

# Investor Presentation August 2017

Fueling China's Clean Energy Future

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# Q2 Highlights





Q2 gross production averaged ~17 MMscf/d, up 10% on Q1
On-track to deliver production within guidance



New GSA's signed, significantly improving off-take reliability
Fixed price of ~US\$6.40/Mscf (~A\$8.00/Mscf)<sup>1</sup>



Work programme on track to deliver low cost / high margin production growth

- Linxing North CGS on schedule site preparation and module fabrication progressing
- Well costs reduced ~15% versus 2016 average



#### Linxing and Sanjiaobei ODPs on track for submission in 2H

ODP process being streamlined with reduced approval requirements



#### Linxing option purchased to acquire additional 5.25%<sup>2</sup> working interest in Linxing PSC



#### Maintain robust financial position

- SGE to post Q2 profit pre-shareholder financing costs with strong margin ~US\$4/Mscf (~A\$5.30/Mscf)<sup>3</sup>
- Revenue streams secured new GSAs and Sanjiaobei gas sales proceeds received
- End 2Q cash position US\$33 million

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1. GSA denominated in RMB. Assuming RMB:USD exchange rate of 6.78 2. Assuming full partner back in at ODP ASX **SEH** 

2

 Margin is calculated as the Joint Venture net revenue after VAT and partner share less operating expenses per Mscf of sales. Please refer to non-IFRS Financial Information note on page 23



ASX SEH

3

#### Vorld scale, low cost, high margin resource

- 5.3 tcf gross discovered resources 2.1 tcf 2P & 3.2 tcf 2C
- ~US\$1.20 /mcf full-cycle cost<sup>1</sup>

#### Well positioned in attractive China gas market

- Robust pricing and ready access to infrastructure
- Supportive government policy

#### Full cycle E&P with clear monetisation strategy

- Strong production outlook
- ODP process well underway

#### **Robust financial position**

- Self-funding underlying business
- Built-in liquidity to fund growth

#### Track record in China

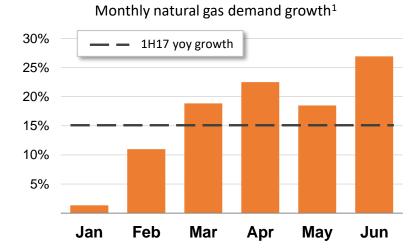
- Established partnerships and relationships
- Experienced management team

sinogasenergy.com <sup>1.</sup> Based on RISC's base-case development of Reserves, at the wellhead, not including transportation to citygate. To be read in conjunction with Resource Statement on slide 23

## **2017 Gas Demand Growth Continues to Surge**



- 2Q17 demand growth up 22%<sup>1</sup>, 1H17 up 15% yoy
- Double digit gas demand driven by strong 1H economic growth
- Demand growth driven by coal to gas switching, increased gas fired power generation, surge in gas fueled transportation



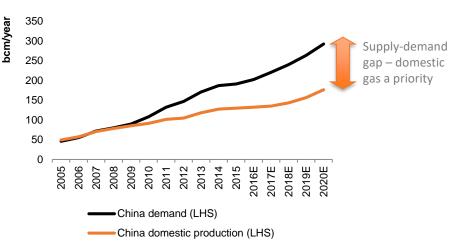
#### **Policy to Accelerate Gas Demand**

- Government reiterated goal of increasing natural gas' share of primary energy to 10% in 2020 and 15% in 2030
- ✓ Key areas of policy support specific to Sino Gas include:
  - Elimination of industrial coal and switching to natural gas in Sino Gas' target markets;
  - Expansion of pipeline networks and lower transportation costs;
  - Accelerating natural gas usage in transportation, residential and power generation;
  - Increased investment in exploration and development of domestic gas resource in order to meet rising demand

## **Strong Long Term Gas Market Fundamentals**

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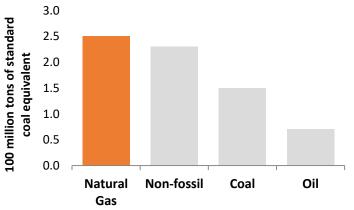
- Growing import dependency as demand growth outstrips supply
- Gas price increasingly market based, underpinned by cost of supply
- Key policy reforms aimed at:
  - Improving market structure
  - Spurring demand
  - Encouraging domestic production



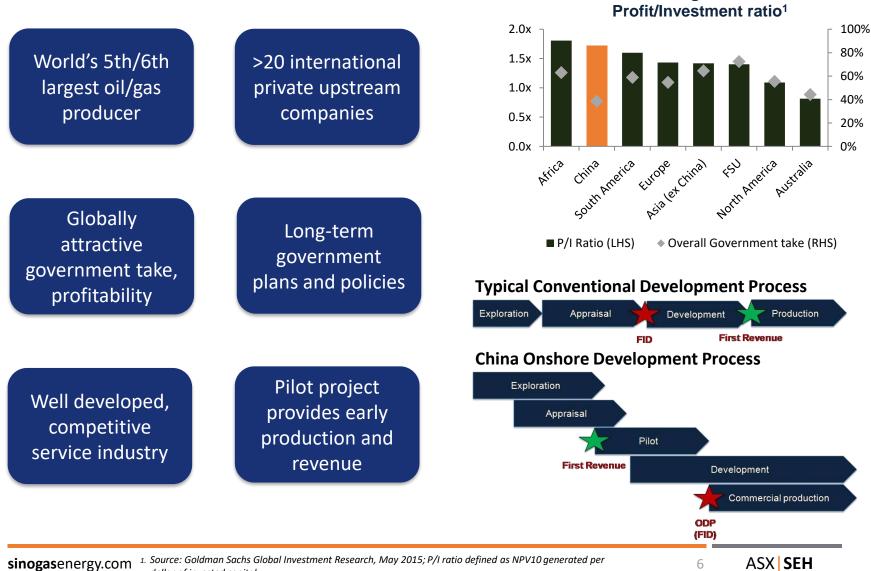
#### China natural gas supply-demand outlook<sup>2</sup>



#### Incremental Energy Consumption in 13th FYP by Fuel<sup>1</sup>



#### **China: A Well Established & Favourable Fiscal and Regulatory Regime** China favorable government take &



dollar of invested capital

Gas & Energy

## **Company Snapshot**

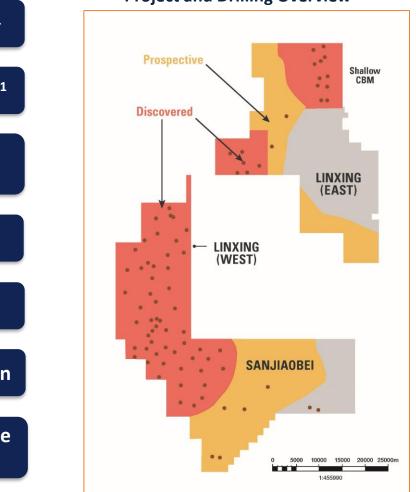


<b>Corporate Information</b> (15	August 2017)	Share Register (July 2017)				
ASX Listed (S&P ASX 300) Share Price Issued Shares Market Cap Cash Balance (30 June 2017) Drawn/undrawn debt facilities	SEH A\$0.08 2,114m A\$169m US\$33m US\$10/40m <sup>1</sup>	<ul> <li>Corporate Shareholders</li> <li>Institutional Investors</li> <li>Directors, Employees &amp; Related Parties</li> <li>Private Stakeholders &gt; 3m shares</li> <li>Private Stakeholders</li> <li>Chinese shareholder base has increased to ~5% up from ~2% in January 2017.</li> </ul>				
		to ~5% up	from **2% in Januar	y 2017.		
<b>12 Month Share Price Performance</b> (15 August 2017)		Top Shareholders (July 2017)				
0.15	and the second s	FII Investment Management	<b>Shares (m)</b> 203 7	<b>%</b> 9.6%		
0.15 - 0.10 - 0.05 -		FIL Investment Management Commonwealth Bank of Australia	203.7	<b>%</b> 9.6% 9.3%		
0.10	ADI'N NOTI JUNIT JUNIT		203.7	9.6%		



## **World-Scale Proven Reserves & Resources**





#### **Project and Drilling Overview**

2P Reserves of 2.1 tcf (~357mmboe) gross<sup>1</sup>

2C Resources of 3.2 tcf (~530mmboe) gross<sup>1</sup>

P50 Prospective Resources of 3.5 tcf (~580 mmboe) gross<sup>1</sup>

PSCs ~3,000km<sup>2</sup> (740,000 acres)

Highly delineated resource

Analogous to major producing fields in basin

LNG equivalent scale at less than 20% of the equivalent LNG cost<sup>2</sup>

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 Reserve and Resource estimates as of December 31, 2016. Refer to slide 23 for details of the Company's net share of Reserves and Resources. To be read in conjunction with Resource Statement on slide 23. mcf to boe conversion 6:1.
 Compared to US\$/mcf capex + opex of Pluto, PNG, Gladstone, Prelude and Darwin LNG projects

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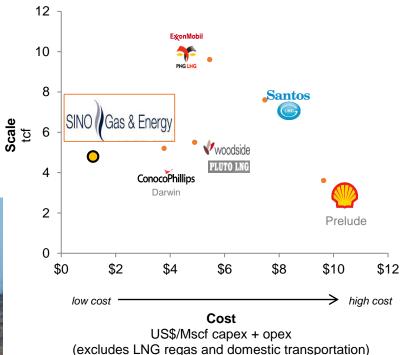
 Source: Comparative projects: Wood Mackenzie May 2016, Company Reports; Sino Gas: December 31, 2015 RISC 2P + 2C development scenario; Nominal costs inclusive of inflation of 2.5% per annum; Excludes regasification and domestic transportation costs.

## LNG Equivalent Scale at a Fraction of the Cost

- Sino Gas' Ordos basin projects expected to supply natural gas into China at similar scale to total output of major LNG projects
- Total cost (capex + opex) estimated to be less than 20% the average cost of these LNG projects



Sino Gas vs. major LNG projects<sup>1</sup>



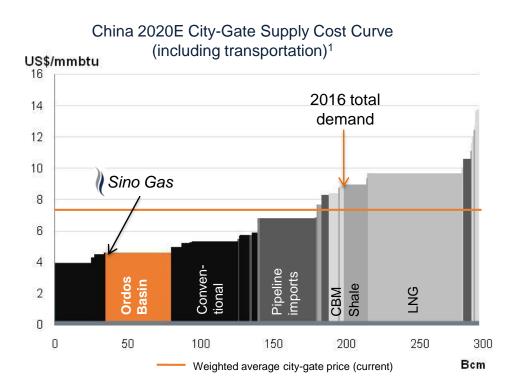


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## Low Cost Advantage Drives High Margins



- Significant cost advantage estimated wellhead (excluding transportation) capex + opex of ~US\$1.20/mcf<sup>2</sup>
- $\sim$  Low cost drivers:
  - Simple vertical well development, limited fraccing
  - Moderate reservoir depths (~1,200-2,000m)
  - Stacked reservoirs drive high per well ultimate recoveries
  - High quality gas (~95% methane)
  - Proximity to pipeline infrastructure
  - Well developed service sector
- Imports, CBM and shale expected to remain at the high end of the cost curve



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m 1. Source: IHS, China's Natural Gas Supply and Cost Outlooks, August 2016, assumes oil price in 2020 of US\$72.60/bbl, inclusive of transportation to city-gate

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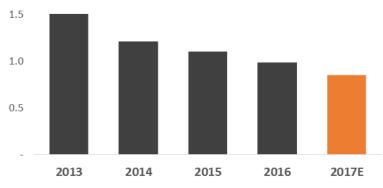
2. Based on RISC's base-case development of Reserves, Contingent & Prospective Resources at the wellhead, not including transportation to city-gate. To be read in conjunction with Resource Statement on slide 23.

## **Continuously Improving Low Cost Advantage**

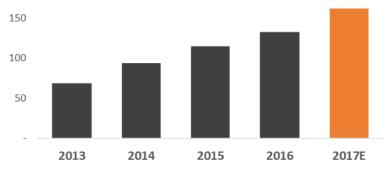




Average vertical drill, frac and complete costs US\$mm



Cumulative wells drilled # of wells

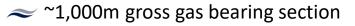


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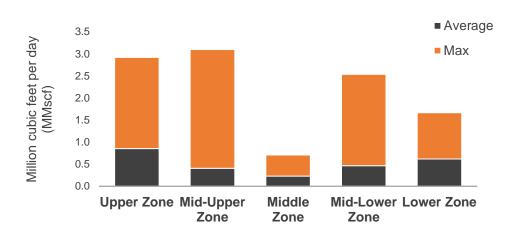
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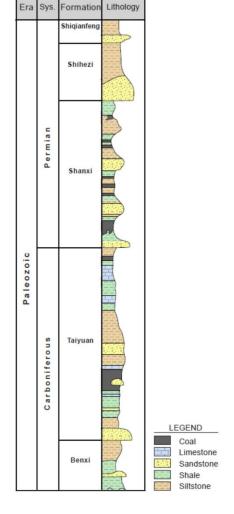
## Low Risk Reservoir, Proven Deliverability





- ✓ Stacked reservoir units up to 16 sands per well
- Analogous to other major producing fields in Ordos Basin Changbei (Shell), Sulige (CNPC), South Sulige (Total)
- Technology application driving year over year productivity improvements
  - Average pilot well brought onstream in 2016 tested ~1 MMScf/d
  - First horizontal well produced over 1 Bcf in under 2 years

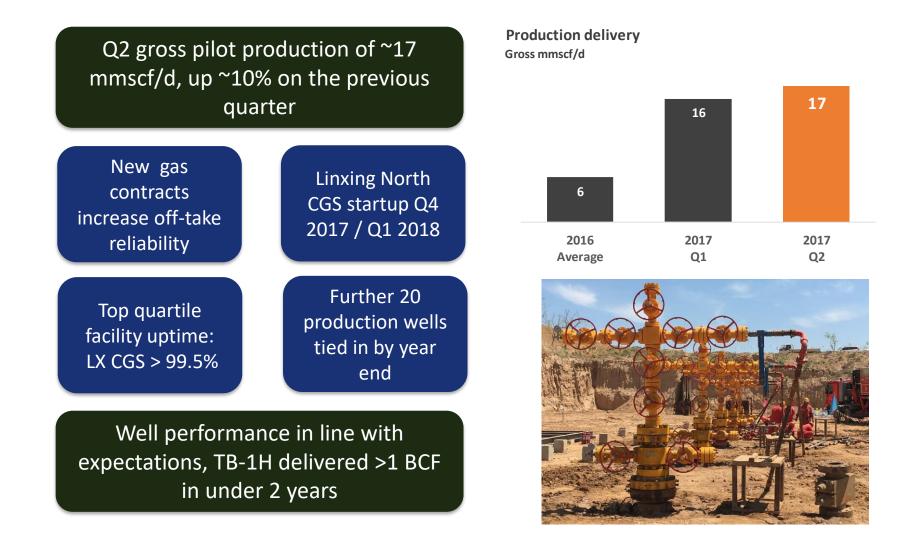






### **Pilot Production Project Delivers Early Cashflow**

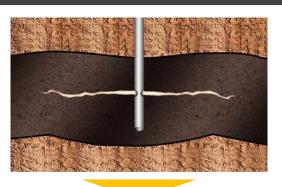




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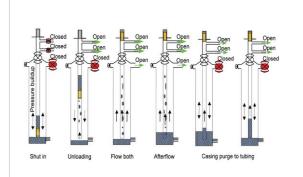
#### **Optimising Fracking Process**

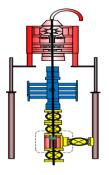




 Frac optimization increases impact area and results in improved well EUR and deliverability

### **Improved Liquids Handling**





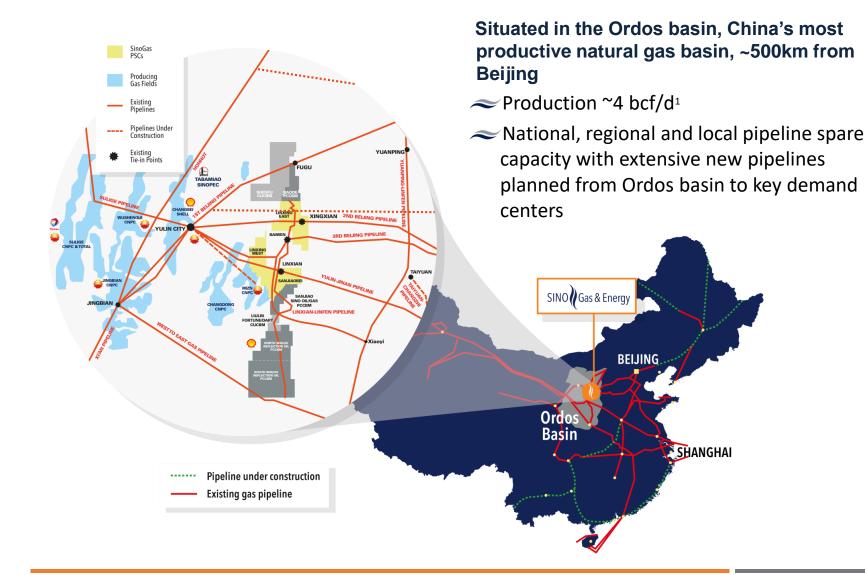
#### Plunger Lifting

Velocity String

- Improved liquids handling (water and condensate) via proven technology offsets well decline
- Planned for installation in new production wells in 2H
- Frequently deployed in Ordos basin gas fields

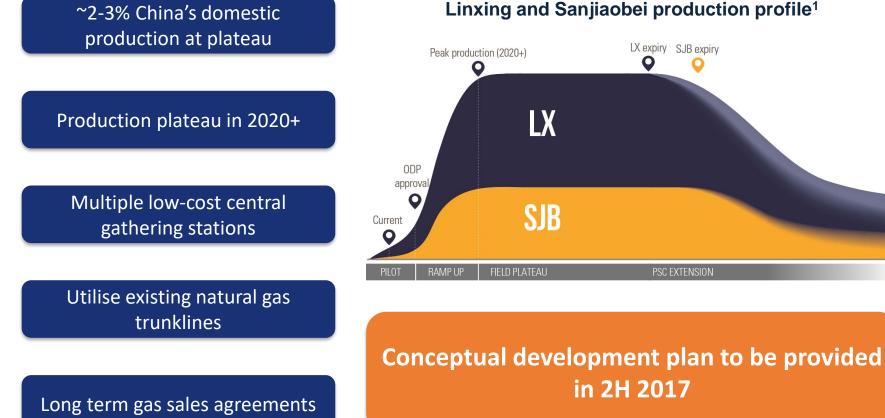
## **Ready Access to Key Demand Centres**

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**Full Field Development Planning Underway** 





#### Linxing and Sanjiaobei production profile<sup>1</sup>

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LX expiry SJB expiry

**PSC EXTENSION** 

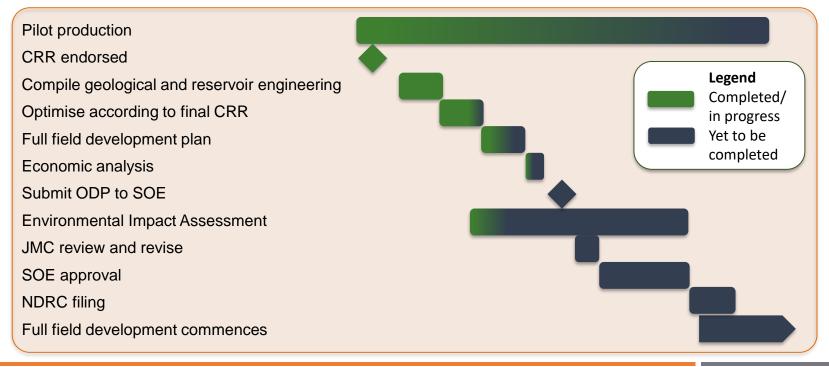
1. Based on RISC's 2P + 2C estimates, may be subject to change, refer to Disclaimer on Slide 23. sinogasenergy.com

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## **Overall Development Plan Process**



- ← ODP process being streamlined with reduced approval requirements
- ODP approval fully de-risks project and represents commencement of full field development
- $\sim$  ODP progressing in close cooperation with SOE partners
- ← Five Year Energy Plan supports acceleration of ODP at Linxing



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## **2017 Priorities On-Track**



Key Objectives	<ul> <li>Maximise production, revenue, technical data collection</li> <li>Install additional processing capacity</li> <li>Complete ODP processes</li> </ul>
Technical	<ul> <li>Announced increase in reserves &amp; resources</li> <li>Prepare full field development plan</li> <li>Targeted additional exploration</li> </ul>
Operational	<ul> <li>Maintain safety record</li> <li>Target average production 18-21 MMscf/d</li> <li>Further well productivity and cost optimisation</li> <li>Install new Linxing North CGS</li> </ul>
Regulatory	✓ Submission of the first ODP in 2017 with approval in late 2017/early 2018
Commercial	<ul> <li>Purchase option for additional interest in Linxing</li> <li>Secure additional gas sales agreements</li> <li>Receive Sanjiaobei gas sales proceeds</li> </ul>
Financial	<ul> <li>Prudently manage activity and spend to maintain strong liquidity</li> </ul>
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## Pilot Program Pictures Linxing Central Gathering Station















## **Pilot Program Photos**





Sanjiaobei Central Gathering facilities commissioned



Pad Drilling Christmas Trees



Linxing Flare Tower



Linxing East testing

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# 谢谢 Thank-you

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## Disclaimer (1 / 2)



Sino Gas & Energy Holdings Limited (ASX:SEH, "Sino Gas", "the Company") holds a 49% interest in Sino Gas & Energy Limited ("SGE", "Joint Venture") through a strategic partnership with China New Energy Mining Limited ("CNEML") to develop two blocks held under Production Sharing Contracts (PSCs) with CNPC and CUCBM. SGE has been established in Beijing since 2005 and is the operator of the Sanjiaobei and Linxing PSCs in Shanxi province. Sino Gas holds an option to acquire an additional 5.25% participating interest (assuming full partner back-in) in the Linxing PSC at ODP by contributing 7.5% of historical back costs to SGE.

SGE's interest in the Linxing PSC with CUCBM is 64.75% and 49% for the Sanjiaobei PSC held with PCCBM. SGE has a 100% working interest during the exploration phase of the PSC, with SGE's PSC partners being entitled to back-in upon Overall Development Plan (ODP) approval, by contributing development and operating costs in line with their PSC interest. Sino Gas holds an option to acquire an additional 5.25% participating interest (assuming full partner back-in) in the Linxing PSC at ODP by contributing 7.5% of historical back costs to SGE.

Certain statements included in this release constitute forward looking information. This information is based upon a number of estimates and assumptions made on a reasonable basis by the Company in light of its experience, current conditions and expectations of future developments, as well as other factors that the Company believes are appropriate in the circumstances. While these estimates and assumptions are considered reasonable, they are inherently subject to business, economic, competitive, political and social uncertainties and contingencies.

Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, gas prices, exploration, acquisition, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes. Forward-looking information is no guarantee of future performance and, accordingly, investors are cautioned not to put undue reliance on forward-looking information due to the inherent uncertainty therein. Forward-looking information is made as at the date of this release and the Company disclaims any intent or obligation to update publicly such forward-looking information, whether as a result of new information, future events or results or otherwise.

The purpose of this presentation is to provide general information about the Company. No representation or warranty, express or implied, is made by the Company that the material contained in this presentation will be achieved or prove to be correct. Except for statutory liability which cannot be excluded, each of the Company, its officers, employees and advisers expressly disclaims any responsibility for the accuracy or completeness of the material contained in this presentation and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this presentation or any error or omission therefrom.

This presentation should be read in conjunction with the Annual Financial Report as at 31 December 2016, the half year financial statements together with any ASX announcements made by the Company in accordance with its continuous disclosure obligations arising under the Corporations Act 2001 (Cth).

## Disclaimer (2 / 2)



#### **Reserves and Resources**

The statements of resources in this release have been independently determined to Society of Petroleum Engineers (SPE) Petroleum Resource Management Systems (PRMS) standards by internationally recognised oil and gas consultants RISC (announced 6 March 2017) using probabilistic and deterministic estimation methods. These statements were not prepared to comply with the China Petroleum Reserves Office (PRO-2005) standards or the U.S. Securities and Exchange Commission regulations and have not been verified by SGE's PSC partners CNPC and CUCBM.

All resource figures quoted are unrisked mid-case unless otherwise noted. Sino Gas' attributable net Reserves & Resources assumes PSC partner back-in upon ODP approval (i.e. CUCBM take their entitlement of 30% interest in Linxing PSC and CNPC take their entitlement to 51% in the Sanjiaobei PSC) and CBM Energy's option to acquire an interest of 5.25% in the Linxing PSC (by paying 7.5% of back costs) is exercised. Reserves & Resources are net of 4% in-field fuel for field compression and field operations. Reference point is defined to be at the field gate. No material changes have occurred in the assumptions and subsequent work program exploration and appraisal results have been in line with expectations.

Information on the Resources in this release is based on an independent evaluation conducted by RISC Operations Pty Ltd (RISC), a leading independent petroleum advisory firm. The evaluation was carried out by RISC under the supervision of Mr Peter Stephenson, RISC Partner, in accordance with the SPE-PRMS guidelines. Mr Stephenson has a M.Eng in Petroleum Engineering and 30 years of experience in the oil and gas industry. Mr. Stephenson is a member of the SPE and MIChemE and is a qualified petroleum reserves and resources evaluator (QPPRE) as defined by ASX listing rules. Mr Stephenson consents to the form and context in which the estimated reserves and resources and the supporting information are presented in this announcement. RISC is independent with respect to Sino Gas in accordance with the Valmin Code, ASX listing rules and ASIC requirements.

SEH Attributable Net Reserves & Resources	1P Reserves (Bcf)	2P Reserves (Bcf)	3P Reserves (Bcf)	2C Contingent Resources (bcf)	P50 Prospective Resources (bcf) <sup>1</sup>
31 December 2016 (Announced 6 March 2017)	385	579	778	899	821
31 December 2015 (Announced 10 March 2016)	362	552	751	814	733
Total 2016 Change (+/-%)	+5% (2P)			+10%	+12%
Gross Project 31 December 2016	1,377	2,147	2,951	3,171	3,499

#### Sino Gas' Attributable Net Reserves & Resources as at 31 December 2016

Note 1. The estimated quantities of petroleum that may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration and appraisal is required to determine the existence of a significant quantity of potentially moveable hydrocarbons. The probability of development of the contingent area is estimated to be 90%, with the additional probability of geological success assigned to prospective resources estimated to be 60-80%.

#### **Financial Terms**

This announcement contains terms commonly used in the oil and gas industry which are not defined by or calculated in accordance with International Financial Reporting Standards ("IFRS"), such as margin and profit pre-shareholder financing costs, which are non-IFRS measures. These terms should not be considered an alternative to, or more meaningful than the comparable measures determined in accordance with IFRS. The measures provide additional information to evaluate SGE's financial performance per unit of production and before shareholder financing costs. The margin for the second quarter is calculated by dividing gross sales of US\$8.0 million less operating expenses of US\$1.8 million by total gross production of ~17 MMscf/d. The 2Q SGE profit pre-shareholder financing costs is calculated by excluding interest expense related to shareholder funding costs of US\$2.9 million from the net loss in the quarter of US\$0.2 million. Sino Gas' net share is calculated as 49% of such calculated profit. The non-IFRS measures have not been subject to audit or review by Sino Gas' external auditors. Sino Gas' determination of these measures may not be comparable to that reported by other companies.

# **Definitions and Conversions**



#### Definitions

- **SGE** Sino Gas Energy Limited Sino Gas' 49% owned Joint Venture Company
- **CNEML –** China New Energy Mining Limited 51% owner of SGE
- **PCCBM** PetroChina CBM, subsidiary of PetroChina, PSC Partner in Sanjiaobei
- **CUCBM** China United Coal Bed Methane, subsidiary of China National Offshore Oil Company (CNOOC), PSC Partner in Linxing PSC
- **PSC** Production sharing contract
- SOE State Owned Enterprise
- CGS Central gathering station
- Mscf/d Thousand standard cubic feet per day
- MMscf/d Million standard cubic feet per day
- Bcf billion cubic feet
- Tcf trillion cubic feet
- BOE barrels of oil equivalent
- HSE Health, Safety and Environment
- JMC Joint Management Committee
- **ODP** Overall Development Plan
- **CRR** Chinese Reserve Report
- NDRC National Development and Reform Commission
- YOY Year on Year

#### Approximate conversion factors <sup>1</sup>

- 1 barrel of oil equivalent (boe) = 6 thousand cubic feet gas (mcf)
- 1 billion cubic meter (bcm) = 35.3 billion cubic feet (bcf)
- 1 BCM/annum = 0.1 bcf/d
- 1 million ton LNG = 48 bcf gas
- 1 US dollar (US\$) = 6.9 Chinese Remnimbi (RBM)
- 1 RMB/meter cubed = US\$4.10/mcf (at 6.9RMB/US\$)
- 1 million tonnes oil equivalent (mmtoe) = 39.2 bcf
- 1 million british thermal units (mmbtu) = 0.99 mcf
- 1 bcf natural gas generates aprox. 112 gigawatt hours of electricity (in a modern power plant)
- 1 tonne of coal equivalent (tce)= 0.7 tonnes of oil equivalent (toe) = 27 mcf gas