

# Monthly Operations Report

For the month ending 30 November 2013

## 2013 WORK PROGRAM — DELIVERING THE STRATEGY

### Operational Update

- ▶ *Drilling program—30 wells drilled to date in 2013 with final well approaching total depth*
- ▶ *Well testing program—testing of 28 fractured intervals underway*
- ▶ *First horizontal well for Sino Gas prepared for testing — frac expected Q1 2014*

During November, Sino Gas & Energy Holdings Limited (ASX:SEH, “Sino Gas”, “the Company”) continued to deliver the 2013 strategy.

The final well of this year’s 31 well program is reaching total depth on Linxing West, with over 60,000 metres drilled in total this year. Of particular note from the program was TB-16 which was drilled to a depth of over 2,100 metres, logged and completed in 18 days.

Testing on Sanjiaobei and Linxing is continuing at a steady pace with 28 zones now fraced, up from 24 in October. Multiple zones in each well are planned to be tested to determine overall well productivity for Chinese Reserve Reporting and development planning in order to maximise reservoir efficiency and recovery. Additional positive results have been received from three wells within the discovered areas of Linxing and Sanjiaobei which flowed tested at rates of between 250-1,000 thousand standard cubic feet per day (Mscf/day). Testing of Sino Gas’ first horizontal well has been temporally postponed due to a shortage of winterised fracing equipment in the province and is expected to be conducted in Q1 2014.

Following the signing of a supplementary gas agreement to supply Compressed Natural Gas (“CNG”) to a division of the Shanxi International Energy Group (SIEG), CNG equipment was installed at TB-11 on Linxing West during November. Initial testing of the CNG equipment is underway with the first gas distribution expected in the coming weeks. In addition, construction of a 3.5km field pipeline has commenced to tie a second well at TB-07 into the pilot program. Initial testing of TB-11 for pilot production has produced rates of up to 530 Mscf/day from a single middle upper zone, whilst TB-07 has produced rates in excess of 2,400 Mscf/day from a more prolific upper zone. Under the agreement, early production will be trucked to a major distribution facility, which accelerates long-term testing of selected wells that will provide important reservoir information without excessive flaring. Civil works have been completed for laying the foundation of the central gathering station on Sanjiaobei and major components such as the gas separator are starting to be delivered. Surveying has been completed on the third-party spur pipeline to connect the general gathering station to the regional pipeline and construction is approaching 50% complete. The third-party spur pipeline, which is 35cm in diameter, is being constructed and funded by a potential gas purchaser.

Further progress has been made on the Chinese Reserve Report (CRR), with the report receiving preliminary approval by National Reservoir Committee and will now be submitted to the Chinese Ministry of Land & Resources (“MOLAR”) for final approval.

### Successful A\$53 million placement

On 27 November the company announced an agreement to raise A\$53 million (before issue costs) via a two tranche placement (“Placement”) of 265 million new ordinary shares at an issue price of A\$0.20 per share to qualified institutional and sophisticated investors. The first tranche of approximately A\$37.9M was settled on 3 December 2013, with the remaining \$15.1 million subject to receiving shareholder approval at a General Meeting of the Company’s shareholders to be held on Monday, 30 December 2013.

Commenting on the Placement, Managing Director and CEO Mr Robert Bearden said, “Sino Gas is delighted with the strong demand and support shown for the Placement, from both new and existing institutional and sophisticated investors. Sino Gas is in an exciting phase of development of its unconventional gas assets in China’s Ordos Basin and is very focused on commercialising the assets and increasing shareholder value”.

The placement followed extensive roadshows in London, Hong Kong, Singapore and Australia for institutional and sophisticated investors.

### HIGHLIGHTS

- ▶ A\$37.9 million raised in first of A\$53 million two tranche placement
- ▶ Drilling of 30 wells for the 2013 campaign completed, with final well drilling to total depth on Linxing West
- ▶ Linxing — Sino Gas’ first horizontal has completed drilling and frac string has been installed in preparation for fracing & testing in Q1 2014.
- ▶ Sanjiaobei – 2013 drilling program completed. Civil works completed for pilot program and major equipment starting delivery. Construction of spur pipeline is approaching 50% complete.

### Sanjiaobei - Sino Gas 24%

#### *Seismic*

Processing and interpretation of the 585km of seismic lines acquired on Sanjiaobei was reviewed by RISC and included in the updated Q3 reserves and resources assessment. This resulted in the prospective area being tripled to 670km<sup>2</sup>, bringing the total area considered to be discovered (including reserves and contingent resources) or prospective under the Society of Petroleum Engineers Petroleum Resource Management Systems (SPE PRMS) to 85% of the 1,123km<sup>2</sup> block. Planning is underway to further extend the eastern edge of fine seismic grid in 2014.

#### *Drilling*

The 2013 Sanjiaobei drilling program was completed in October, consisting of a mixture of 19 in-field and delineation wells, and brought the total number of wells on Sanjiaobei to 28.

#### *Testing*

Testing has been completed on the first eleven pay-zones, with another ten pay-zones undergoing testing. Two wells that completed testing within the discovered area in November, were flow tested from the middle to upper zones at rates between 250-1,000 Mscf/day. One single zone test on a less productive middle-lower zone flowed at nominal rates as expected and would be comingled with zones of similar pressure in a production scenario. Multiple zones in each well are being tested to determine overall well productivity.

Civil works have been completed for laying the foundation of the central gathering station and major components such as the gas separator are starting to be delivered. Surveying has been completed on the third-party spur pipeline to connect the general gathering station to the regional pipeline and construction is approaching 50% complete.

### Linxing (West) - Sino Gas 31.7%

#### *Seismic*

Following processing and interpretation of the 650km of seismic lines acquired on Linxing for the Q3 Reserves and Resources assessment, two thirds of the Linxing (West) acreage is now considered to be discovered, with the remaining third being prospective. Planning is underway to extend the northern edge of fine seismic grid in 2014 to cover the entire block.

#### *Drilling*

During the month, the final well of the 2013 Linxing drilling program was spud at TB-21, whilst another reached total depth and has been wireline logged. Drilling at the TB-17 and TB-18 located in the southern discovered portion of the block identified a total of 19.6 metres and 26.8 metres of pay, respectively. An additional well added to the Linxing West 2013 program at TB-21 is approaching total depth.

#### *Testing*

Testing operations have now commenced on two wells on Linxing (West), to test drilled wells from the 2012 and 2013 work programs. TB-14 was fraced within the discovered area and has been flow tested for a period of 14 days from a middle upper zone, achieving stable flow rates of approximately 250 Mscf/day. Two additional wells from the 2013 drilling program are expected to be tested in December and assessed for inclusion in the pilot programs. The horizontal well is planned to be fraced and tested in Q1 2014 and the frac string has been run in preparation for the eight stage frac. Testing of Sino Gas' first horizontal well has been temporally postponed due to a shortage of winterised fracing equipment in the province.

### Linxing (East) - Sino Gas 31.7%

#### *Seismic*

The potential for further seismic on Linxing (East) will be determined following the analysis of drilling results from the exploration wells and previous seismic analysis. RISC has assigned a discovered area of 265km<sup>2</sup> for the shallow resources on the eastern portion of the block, and a prospective area of 295km<sup>2</sup> for the deeper resources on western portion.

#### *Drilling*

The first well of an exploration program to the west of Linxing (East) was completed in July, with further exploration drilling schedule in 2014.

#### *Testing*

The dewatering program continued during the month on six wells and gas to surface has been achieved on five of the wells to date. Sufficient data was gathered from these six wells to enable CRR submission at the end of August 2013, and additional wells are expected to commence dewatering prior to an investment decision being made on the installation of production facilities. Meanwhile, testing operations have been resumed at exploration well LXDG-01, after road access was temporarily restricted.



Civil works completed for the central gathering station on Sanjiaobei



Construction of the third-party spur pipeline commenced

## ABOUT SINO GAS & ENERGY HOLDINGS LIMITED

Sino Gas & Energy Holdings Limited ("Sino Gas" ASX: SEH) is an Australian energy company focused on developing Chinese unconventional gas assets. Sino Gas holds a 49% interest in Sino Gas & Energy Limited ("SGE") through a strategic partnership completed with MIE Holdings Corporation ("MIE" SEHK: 1555) in July 2012. 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'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.

The PSCs are located in the Ordos Basin and cover an area of approximately 3,000km<sup>2</sup>. The Ordos Basin is the second largest onshore oil and 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 provinces in which Sino Gas' PSCs are located and natural gas is seen as a key component of clean energy supply in China.



## CONTACTS

### Sino Gas & Energy Holdings Limited

Robert Bearden  
Managing Director & CEO  
+ 86 10 8458 3001  
rbearden@sinogasenergy.com

### Media Enquiries

Greg Galton  
Cannings Purple  
+ 61 8 6314 6312  
+ 61 438 171 189  
ggalton@canningspurple.com.au

Our latest announcements and presentations can be found on our website:  
[www.sinogasenergy.com](http://www.sinogasenergy.com)





## SINO GAS' RESERVES & RESOURCES

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

<b>Sino Gas' Attributable Net Reserves &amp; Resources</b>	<b>1P RESERVES (Bcf)</b>	<b>2P RESERVES (Bcf)</b>	<b>3P RESERVES (Bcf)</b>	<b>2C CONTINGENT RESOURCES* (Bcf)</b>	<b>P50 PROSPECTIVE RESOURCES* (Bcf)</b>	<b>EMV<sub>10</sub> (\$US\$m)</b>
<b>October 2013</b> (Announced 17 October 2013)	<b>110</b>	<b>233</b>	<b>374</b>	<b>713</b>	<b>1,341</b>	<b>2,352</b>
<b>March 2013</b> (Announced 20 March 2013)	32	94	199	653	885	1,556
<b>CHANGE (+/-)%</b>	<b>+149% (2P Reserves)</b>			<b>+9%</b>	<b>+51%</b>	<b>+51%</b>
<b>Total Project October 2013</b>	<b>408</b>	<b>877</b>	<b>1,424</b>	<b>2,451</b>	<b>5,211</b>	<b>N/A</b>

\*Note: Contingent and Prospective Resources have not been risked for the risk of development and discovery. The estimated quantities of petroleum 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.

*Sino Gas' share of the project's success case Net Present Value ("NPV") and risk weighted EMV are summarised below:*

<b>SINO GAS' ATTRIBUTABLE ECONOMIC VALUE</b>	<b>NPV<sub>10</sub> (\$US\$m)</b>	<b>EMV<sub>10</sub> (\$US\$m)</b>
Reserves	566	592
Contingent Resources	777	686
Prospective Resources	1,722	1,073
<b>TOTAL</b>		<b>2,352</b>

### 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 (Announced 17 October 2013). 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 NPV10 is based on a mid-case gas price of \$US8.79/Mscf and lifting costs (opex+capex) of ~ \$US1.3/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. No material changes have occurred in the assumptions and subsequent work program exploration and appraisal results have been inline with expectations.

Certain statements included in this announcement constitute forward looking information. This information is based upon a number of estimates and assumptions made 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 announcement 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 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. RISC consents to the inclusion of this information in this release.

### ABOUT RISC

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