

# Q4

## QUARTERLY ACTIVITIES REPORT



### Q4 Highlights

- **Significant ramp-up in pilot production with 2016 exit production rate ~21 MMscf/d (~3,500 boe/d<sup>1</sup>)**
  - Restart of the Sanjiaobei station and commencement of production from the second compressor at Linxing station in December
  - 4Q16 average gross production 8.6 MMscf/d
- **~20% increase in weighted average winter gas prices**
- **Significant well costs and performance improvements** - pilot well costs down 11% year on year and average test rate up 13% year on year with particularly strong results seen on pilot wells.
- **Commenced Overall Development Plan process** - ODP process commenced on both Sanjiaobei and Linxing following PSC Partner endorsement of CRRs
- **Initial payment for Sanjiaobei processing fee received from PetroChina**
- **5 Year Energy Plan reinforces growing role for natural gas in China's energy mix**

### FINANCIAL & CORPORATE

- **31 December 2016 Sino Gas cash balance of US\$44 million**
- **SGE gross revenue from gas sales during 4Q16 of US\$3.9 million (~US\$1.9 million net to Sino Gas). SGE full year gross revenue US\$10.6 (US\$5.2 million net to Sino Gas)**
- **US\$6 million (gross) SGE capex in 4Q16, US\$23 million full year; Sino Gas cash called US\$6 million during the quarter, US\$13 million full year**
- **Increased financial flexibility with the extension of the Macquarie debt facility to late 2018 with the conditional option to extend to the end of 2019.**

Sino Gas & Energy Holdings Limited ("Sino Gas") Managing Director, Glenn Corrie said: "During the fourth quarter of 2016, Sino Gas achieved three important milestones including a significant ramp-up in production, commencement of the Overall Development Plan process following the endorsement of our Chinese Reserve Reports by our PSC Partners and receipt of final approval of the Sanjiaobei revenue allocation. With these achievements, growing operating margins, a robust financial position and a strong gas market outlook, Sino Gas is well placed as we move into 2017. We are currently working with our Joint Venture and PSC Partners to finalise the 2017 work program and budget and will provide guidance shortly."

### 2016 Accomplishments

- 23% increase in YE2015 2P reserves announced
- Ramped up production to ~21 MMscf/d
- Commenced ODP process following CRR endorsements
- Successful appraisal on Linxing (East) deep exploration area and submitted CRR
- Finalised cash receipt for gas sold from Linxing PSC
- Remitted gas sales proceeds offshore Mainland China
- Agreed pilot gas sales allocation with PetroChina CBM



Flare during TB-4H testing

Note: 1. Mscf:boe conversion 6:1



## WORK PROGRAM

During the year, the Joint Venture Company, Sino Gas & Energy Limited ("SGE") drilled 18 wells, including 5 exploration and appraisal wells and 13 pilot wells, conducted 37 well tests and tied in 18 production wells. Total SGE expenditure was 50% of the original budget of US\$60 million at US\$30 million (~US\$15 million net to Sino Gas) as a result of significant cost savings and program optimisations, including the deferral of non-critical activities (three wells and testing activities.)

Well tests results during the year continued to show improvement with the average test flow rate including exploration wells up 13% to 790 thousand standard cubic feet per day ("Mscf/d"). The average pilot well tested and brought on-stream in 2016 was just over 1 Million standard cubic feet per day ("MMscf/d") (excluding horizontal wells)<sup>2</sup>.

Sino Gas continues to achieve significant cost savings in its drilling program. During 2016, the average pilot well cost declined ~11% vs. the 2015 average.

Sino Gas is currently finalising plans and budgets for 2017 with the Joint Venture and PSC Partners. This will focus on optimising existing facilities to provide revenue and reservoir information for ODP planning, increasing gas production facilities in a cost effective manner, drilling additional pilot wells, ODP planning and very limited exploration activities. A strict ongoing focus on cost efficiency and scope of the programs will be maintained to ensure the Company remains well funded. Guidance for 2017 will be released shortly.

## Pilot Program

During December, SGE recommenced production from the Sanjiaobei Central Gathering Station ("CGS") and commenced production from the second compressor at the Linxing CGS. As a result, gross production rates roughly tripled to an exit rate of ~21 MMscf/d.

Production at Linxing remained steady at approximately 7 MMscf/d until mid-December when the second compressor at Linxing commenced production. The Sanjiaobei CGS commenced production on 20 December 2016 and quickly ramped up production. In total, 47 wells have been tied-in to both facilities, of which 35 were in production as of year end. In addition, four wells on each PSC have been drilled and are expected to be tested and tied in during 2017.

The average gross production for the quarter was 8.6 MMscf/d.

The Linxing CGS experienced a 96% production uptime rate during the quarter with only a three day shut-down for scheduled gathering line pigging and de-pressurising. No downtime occurred on the Sanjiaobei CGS after commencing production.

During the quarter, SGE agreed updated weighted average winter pricing of US\$6.70/mcf, an increase of ~20% in RMB terms from the previously agreed price during the summer period.

Wells are currently being choked back as facilities and individual wells are optimised and brought into steady-state and subsurface data is gathered to assess individual well productivity, pressure declines and reservoir drainage. Sino Gas is pleased with the manner in which the wells are producing and will continue to use prudent reservoir management practices to optimise rate, ultimate recovery and data acquisition

## Linxing - Sino Gas 31.7%

During the fourth quarter, two pilot wells, LXX8-19, and LXX8-20 on pad TC-03 were spudded on Linxing (West) and completed drilling, identifying net pay of 13.5m and 19.0 metres respectively.

Additionally, nine pilot wells were tested in 4Q16. Six wells tested at an average rate of ~1 MMscf/d after fracturing with the remaining three testing at an average rate of ~350 Mscf/d. Eight of these wells had been tied into the Linxing CGS as of the end of the quarter.

No further drilling or testing operations were undertaken on Linxing (East) following the successful conclusion of the exploration and appraisal program during the third quarter of 2016 with five wells drilled and fourteen well tests concluded during the year.

The first Chinese Reserve Report ("CRR") for Linxing (East) deep gas was submitted to CUCBM for endorsement.



Note: 2. Results have been standardised to a standard field pressure of 200psi.



## Sanjiaobei PSC - Sino Gas 24%

During the quarter, three pilot wells were spudded and completed on the SJB601 pad. These wells identified net pay of 13.3 metres, 14.7 metres and 24.6 metres respectively. The wells will be tested and tied into the Sanjiaobei CGS during 2017.

Testing was conducted on one pad with three wells. Two wells tested at an average rate of ~470 Mscf/d. The third well, SJB23-D4, was tested in the middle zone for CRR purposes and tested at marginal rates but is expected to be re-completed in a more prospective upper zone during 2017, where 13.8 metres of net pay has been identified.

## Overall Development Plan Progression

The Sanjiaobei CRR has been endorsed by our PSC Partner, PetroChina CBM ("PCCBM") and the National Centre of Coal Bed Methane ("NCCBM") for submission for ratification by the PetroChina and then Ministry of Land and Resources ("MOLAR").

With this key regulatory milestone achieved, SGE, in collaboration with PCCBM, has now begun preparations for the Overall Development Plan ("ODP"). This process, including field development planning, permitting and environmental impact

assessment, is anticipated to take approximately one year, with ODP anticipated in late 2017/early 2018 as a result.

The Linxing (West) CRR has been endorsed by CUCBM for the southern area of the PSC and the PSC partners are working to finalise the expansion of the area to also include the northern portion of the block before submission to CNOOC and MOLAR for ratification. This interim approval is sufficient to commence ODP preparation which is now underway with the support of CUCBM.

These endorsements were a significant achievement and now ODP planning with our PSC Partners will be a core activity in 2017.

## Health, Safety and the Environment

A total of 113,036 Lost Time Injury free hours were recorded during the 4Q16 from the drilling, testing and operations on the Linxing PSC and maintenance on the Sanjiaobei PSC (2016 total 456,188 hours). No environmental incidents were recorded during 2016.





## FINANCIAL

### Financial Position

The Company held US\$44.2 million and the Joint Venture held US\$2.8 million (US\$1.4 million Sino Gas share) in cash at the end of the quarter.

As announced on 6 December 2016, to preserve financial flexibility and optionality, and following ongoing extensive due diligence by Macquarie Bank Limited ("Macquarie"), the US\$50 million debt facility was extended until late 2018. Upon receiving an ODP approval for either Linxing or Sanjiaobei, Sino Gas has the option to further extend the facility to the end of 2019. Repayment of the currently drawn Tranche A of US\$10 million has been deferred until late 2018. The uncommitted US\$40 million Tranche B remains accessible subject to Macquarie credit committee approval.

### Project Funding

Total capital expenditures incurred by the joint venture were US\$6 million (unaudited) for the fourth quarter of 2016 and US\$23 million (unaudited) for the full year. Sino Gas was cash called US\$6 million in the fourth quarter and US\$13 million for the full year in relation to its 49% share of PSC and administrative expenditures of SGE.

### Pilot Project Revenue

Sino Gas' 49% share of estimated gas sales in the fourth quarter was US\$1.9 million (unaudited) from the Linxing and Sanjiaobei PSCs (full year US\$5.2 million).

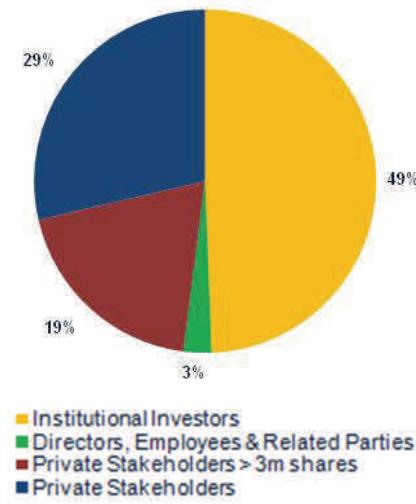
During the quarter, the Sanjiaobei PSC pilot revenue allocation agreement was formally approved. Invoices have been submitted to PetroChina CBM and routine processing is underway. A partial payment has been received for the processing fee relating to gas sold from the Linxing PSC via the Sanjiaobei CGS. SGE anticipates the approximately US\$2 million (approximately US\$1 million net to Sino Gas) of outstanding gas sale proceeds will be received during the first quarter.

## CORPORATE

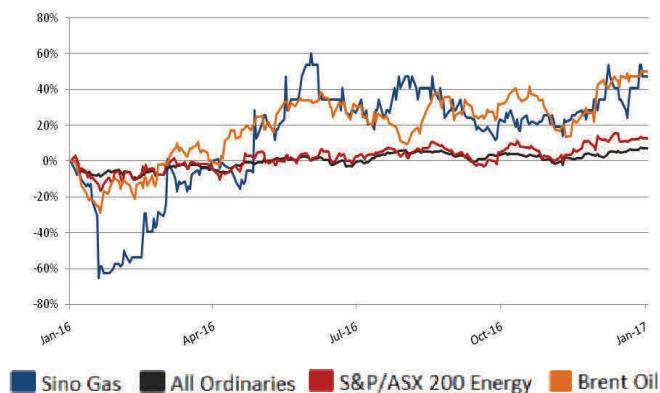
### Share Register

During the quarter, the proportion of the register owned by institutional shareholders increased marginally from approximately 48% at the end of September 2016 to approximately 49% at the end of December 2016.

### Share Register Composition



### Sino Gas Share Price Performance (ASX:SEH)





## CHINA GAS MARKET UPDATE

### China Natural Gas Demand

China's apparent natural gas demand growth in the eleven months to the end of November 2016 (latest available data) was 8.6% with November gas demand up 11.7% year over year<sup>3</sup>.

### China 13th Five Year Energy Plan

On 5 January 2017, the National Energy Administration (NEA) and the National Development and Reform Commission (NDRC) released the 13th Five Year Energy Plan ("Energy Plan").

The Energy Plan reinforces previous commitments made in the National 13th Five Year Plan and outlines strategic focus areas to promote cleaner energy for China. The plan targets to improve energy efficiency and increase the proportion of cleaner sources of energy, including natural gas, in the energy mix to achieve binding emission reduction targets. The goal of these emission reduction targets are to improve ecological conditions, protect people's health and promote economic restructuring and sustainable development.

The Energy Plan outlines strategic focus areas to promote cleaner energy for China. Of particular relevance to Sino Gas is:

- Reiterates the target to increase natural gas' share of the energy mix to 10% by 2020, up from less than 6% in 2015;
- Aims to increase natural gas exploration and development activities in unconventional resources and the Ordos Basin, amongst others, to provide the domestic natural gas supply necessary to meet increased demand;
- Continues to prioritise deregulating the natural gas market to drive efficiencies in the value chain and improve access to infrastructure, and
- Specifically promotes natural gas for use in the power and transportation sectors and as a replacement fuel for coal and oil.

Note: 3. Source: IHS, National Bureau of Statistics and China Customs

## SUPPLEMENTARY INFORMATION

### Historical testing results by zone (2006–Q4 2016)

Zone	Well Tests	Average Thickness (m)	Average Test Length (Days)	Average Flow Rate (Mscf/d)	Max Flow Rate (Mscf/d)
Upper Zone	23	6	8	852	2919
Mid-Upper Zone	33	7	11	404	3099
Middle Zone	14	6	22	226	708
Mid-Lower Zone	9	5	19	463	2534
Lower Zone	11	5	8	616	1663
Comingled	38	18	13	798	2569
Horizontal Wells (Middle Zone)	4	1145	3	5493	9775

Note: Results have been standardised to a standard field pressure of 200psi.



## ABOUT SINO GAS & ENERGY HOLDINGS LIMITED

Sino Gas & Energy Holdings Limited (Sino Gas, ASX: SEH) is an Australian energy company focused on developing Chinese natural gas assets. Sino Gas holds a 49% joint venture interest in Sino Gas & Energy Limited (SGE) through a strategic partnership with China New Energy Mining Limited (CNEML). SGE has been established in Beijing since 2006 and is the operator of the Linxing and Sanjiaobei Production Sharing Contracts (PSCs) in the Ordos Basin, Shanxi province.

SGE has a 64.75% interest in the Linxing PSC, partnered with CUCBM, a subsidiary of CNOOC, and a 49% interest in the Sanjiaobei PSC, partnered with PetroChina CBM, a subsidiary of CNPC. 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.

The PSCs are located in the Ordos Basin and cover an area of approximately 3,000km<sup>2</sup>. The Ordos Basin is the largest gas producing basin in China. The region has mature field developments with an established pipeline infrastructure to major markets. Rapid economic development is being experienced in the province in which Sino Gas' PSCs are located and natural gas is seen as a key component of clean energy supply in China.

Sino Gas & Energy Holdings Limited (ASX: SEH) was admitted to the Official List of ASX in 2009.



### Sino Gas & Energy Holdings Limited

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Our latest announcements and presentations can be found on our website:

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# Q4 QUARTERLY ACTIVITIES REPORT



## RESERVES AND RESOURCES

Sino Gas' Attributable Net Reserves & Resources are summarised below:

SINO GAS' ATTRIBUTABLE NET RESERVES AND RESOURCES	1P RESERVES (Bcf)	2P RESERVES (Bcf)	3P RESERVES (Bcf)	2C CONTINGENT RESOURCES (Bcf)	P50 PROSPECTIVE RESOURCES <sup>1</sup> (Bcf)
<b>31 December 2015</b> (Announced 10 March 2016)	362	552	751	814	733
<b>31 December 2014</b> (Announced 3 March 2015)	350	448	557	739	649
CHANGE (+/-)%		+23% (2P Reserves)		+10%	+13%
<b>Total Project</b>	<b>1,250</b>	<b>1,962</b>	<b>2,723</b>	<b>2,831</b>	<b>2,954</b>

Note 1: Prospective resources are the estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) related to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development. Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

### Resources Statement & Disclaimer

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 recognized oil and gas consultants RISC. 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. EMV is the probability weighted net present value (NPV), including the range of project NPVs and the risk of the project not progressing. Project NPV<sub>10</sub> is based on a mid-case gas price of US\$7.16/Mscf escalated at 3.75% per year and average lifting costs (opex+capex) inclusive of inflation of 2.5% per year of ~ US\$1.2/Mscf for mid-case Reserves, Contingent & Prospective Resources. 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, CBM Energy's option to acquire an interest of 5.25% in the Linxing PSC (by paying 7.5% of back costs) is exercised, and MIE fulfil funding obligations under the strategic partnership agreement. 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.

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.

### Competent Persons Statement

Information on the Reserves and Resources in this annual report 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 MICHEM and is a qualified petroleum reserves and resources evaluator (QPPRE) as defined by ASX listing rules. Mr Stephenson consents to the inclusion of this information in this release. RISC believes that the reserve and resource assessment fairly represents the available data. RISC is an independent advisory firm that evaluates resources and projects in the oil and gas industry. RISC offers the highest level of technical, commercial and strategic advice to clients around the world. RISC services include the preparation of independent reports for listed companies in accordance with regulatory requirements. RISC is independent with respect to Sino Gas in accordance with the Valmin Code, ASX listing rules and ASIC requirements.