

# **Emperor Energy (ASX: EMP) Hong Kong Presentation**

**April 2018** 



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Information on the Reserves and Resources on the Company's operated assets in this release are based on an independent evaluations conducted by 3D-Geo Pty Ltd (3D-Geo). 3D-Geo is a independent geoscience consultancy specialising in petroleum. The technical work was undertaken by a team of geoscientists and petrophysicists and is based on open-file seismic and well data and data supplied by EMP. The technical assessment was performed primarily by, or under the supervision of Keven Asquith, Director 3D-Geo.

The technical information quoted has been complied and / or assessed by Mr. Geoff Geary who is a professional geologist (Bachelor Science – Geology) with over 35 years standing and who is a Member of Petroleum Exploration Society of Australia. Mr. Geary has consented to the inclusion in this announcement of the matters based on the information in the form and context in which they originally appear – investors should at all times refer to appropriate ASX Releases.

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#### **Key Points**

- Electricity shortfall occurring on East Coast of Australia
- Closure of Coal Fired Power Stations has reduced capacity
- Increasing reliance on gas for baseload electricity
- An East Coast domestic gas shortfall is occurring due to unsatisfied demand by new Queensland LNG plants. Gas prices are high.
- EMP holds 100% ownership of a strategic Oil and Gas Exploration Permit in Bass Strait Vic/P47 (Judith and Judith North Structures)
- 3D seismic reprocessing, interpretation, mapping and petrophysics review study have returned highly encouraging results.
- P50 unrisked Gas-in-Place at Judith / Judith North Structure estimated at 1.8Tcf.
- The P50 unrisked Gas Recoverable is estimated at 1.17 Tcf.



#### **Company overview**

Ph:

- ASX Listed Energy Company (ASX: EMP), Options (ASX: EMPOC)
- Strategic asset in the Gippsland Basin adjacent to the BHP/Exxon Mobil Kipper Gas Field
- Strong management team with extensive exploration and financial experience
- Strong shareholder alignment with management holding 20% ownership and top 20 holding 65% ownership

		Financials		
Auditors Lawyers Share registry	Deloitte, Melbourne Hopgood Ganim, Perth Automic, Sydney	Share price 28 Mar 2018 Number of shares Number of options	\$0.004 865M 518M	
Office:	Level 32, 1 Market St, Sydney NSW Australia 2000	Market capitalisation	\$3.5M	

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#### The Team



### Carl Dumbrell Director & Secretary

- Appointed July 15
- Extensive advisory experience to ASX, AIM and FTSE companies
- Chartered Accountant, Australia, England & Wales

### Justyn Peters Director

- Appointed August 16
- Executive Chairman Leigh Creek Energy Ltd (ASX: LCK)
- Linc Energy Executive
   General Manager (6 years)
- Graduate law and politics degrees

#### Vaz Hovanessian Director

- Appointed August 16
- Over 25 years experience with junior O&G companies
- Executive chairman
   Mandalong Resources and
   Broad Investments
- CPA, Australia

#### **Phil McNamara**

- Over 30 years in the resource industry
- Former CEO and Managing Director, Amour Energy
- Former Managing Director
   Waratah Coal
- Qualified Mining Engineer

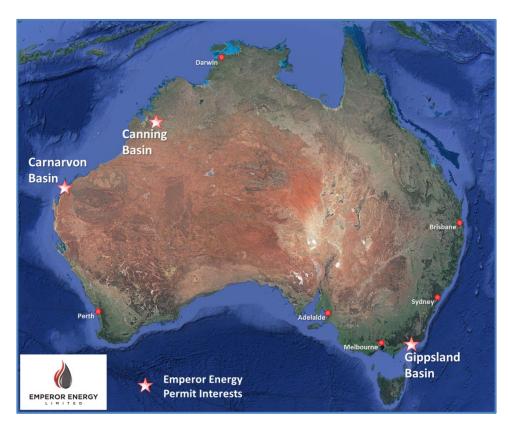
#### **Geoff Geary**

- Over 35 years experience as a geologist in the Petroleum industry
- Member of the Petroleum Exploration Society of Australia.
- Extensive experience in the Bass Strait with Shell

#### **Schedule of Tenements**



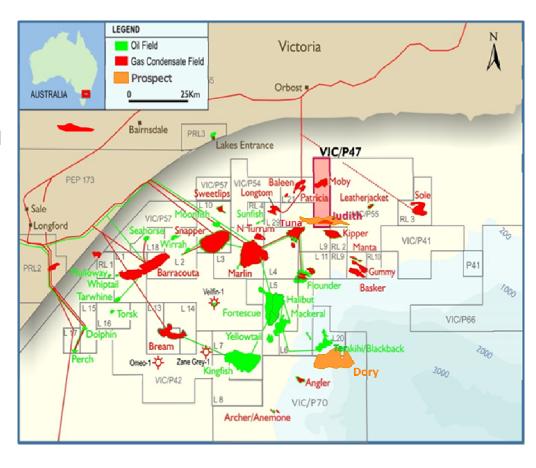
Permit	Туре	Location	Ownership
Vic/P47	<b>Exploration Permit</b>	Offshore Gippsland Basin	100%
Backreef	<b>Exploration Area</b>	Onshore Canning Basin	100%
R1/R3	Retention Lease	Offshore Carnarvon Basin	100%



#### **Gippsland Basin**

- Australia's premier hydrocarbon province
- Located 200 km east of Melbourne
- Exploration commenced in 1924
- Over 400 exploration wells
- Some 90,000 line km of 2D seismic
- More than forty 3D seismic surveys
- Petroleum infrastructure well developed with a network of pipelines to onshore petroleum processing facilities at Longford and Orbost.
- Gas delivered across southeastern
   Australia to Sydney, Adelaide, Tasmania
   and Queensland
- Operators include Esso/BHPP, Seven Group, 3D-Oil and Cooper Energy
- Esso/BHP have developed the Kipper gas field adjacent to Vic/P47 investing over \$5.5 billion in the basin as part of its Kipper – Tuna – Turrum gas project
- 2018 sees new development of Sole Gas
   Field by Cooper and two exploration wells
   at Dory by Esso

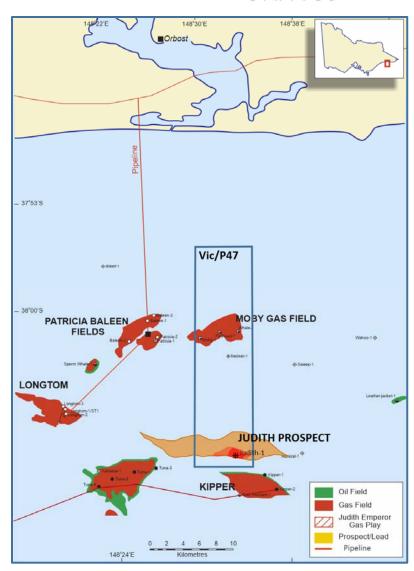




#### Vic/P47 - Bass Strait Victoria



- EMP holds 100% of 202 km<sup>2</sup> Vic/P47 Permit
- EMP is Operator of the Permit
- Shallow water depths: 20 85 m
- Two-gas discovery wells drilled within the permit:
  - Judith-1 drilled by Shell in 1989
  - Moby-1 drilled by Bass Strait Oil in 2004
- 3D seismic reprocessing, mapping and interpretation completed in August 2017
- 1.8 Tcf Gas-in-Place Estimate at Judith Prospect
- Longtom gas field 15 km to west of Vic/P47
   provides a good analogy for successful appraisal,
   potential development and production from
   Emperor Sub Group Reservoirs at Judith
- Judith is located 2 km north of the Kipper Gas
   Field brought recently into production by Esso /
   BHP Petroleum
- Permit renewed for 5 years in February 2018







#### **Summary of Gross Contingent Resources for the Judith Discovery**

(Gaffney Cline & Associates, 2013)

	Gas-in-Place Bcf				Gas Recoverable Bcf Gross Contingent Resources		
Block	P90	P50	P10	C90	C50	C10	
Judith	67	155	368	37	101	276	
Total	67	155	368	37	101	276	

## Summary of Gas-in-Place for the Judith and Judith North Blocks – Unrisked, probabilistic conservative case (3D-GEO evaluation, 2017)

Unrisked Probabilistic	Gas-in-Place Bcf <sup>1</sup>			Gas Recoverable Bcf <sup>2, 3</sup>		
Block	P90	P50	P10	P90	P50	P10
Judith	300	420	550	165	273	413
North	1200	1380	1550	600	897	1163
Total	1500	1800	2100	825	1170	1575

- 1. Includes area assessed by Gaffney Cline & Associates (2013)
- 2. Gas recovery factors from Gaffney Cline & Associates (2008 & 2013)
- 3. Preliminary, indicative recoverable gas volumes only

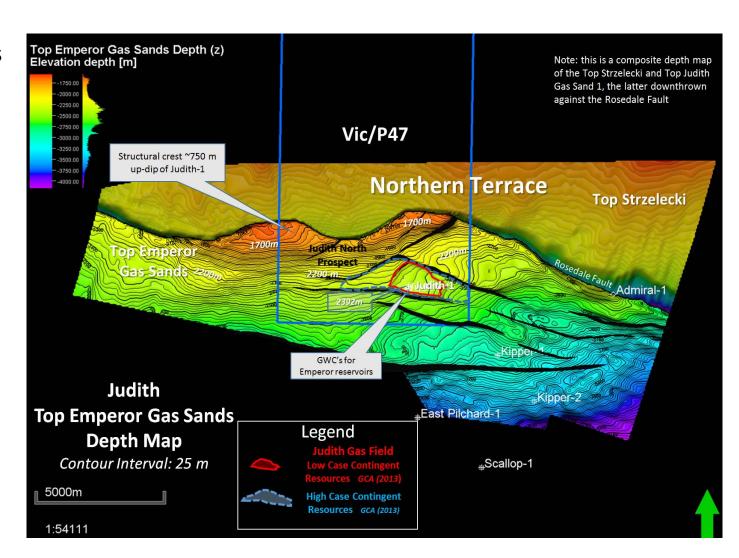
### **Depth Mapping: Top Emperor Gas Sands**



Top of Emperor Gas
Sands from
reprocessed 3D
seismic data.

Shows location of Judith 1 drilled structurally downdip close to or at gas – water contact.

The Judith North Block structural crest is shown 750m up-dip of Judith 1



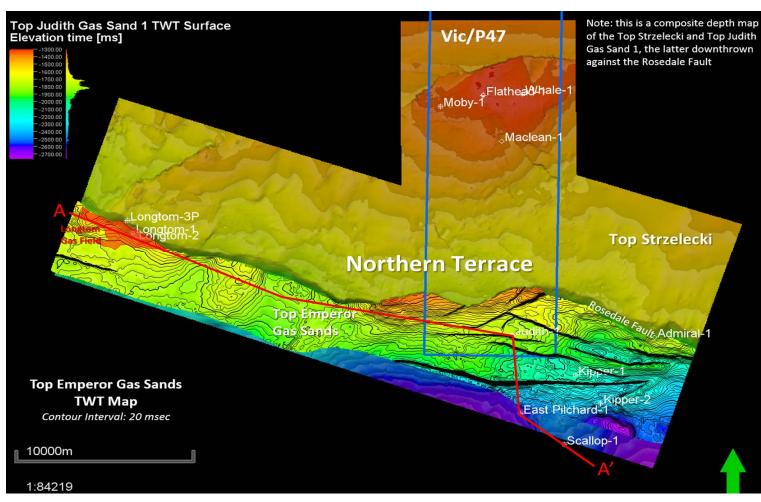
### Petro-physics Study Completed



- Four (4) reservoirs
- Net Reservoir Thickness of 234m
- Net gas pay (in gas sands) of 162m
- Average Porosity in gas pay reservoirs of 13 14.9%
- Average Permeabilities in gas pay reservoirs of 0.7 1.9 millidarcies (md)
- Average Gas Saturations for gas sands vary from 39.9 45.4%
- Lowest-Known-Gas (LKG) picked in four reservoirs
  - suggests that Gas-Water-Contacts are nearby down-dip from Judith-1
- Judith-1 drilled through a major fault 50 m above the upper gas sand
- Fluid flow from the fault zone has likely caused local reduction in porosity and permeability
- Evaluation suggests that Depth-of-Burial is the major factor controlling reservoir degradation
- Improved gas reservoir characteristics as good as, if not better than the Longtom wells are expected to be developed up-dip of Judith
- Longtom Analogue suggests that Judith-1 gas reservoirs are likely to be sufficiently developed over the Judith structure to be commercially productive particularly where horizontal drilling is employed in development wells as at the Longtom Gas Field.







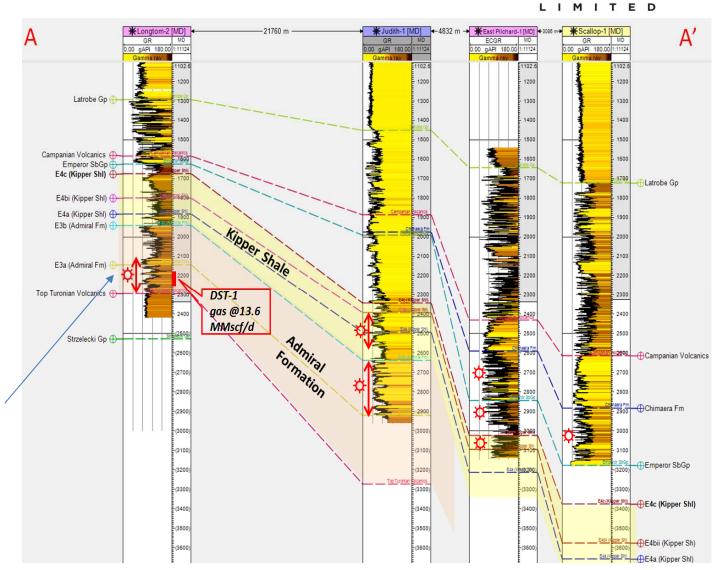
Judith Structure in Vic/P47 is located 15km along strike to the East of Longtom Production Field

#### **Longtom Analogue**



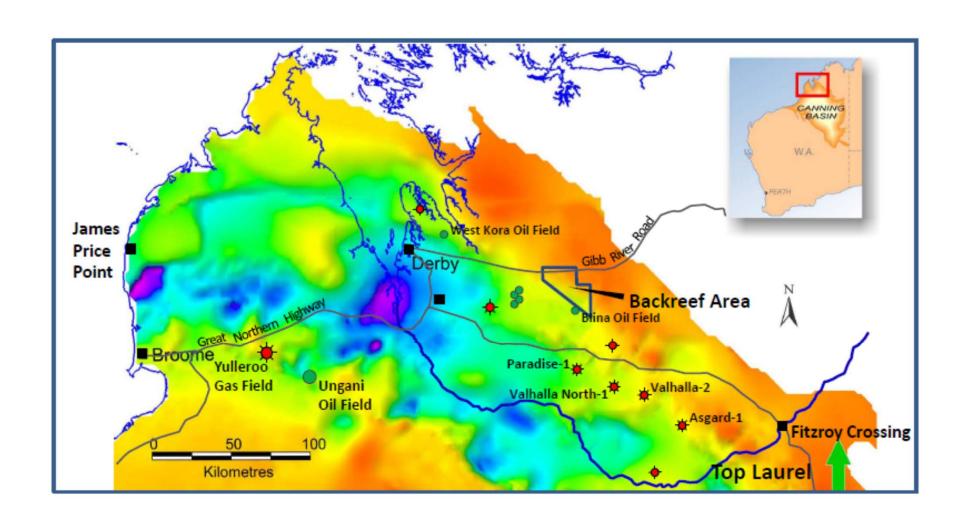
Well correlation between Longtom-2 and Judith-1 suggests potential for additional reservoir development below Total Depth (TD) of Judith-1

This includes the interval that flowed at 13.6 MMscf/d from DST-1 at Longtom-2





### Canning Basin, Western Australia Backreef Block



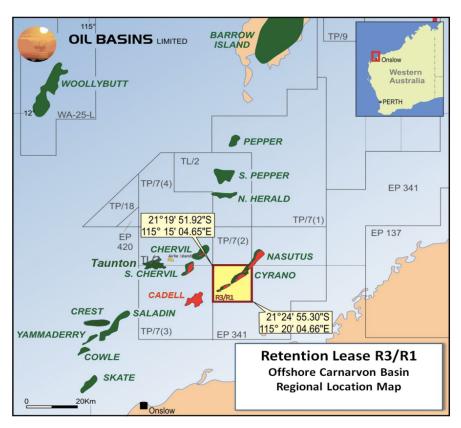
### Canning Basin, Western Australia Backreef Block



- EMP owns 100% of the Backreef Block and is Operator
- Backreef-1 was drilled in October 2010 to a depth of 1800m
- Oil was discovered in porous and permeable Laurel dolomites
- Production tests confirmed the discovery as non-commercial
- The well is currently cased and suspended at 1155 m.
- Environmental plan lodged in September 2017
- Environmental site visit by EMP and DMIRS in October 2017
- The company plans to carry out surface rehabilitation in 2018
- The company will monitor exploration activity in the basin and reserves the right to recommence work if economic conditions improve.

## Carnarvon Basin, Western Australia Retention Lease R3 / R1 (Cyrano)





- Cyrano has Contingent Resource (2C) of 3.01 MMbbl of oil.
- Additional Prospective Resources (P50) estimated at 0.928 MMbbl.



### Carnarvon Basin, Western Australia Retention Lease R3 / R1 (Cyrano)

- EMP is Operator and holds 100% of R3/R1
- Permit Area 81 km<sup>2</sup>
- The Cyrano Oil Field was discovered in 2003
- The field is defined by 4 vintage wells and 3D seismic
- The field in located in 17 m of water.
- Productive reservoirs commence at 600 m depth.
- Permit renewed for 5 years in early 2017



#### 2017/18 Company Highlights

- Completion of 3D seismic reprocessing and mapping over Vic/P47 including the Judith Structure
- **P50 unrisked Gas-in-Place** within the Judith and Judith North structure were then estimated at **1.8 Trillion cubic feet (Tcf)**
- Renewal of Vic/P47 for five years
- Successful rights issue to raise \$1.55 Million before costs
- Completion of Petro-physics review of Judith



# **Company Outlook & Exploration Strategy**

- Progress further geological assessment of the Judith Structure
- Next phase is Reservoir Engineering (Static and Dynamic Models) of the Judith and Judith North structure
- Proceed to a revised Resource Statement for the Judith Gas field reflecting the current 1.8 Tcf unrisked Gas-in-Place estimate
- Design and cost a Judith Exploration Well
- Engage with upstream gas companies, explorers and investors in relation to the Judith Gas Field
- Progress drilling program to spud a Judith well in early 2021
- Assessment and due diligence of other energy assets and opportunities



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