil discovery in <u>Barret</u> interval
2015 Roc-1 oil & gas discovery in <u>Caley</u> interval
2016 Roc-2 appraisal of oil & gas discovery in <u>Caley</u>
2017 Phoenix Sth-2 oil & gas encountered in <u>Caley</u>

2018 focus (resources net to CVN inside 25 km radius)

29 mmboe Phoenix South <u>Caley</u> (prospective resource)
25 mmboe Dorado <u>Caley</u> (prospective resource)
19 mmboe Roc <u>Caley</u> (contingent resource)

Upside – 121 mmobe net to CVN in additional prospective resources <u>inside</u> 25 km radius





Refer to Carnarvon's ASX announcements of 14 November 2016 and 28 March 2017 for comprehensive details of these volume estimates. These resources are calculated using probabilistic methodology.



Well spuds March 2018

- 550m from Phoenix South-2 discovery (PS-2);
- PS-2 intersected oil and gas in <u>Caley interval</u>;
- high confidence well will intersect oil and gas;
- objective to evaluate reservoir & volumes.



Existence of gas & condensate confirmed





Well spuds May 2018

- 15 km from Roc discoveries in <u>Caley interval</u>,
- targeting oil and gas in the <u>Caley interval</u>;
- also testing for oil and gas in deeper sands;
- Trap similar to those working in Gippsland Basin







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SUMBA

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Buffalo project



New technology better images oil field potential







31 million barrels

Development costs

Operating costs

CVN owns 100%

Straight forward re-development

Images of previous well head platform (LHS) supplying FPSO (RHS) US\$2.0 billion in revenue at current oil prices

expected to be ~US\$5 per barrel

WIP – most sensitive to FPSO cost

controlling current work flows





Refer to Carnarvon's ASX announcement of 28 August 2017 for comprehensive details of these volume estimates. These resources were calculated using a combination of probabilistic and deterministic methodology.



Subsurface	Mapping is underway on stage III FWI processing being prepared for optimal development planning
Drilling	Drill locations and well plans will be finalized once the subsurface and modelling work are complete
Development	Development similar to the previous field being the most likely an early production system is also being considered
Upside	Prospect mapping is showing potential new targets not previously drilled and ideal for future exploration drilling





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Labyrinth project





Opportunity interpretation of reprocessed 2-D seismic reveals significant prospects

- **Source** proprietary data and knowledge highlights key oil source in region
- Labyrinth prospect is the largest identified so far at 90 sq.km (Lower Depuch Formation)
- **Farm-out** the plan in 2018 is to introduce a partner to advance exploration work





Refer to Carnarvon's ASX announcements of 13 June 2017 for comprehensive details of these volume estimates. These resources are calculated using probabilistic methodology.



Condor project











Outtrim project





Swell-1 well drilled in 2017

- Gas over 450m gross column
- Gas in tight reservoir

Belgravia prospect

- Updip of Swell
- ~650m shallower than Swell

Encouraging that Swell-1 proved there is a working petroleum system in the Triassic interval in this area. The question is whether Belgravia or other prospects in the area could contain better quality reservoir.







Maracas project







FWI reprocessing aimed at Stag & deeper intervals







Wrap up



North West Shelf focus and expertise

Extensive portfolio with a pipeline of opportunity

Near term catalysts in next 12 months

- Phoenix South-3 well (March 2018 spud)
- Dorado-1 well (May 2018 spud)
- Buffalo development plans and economic updates (throughout 2018)
- Belgravia link to Swell-1 well result (Q1, 2018)
- Labyrinth farm out (2018)





Supplemental information

CVN

Supplemental information to the presentation

Content:

- 1. Project portfolio summary
- 2. Oil & gas volume summary
- 3. Buffalo project
- 4. Phoenix project
- 5. Labyrinth project
- 6. Outtrim project
- 7. Maracas project
- 8. Cerberus project
- 9. Board & management
- 10. Corporate





Portfolio – permit locations and equities





Project portfolio - summary

Project	Permits	Equity holders	Status
Buffalo	WA-523-P	CVN 100%	Appraisal to oil field redevelopment
Phoenix	WA-435-P & WA-437-P	CVN 20% & Quadrant Energy 80%	Appraisal and exploration of discovered oil and gas
Phoenix	WA-436-P & WA-438-P	CVN 30% & Quadrant Energy 70%	Exploration
Labyrinth	WA-521-P	CVN 100%	Exploration technical work to 3D acquisition
Maracas	WA-524-P	CVN 100%	Exploration technical work via FWI technology
Cerberus	EP-490, EP-491, TP/27, EP-475	CVN 100%	Exploration technical work (seeking partner)
Outtrim	WA-155-P(1)	CVN 28.5% & Quadrant Energy 71.5%	Exploration focused on Triassic prospect
Condor	AC/P62	CVN 100%	Exploration
Santa Cruz	EP-497	CVN 100%	Exploration

VN



Oil & gas volume summary (51 million barrels recoverable net 2C)

Gross Contingent Resources

		Light Oil		1	Natural Ga	s	(Condensate	e	Barrels of Oil Equivalent			
	MMBBL	MMBBL	MMBBL	BSCF	BSCF	BSCF	MMBBL	MMBBL	MMBBL	MMBOE	MMBOE	MMBOE	
	1C	2C	3C	1C	2C	3C	1C	2C	3C	1C	2C	3C	
Buffalo	15.3	31.1	47.8	-	-	-	-	-	-	15.3	31.1	47.8	
Roc	-	-	-	204.5	331.8	580.3	11.9	19.6	34.8	47.8	77.8	136.6	
Phoenix South	6.8	16.7	29.6	-	-	-	-	-	-	6.8	16.7	29.6	
Phoenix	2.0	7.0	16.0							2.0	7.0	16.0	
Total	24.1	54.8	93.4	204.5	331.8	580.3	11.9	19.6	34.8	71.9	132.6	230.0	

Net Contingent Resources (CVN's share)

		Light Oil		l	Natural Ga	S		Condensat	e	Barrels of Oil Equivalent			
	MMBBL	MMBBL	MMBBL	BSCF	BSCF	BSCF	MMBBL	MMBBL	MMBBL	MMBOE	MMBOE	MMBOE	
	1C	2C	3C	1C	2C	3C	1C	2C	3C	1C	2C	3C	
Buffalo	15.3	31.1	47.8	-	-	-	-	-	-	15.3	31.1	47.8	
Roc	-	-	-	40.9	66.4	116.1	2.4	3.9	7.0	9.6	15.6	27.3	
Phoenix South	1.4	3.3	5.9	-	-	-	-	-	-	1.4	3.3	5.9	
Phoenix	0.4	1.4	3.2	-	-	-	-	-	-	0.4	1.4	3.2	
Total	17.1	35.8	56.9	40.9	66.4	116.1	2.4	3.9	7.0	26.6	51.4	84.2	



Refer to Carnarvon's ASX announcements of 14 November 2016, 28 March 2017 & 28 August 2017 for comprehensive details of these volume estimates. These resources were calculated using a combination of probabilistic and deterministic methodology.

CVN

Oil & gas volume summary (2,480 million barrels recoverable net Pmean)

Net Prospective Resources

		Light Oil			Natural Gas			Condensate				Barrels of Oil Equivalent				Probability	Risked		
		MMBBL	MMBBL	MMBBL	MMBBL	BSCF	BSCF	BSCF	BSCF	MMBBL	MMBBL	MMBBL	MMBBL	MMBOE	MMBOE	MMBOE	MMBOE	Geological	MMBOE
	Permit	P90	P50	Pmean	P10	P90	P50	Pmean	P10	P90	P50	Pmean	P10	P90	P50	Pmean	P10	Success	Pmean
Phoenix South Caley (iv)	WA-435-P	-	-	-	-	25.6	80.2	97.8	192.6	2.1	7.9	11.4	24.4	6.6	22.0	28.5	58.2	71%	20.2
Roc-2 C/D (v)	WA-437-P	-	-	-	-	10.5	22.0	24.0	39.8	0.6	1.3	1.4	2.4	2.5	5.2	5.6	9.4	66%	3.7
Dorado Caley	WA-437-P	-	-	-	-	11.7	67.6	109.0	252.0	0.5	3.3	6.3	15.0	2.6	15.2	25.4	59.2	36%	9.2
Roc Satellites (vi)	WA-437-P	-	-	-	-	5.7	22.6	28.7	60.1	0.3	1.3	1.7	3.6	1.3	5.3	6.7	14.1	59%	4.0
Phoenix	WA-435-P	-	-	-	-	7.4	27.4	38.8	83.4	0.4	1.4	2.2	5.2	1.7	6.2	9.0	19.8	52%	4.7
Bewdy	WA-437-P	0.2	2.0	5.3	12.8	0.0	1.7	5.5	16.9	0.0	0.1	0.3	1.0	0.2	2.4	6.6	16.8	32%	2.1
Bottler	WA-437-P	0.4	2.5	6.2	14.8	-	-	-	-	-	-	-	-	0.4	2.5	6.2	14.8	32%	2.0
Peng	WA-437-P	0.1	0.8	1.9	4.7	1.0	3.6	4.5	9.3	0.1	0.2	0.3	0.6	0.3	1.7	3.0	6.9	59%	1.8
West of PS (vii)	WA-437-P	2.2	7.4	10.6	22.0	-	-	-	-	-	-	-	-	2.2	7.4	10.6	22.0	40%	4.2
Phoenix South Hove (viii)	WA-435-P									To be	e determi	ned							
Dorado Milne A (ix)	WA-437-P	-	-	-	-	9.1	53.2	85.8	203.2	0.4	2.6	5.0	11.9	2.0	12.0	20.0	47.6	23%	4.7
Dorado Milne B (ix)	WA-437-P	-	-	-	-	7.3	59.0	87.6	205.0	0.3	2.9	5.1	12.2	1.6	13.2	20.4	48.1	23%	4.8
Dorado Milne C (ix)	WA-437-P	-	-	-	-	16.5	83.2	113.0	249.6	0.7	4.0	6.6	15.1	3.6	18.6	26.4	58.9	23%	6.1
Dorado Milne D (ix)	WA-437-P	-	-	-	-	10.3	81.8	111.0	250.2	0.5	3.9	6.4	15.1	2.3	18.2	25.9	59.0	23%	6.0
Belgravia	WA-155-P	-	-	-	-	4.6	50.7	125.4	314.9	0.1	1.4	5.1	12.8	0.9	10.3	27.1	68.1	29%	7.9
Honeybadger	EP-491	12.0	86.0	144.0	340.0	-	-	-	-	-	-	-	-	12.0	86.0	144.0	340.0	15%	21.6
Kes	EP-475	3.0	21.0	50.0	126.0	-	-	-	-	-	-	-	-	3.0	21.0	50.0	126.0	18%	9.0
Belfon	EP-491	4.0	25.0	40.0	92.0	-	-	-	-	-	-	-	-	4.0	25.0	40.0	92.0	17%	6.8
Rudder	EP-491	4.0	26.0	36.0	80.0	-	-	-	-	-	-	-	-	4.0	26.0	36.0	80.0	25%	9.0
Bunji	EP-491	3.0	10.0	18.0	39.0	-	-	-	-	-	-	-	-	3.0	10.0	18.0	39.0	25%	4.5
Sparrow	EP-491	4.0	15.0	22.0	46.0	-	-	-	-	-	-	-	-	4.0	15.0	22.0	46.0	25%	5.5
Westy	EP-491	7.0	52.0	114.0	281.0	-	-	-	-	-	-	-	-	7.0	52.0	114.0	281.0	17%	19.4
Mighty	EP-491	10.0	50.0	94.0	226.0	-	-	-	-	-	-	-	-	10.0	50.0	94.0	226.0	11%	10.3
Gallant	EP-490	3.0	79.0	200.0	544.0	-	-	-	-	-	-	-	-	3.0	79.0	200.0	544.0	12%	24.0
Labyrinth	WA-521-P	27.0	226.0	420.0	1,083.0	-	-	-	-	-	-	-	-	27.0	226.0	420.0	1,083.0	34%	142.8
Labyrinth deep	WA-521-P	8.0	55.0	81.0	186.0	-	-	-	-	-	-	-	-	8.0	55.0	81.0	186.0	13%	10.5
Mouse	WA-521-P	50.0	267.0	361.0	793.0	-	-	-	-	-	-	-	-	50.0	267.0	361.0	793.0	26%	93.9
Mouse deep	WA-521-P	4.0	35.0	57.0	135.0	-	-	-	-	-	-	-	-	4.0	35.0	57.0	135.0	9%	5.1
Zebra	WA-521-P	6.0	113.0	214.0	541.0	-	-	-	-	-	-	-	-	6.0	113.0	214.0	541.0	10%	21.4
Hammock	WA-521-P	33.0	217.0	297.0	667.0	-	-	-	-	-	-	-	-	33.0	217.0	297.0	667.0	22%	65.3
Hammock deep	WA-521-P	3.0	47.0	80.0	196.0	-	-	-	-	-	-	-	-	3.0	47.0	80.0	196.0	9%	7.2
Dewdrop	WA-521-P	5.0	24.0	31.0	67.0	-	-	-	-	-	-	-	-	5.0	24.0	31.0	67.0	21%	6.5
Total		188.9	1,360.7	2,283.1	5,496.4	109.8	553.1	831.1	1,877.0	6.0	30.4	51.8	119.3	214.1	1,488.1	2,480.7	5,944.9		544.3

(i) Phoenix South gas and condensate Prospective Resources reflect the results from the Phoenix South-2 well as per ASX announcement 28 March 2017

(ii) The Roc C/D sands were interpreted to be hydrocarbon bearing at Roc-1 and Roc-2 based on petrophysical data, however lack of definitive hydrocarbon sampling has resulted in Carnarvon prudently placing these sands into the prospective category as per ASX Announcement 14 November 2016

(iii) The Roc Satellites are an arithmetic addition of the recoverable from Roc North, North-East, East and South-East satellite structures

(iv) The range of satellite prospects west of the Phoenix South discovery have been collated and added arithmetically and appear in the form as "West of PS"

(v) Hydrocarbon shows were encountered in the Hove Member while drilling the Phoenix South-2 well however resource estimates are not able to be calculated for this package until further data is available as per ASX announcement 28 March 2017

(vi) The Dorado Milne prospects are additional prospective horizons recognised from seismic that may occur deeper in the formation then the Caley



Refer to Carnarvon's ASX announcements of 14 November 2016, 28 March 2017, 8 May 2017, 13 June 2017 for comprehensive details of these volume estimates. These resources were calculated using probabilistic methodology.



Oil & gas volume – SPE definitions

Carnarvon calculates reserves and resources according to the SPE/WPC/AAPG/SPEE Petroleum Resource Management System ("SPE-PRMS") definition of petroleum resources. This was first published in 1997 by the SPE, and in an effort to standardise reserves reporting, has been further clarified by the SPE-PRMS in 2007. Carnarvon reports reserves in line with ASX Listing Rules.

<u>Reserves</u> represent that part of resources which are commercially recoverable and have been justified for development, while contingent and prospective resources are less certain because some significant commercial or technical hurdle must be overcome prior to there being confidence in the eventual production of the volumes. Carnarvon does not yet have reported reserves.

<u>Contingent resources</u> are less certain than reserves. These are resources that are potentially recoverable but not yet considered mature enough for commercial development due to technological or business hurdles. For contingent resources to move into the reserves category, the key conditions, or contingencies, that prevented commercial development must be clarified and removed. As an example, all required internal and external approvals should be in place or determined to be forthcoming, including environmental and governmental approvals. There also must be evidence of firm intention by a company's management to proceed with development within a reasonable time frame (typically 5 years, though it could be longer).

Prospective resources are estimated volumes associated with undiscovered accumulations. These represent quantities of petroleum which are estimated, as of a given date, to be potentially recoverable from oil and gas deposits identified on the basis of indirect evidence but which have not yet been drilled. This class represents a higher risk than contingent resources since the risk of discovery is also added. For prospective resources to become classified as contingent resources, hydrocarbons must be discovered, the accumulations must be further evaluated and an estimate of quantities that would be recoverable under appropriate development projects prepared.



Oil & gas volume - summary



Buffalo project

Buffalo contingent resources fall within the "Development Pending" category. Once Carnarvon finalises its redevelopment work the resources can be reclassified as reserves under the category "Justified for Development".

Phoenix project

Roc oil and gas is a contingent resource categorized as "Development Unclarified or On Hold". Successful results in Phoenix South-3 and or Dorado-1 in 2018 would likely result in a reclassification of the combined resources to "Development Pending".







The FPSO, showing the single-point mooring



The Buffalo Venture FPS

Buffalo project - background

The Buffalo field was discovered in October 1996, when BHP Petroleum tested the Buffalo-1 well. The well flowed at 12,000 bpd of light 53° API oil. The oil has a particularly low gas oil ratio of 110. The field was operated by BHP Petroleum and contained estimated reserves of 20 million barrels. Gross production peaked at 50,000 barrels per day over a five year field life.

The development comprised a rig-installed wellhead platform, tied back to a permanently moored, and converted FPSO, called the Buffalo Venture (pictured).

The five-wellhead unmanned steel platform produced crude oil (plus some associated gas and water) from a number of development wells. The well head platform was remotely controlled from the FPSO, via an umbilical. Oil, gas and water flowed to the permanently moored Buffalo Venture, via rigid steel flowlines and flexible catenary risers. The field was decommissioned in 2004.

Carnarvon secured the Buffalo project in May 2016 by agreeing to undertake a program of exploration work. Carnarvon was attracted to the project because the region contained and produced significant quantities of oil (namely around 250 million barrels) from a number of fields including the Buffalo field that produced around 20 million barrels from the Buffalo Venture FPSO.

Once the Buffalo project was secured, Carnarvon commenced reprocessing 3D seismic using FWI technology. The objective was to correct seismic errors caused by subsurface factors that impacted on the delineation of the oil field. This twelve month process involved reiterative processing and calibration to information that was known from existing wells in the area.







Buffalo project – technology solution

Based on Carnarvon's experience trialing the first use of FWI (Full Waveform Inversion) technology in Australia in the Phoenix project, Carnarvon was in a position to immediately foresee the potential for this technology in other areas; Buffalo being one of those.

The FWI technology and a suite of geological controls has vastly improved the accuracy of the 3D seismic data. On this new data previous well results begin to make more sense. Not prepared to simply rely on new maps over the field, Carnarvon engaged a number of independent experts to review the FWI work and to investigate in detail the work that Carnarvon has completed to date.

Detailed models of the reservoir, past, present and future have also been completed. This enables Carnarvon and the independent experts to dynamically review and assess the reservoir performance through time. History matching enables the Carnarvon team to model expected future production of oil and associated water.

Based on this work Carnarvon has calculated significant volumes of oil are still recoverable from the field. It is an ideal redevelopment opportunity within & extending the oil field to capture oil not targeted previously due to mapping on old data.

To put this into context, the previous production operations delivered approximately 20 million barrels of oil from the northern and western areas of the currently mapped structure.



Phoenix project - background

The Phoenix project (WA-435-P, WA-436-P, WA-437-P & WA-438-P) is located in the Bedout subbasin approximately 150 kilometres offshore from Port Hedland in Western Australia. square kilometres and importantly cover the entire Bedout sub-basin.

During the global financial crisis of 2008 and 2009 Carnarvon and its partner bid and secured the Phoenix permit on very low commitment terms. The four permits comprise a very large ~22,000

In 2011 3D seismic was acquired over key prospects in the permits and this 3D was the first ever acquired in this sub-basin.

In 2012 Apache Corporation (now Quadrant Energy) and JX Nippon joined the partnership committing to drill and fund the cost of the Phoenix South-1 and Roc-1 wells.

In 2014 and 2015/16 Phoenix South-1 and Roc-1 wells respectively were drilled and successfully discovered oil and gas.

In 2016 the Roc-2 well also discovered oil and gas and completed a successful flow test (refer photo of the Roc-2 flow test on this page). The well flow tested at 53 million standard cubic feet per day (mmscf/d) of gas and 2,954 barrels of oil (condensate). This was the maximum rate possible using the equipment on board.







Phoenix project – Phoenix South

In late 2016 / early 2017 the Phoenix South-2 well intersected the top of the primary reservoir and discovered oil and gas, but did not fully evaluate the resource due to the level of pressure encountered.

This was an encouraging result, and as such the Joint Venture has advanced plans to drill a follow-up Phoenix South-3 well. The well will be positioned approximately 450 metres from the Phoenix South-2 well and target the same primary reservoir containing the oil and gas.

The Transocean Limited GSF Development Driller-1 semi-submersible drilling rig (pictured on this page) has been contracted to drill the Phoenix South-3 well. Currently the the rig is expected to be on site in March 2018.

The Phoenix South primary reservoir (being the Caley interval) has a best estimate gross mean recoverable prospective resource of 489 billion standard cubic feet (Bscf) of gas and 57 million barrels of oil (condensate). This equates to 143 million barrels of oil equivalent.

Given the circumstances surrounding the Phoenix South-2 well and the associated pressures prohibiting evaluation of the reservoir, Carnarvon has claimed associated costs under its insurance policy. This claim is in an advanced stage of assessment, the proceeds from which are expected to cover a significant portion of drilling the Phoenix South-3 well.



Refer to Carnarvon's ASX announcements of 14 November 2016 and 28 March 2017 for comprehensive details of these volume estimates. These resources are calculated using probabilistic methodology.





Phoenix project - Dorado

The Dorado prospect is only some 15 kilometres south of the Roc discoveries with an interpreted multi sand reservoir covered by the same top shales that seal in the Roc oil and gas. Those shales are also interpreted as providing the side seal in a channel system as depicted in the image below. The oil and gas interpreted in the Dorado structure is in the same Caley interval as the oil and gas contained in the Roc structure. Dorado is a very strong exploration opportunity in the Phoenix project with the well expected to commencement in mid 2018.





Phoenix project – seismic cross section





Refer to Carnarvon's ASX announcements of 14 November 2016 and 28 March 2017 for comprehensive details of these volume estimates. These resources are calculated using probabilistic methodology.

CVN

Phoenix project – development concepts

The oil and gas discovered to date and to be targeted in 2018 very much suits a development that ties the oil and gas back to a central well head platform and offshore primary processing. Oil would be held in a Floating Production Storage and Offtake vessel for transfer from and shipping to markets for refining, likely in Asia. The gas has a number of possible market sources with development considerations expected to incorporate existing gas infrastructure in Western Australia.

Early stage work on development concepts has commenced ahead of the next phase of drilling operations in 2018. This work includes long lead time items and concept development with the flexibility to evolve as drilling results are confirmed.





Phoenix project – market scenarios

- 115°00'E 120°00'E 125°00'E 130°00'E INDONESIA INDONESIA SUMBA " dis IMOR ZONE OF COOPERATION AREAA **Buffalo Block** Timor Sea WA-523-P 100% AREAE Map Area Location TERRITORY OF ASHMORE/CARTIER NAPART BASIN BROWSE BASI Troughton Island Truscott Katherine 15°00'S DALY BASIN NORTHERN WESTERN Phoenix Blocks TERRITORY AUSTRALIA Greater Phoenix ROEBUCK BASIN WA-521-P 100% WA-435-P 20% WA-436-P 30% WA-437-P 20% ORD BASIN WA-438-P 30% CARNARVON BASIN DAMPIER CANNING BASIN SUB-BASIN LEGEND BEDOUT SUB-BASIN Non Operated Pe WA-524-P 100% Operated Permit Oil Field
 Gas Field -20°00'S BARROW SUB-BASIN - Gas Pipeline - Gas Pipeline **Cerberus Blocks** 11/200 N TP/27 100% Exm EP 490 100% Outtrim Block EP 491 100% 250 kilometres WA-155-P (1) 28.5% EP 475 100%
- Browse pipeline
 NWS JV (LNG)
- Port Headland
 pipeline (domgas)
- Pilbara mining (domgas)









Labyrinth project - background

The Labyrinth project (WA-521-P) is located in the Rowley Sub-basin, offshore North West Shelf, north of Carnarvon's Roc and Phoenix South hydrocarbon discoveries.

The interpretation of newly reprocessed 2D seismic in the permit has revealed several significant prospects and many leads, in the middle and early Jurassic deltaic reservoirs (refer seismic image bottom left on this page). The largest prospect identified is Labyrinth, with an aerial extent of 90km² at the Lower Depuch Formation level. A further seven prospects and leads have been high-graded and are listed in the table below, with at least a dozen additional structures identified.

Geological similarities with the highly prospective southern Browse Basin are clearly apparent from the early technical work and provide a very exciting analogue to the prospectivity of the WA-521-P permit. The Browse Basin contains extensive petroleum resources, with discovered ultimate recovery of hydrocarbons totalling over one billion barrels of oil and condensate, 34 Tcf of gas and 350 million barrels of LPG within the Icthys, Poseidon, Brecknock / Calliance / Torosa, Prelude, Argus, Cornea, Crown, Crux and Gwydion fields.







Labyrinth project - volumes

Three source rocks are mature and generating today in WA-521-P, comprising the proven Lower Jurassic Murat siltstone, Lower Depuch carbonaceous shales and Upper Triassic marine shale of the Upper Keraudren formation. Sizable structures and prolific source rocks come together to provide substantial recoverable oil volume estimates within this permit.

Prospective Recoverable Resources												
Prospect	Block	Target Reservoir	Pmean (mm bbls)	P90 (mm bbls)	P50 (mm bbls)	P10 (mm bbls)	Carnarvon Equity	Unrisked Pmean (mmbls)	Chance of Discovery	Risked Pmean (mm bbls)		
Labyrinth	WA-521	Lower Depuch	420	27	226	1083	100%	420	Risking			
Mouse	WA-521	Lower Depuch	361	50	267	793	100%	361	dependent			
Zebra	WA-521	Bedout	214	6	113	541	100%	214	on 3D but initial peer			
Labyrinth deep	WA-521	Bedout	81	8	55	186	100%	81	review in	Not applicable		
Hammock	WA-521	Bedout	80	3	47	196	100%	80	the range of	appricable		
Mouse deep	WA-521	Bedout	57	4	35	135	100%	57	chance of			
Orb	WA-521	Bedout	41	4	26	97	100%	41	success			
			1254					1254				



Refer to Carnarvon's ASX announcements of 13 June 2017 for comprehensive details of these volume estimates. These resources are calculated using probabilistic methodology.

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Outtrim project - Belgravia prospect

The Outtrim project (WA-155-P(1)) is located in the Exmouth basin and contains the significant Belgravia prospect in the Triassic interval. The prospect is similar in size and geology to the nearby Woodside operated Swell Triassic prospect.

The Atwood Osprey rig drilled the Swell-1 well in late 2017 into a large 450 metre gross gas column in tight reservoir. The Belgravia prospect is updip of Swell and some ~650 metres shallower. Meaning possible better quality reservoir compared to the deeper Swell reservoir.

Belgravia is an upper Triassic tilted fault block that is covered by 3D seismic data. The Belgravia structure has a 45 square kilometre closure in water depths of less than 180 metres. Belgravia is approximately 20 kilometres south-west of the Swell Triassic prospect. The reservoir is expected to be Upper Triassic in age, as part of the greater Upper Triassic play system within the Northern Carnarvon Basin.

The Upper Triassic play system is the most successful petroleum play within the North West Shelf creating a heartland of LNG and gas condensate discoveries. Upper Triassic reservoirs have underpinned fields such as Gorgon, Rankin and Wheatstone. The petroleum trapped within this play tends to be simple fault block structures. Reservoir quality can be excellent where in the correct facies and depth of burial conditions. Wells at the Gorgon gas field (North East of the area of interest) have proven that Upper Triassic stratigraphy can preserve good reservoir quality and flow hydrocarbons from depths over 4,000 metres.







Maracas project - background

The Maracas project (WA-524-P) is situated on the flanks of the Dampier Sub-Basin, a part of the highly prospective Greater Carnarvon Basin, on Western Australia's North West Shelf. This large 1,210km² permit is located on the Enderby Terrace, which contains a number of untested yet attractive play types in a proven basin which includes the Stag, Wandoo and Legendre oil fields, plus the Reindeer gas field.

The project was acquired by Carnarvon in 2016 by committing to a very low work program. Before bidding Carnarvon identified three potential leads within the block and is aiming to de-risk the elements of the play, with a number of geoscience work flows.

The work flows will include a regional source rock study and 3D seismic reprocessing with modern Full Wave form Inversion (FWI) technology aimed at greatly improving the quality of the 3D seismic interpretation, which also act as a precursor to rock physics studies aimed at improving our confidence around the reservoir properties. These work flows allow Carnarvon to add significant value to the asset while undertaking a forward work program that has a modest financial obligation. Carnarvon's technical team will further investigate the potential of a secondary play system in the shallower Cretaceous stratigraphy, which has seen great success in the nearby Stag and Wandoo oil accumulations. Successful exploration in this region would provide attractive returns on investment due to leads being situated in relatively shallow water, located at a moderate reservoir depth and the acreage being near existing services and infrastructure.



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Board of Directors



Peter Leonhardt – Chairman

An independent company director and adviser with extensive business, financial and corporate experience. Peter is a Chartered Accountant, former Senior Partner with PricewaterhouseCoopers and Managing Partner of Coopers & Lybrand in Western Australia.



Adrian Cook – Managing Director & Chief Executive Officer

An executive with experience in commercial and financial management, including as the former Managing Director of Buru Energy Limited and in senior executive positions within Clough Limited's oil and gas construction business and with ARC Energy Limited.



Bill Foster – Non-Executive Director

An independent company director with extensive technical, commercial and managerial experience in the energy industry, covering particularly M&A, project financing and marketing. Bill has been a long standing advisor to a major Japanese trading company in the development of their global E&P and LNG activities.



Dr Peter Moore – Non-Executive Director

An independent company director with extensive experience in exploration and production in Australia and internationally. Peter led Woodside's worldwide exploration efforts as the Executive Vice President Exploration and was the Head of the Geoscience function (Exploration, Development, Production, M&A).





Management team



Adrian Cook – Managing Director & Chief Executive Officer



Philip Huizenga - Chief Operating Officer



Dr Stephen Molyneux – Exploration Manager



Dr Jeff Goodall – Chief Geologist



Andrew Padman - Chief Geophysicist



Thomson Naude – Chief Financial Officer and Company Secretary





Corporate

1. ASX ticker

- 2. Shares on issue
- 3. Share price (16/1/18)
- 4. Market capitalization (16/1/18)
- 5. Cash on hand (31/12/17)
- 6. Substantial shareholders

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1,028 million 10.5 cents \$108 million \$49 million none

Carnarvon's 52 week share price



Shareholder analysis at 31 Dec 2017







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Act Different