

Asia-Pacific Oil & Gas Assembly  
January 2015

The background of the slide is a dark, blue-tinted photograph of an industrial facility, likely an oil or gas processing plant. It shows complex piping, structural steel, and a worker wearing a hard hat in the lower-left corner. A large, thick, white curved graphic element arches across the upper half of the image, framing the text and logo.

***“A Unique Opportunity to Invest in  
the China Energy Growth Story”***

# DISCLAIMER

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Sino Gas & Energy Holdings Limited (ASX:SEH, “Sino Gas”, “the Company”) holds a 49% interest in Sino Gas & Energy Limited (SGE) through a strategic partnership with MIE Holdings Corporation (“MIE” SEHK: 1555) 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.

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.

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This presentation should be read in conjunction with the Annual Financial Report as at 31 December 2013, 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)*.

# RESOURCES STATEMENT

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 4 March 2014) using probabilistic 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 unrisks 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.

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. RISC is independent with respect to Sino Gas in accordance with the Valmin Code, ASX listing rules and ASIC requirements.

## Sino Gas' Attributable Net Reserves & Resources as at 31 December 2013

Sino Gas' Attributable Net Reserves & Resources	1P RESERVES (Bcf)	2P RESERVES (Bcf)	3P RESERVES (Bcf)	2C CONTINGENT RESOURCES <sup>3</sup> (Bcf)	P50 PROSPECTIVE RESOURCES <sup>3</sup> (Bcf)	EMV <sub>10</sub> <sup>2</sup> (\$USm)
<b>March 2014</b> (Announced 4 March 2014)	129	291	480	850	1,023	2,258
<b>March 2013</b> (Announced 20 March 2013)	32	94	199	653	885	1,556
<b>TOTAL 2013 CHANGE (+/-)%</b>	<b>+211% (2P Reserves)</b>			<b>+30%</b>	<b>+16%</b>	<b>+45%</b>
<b>Total Project March 2014</b>	466	1,068	1,786	2,941	3,978	N/A

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. 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 wellhead gas price of \$US8.79/Mscf and lifting costs (opex+capex) of ~ \$US1.5/Mscf for mid-case Reserves, Contingent & Prospective Resources.

# CHINA: SCALE OF MARKET

## ≈ World's largest (% of global total 2013):

- Population – 1.4 billion (19%)
- Energy consumer – 2.9 billion toe (22%)
- CO<sub>2</sub> emitter – 8.6 billion tons (26% 2012)
- Coal consumer – 1.9 billion toe (50%)
- Contributor to global energy demand growth since 2008
  - Coal (556/564 mtoe – 98.5%); Oil (2.8/5.2 mb/d – 53%); Nat Gas (8/32 bcf/d – 24%);

## ≈ 2<sup>nd</sup> largest:

- Economy – US\$9.2 trillion (12%, at official exchange rate)
- Crude oil consumption – 10.7 mb/d (12%)

## ≈ 4<sup>th</sup> largest:

- Natural gas consumer – 15.6 bcf/d/162 bcm (5%)

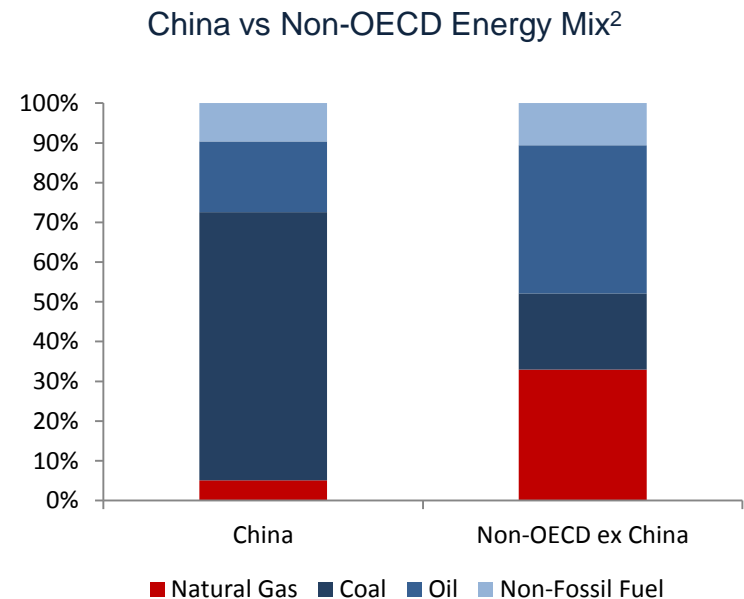
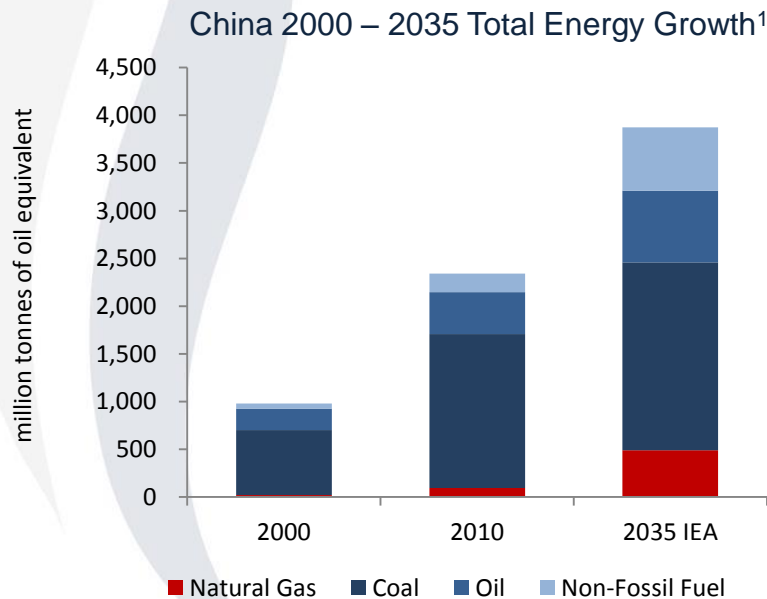
## ≈ Contribution to global energy demand growth in 2013:

- Coal: #1 (69/103 mtoe – 67%)
- Gas: #2 (1.5/4.4 bcf/d – 34%)
- Oil: #2 (0.4/1.4 mb/d – 28%)



# CHINA GAS MARKET SNAPSHOT: LARGE, GROWING, CHANGING

- China accounts for 22% of global primary energy demand but only 5% of global natural gas due to small share in the energy mix
- Natural Gas consumption 162 bcm (15.6 bcf/d) in 2013 vs 34 bcm (3.3 bcf/d) in 2003 (17% CAGR)
- Government goal to increase natural gas share of energy mix from 5.1% in 2013 to over 10% by 2020

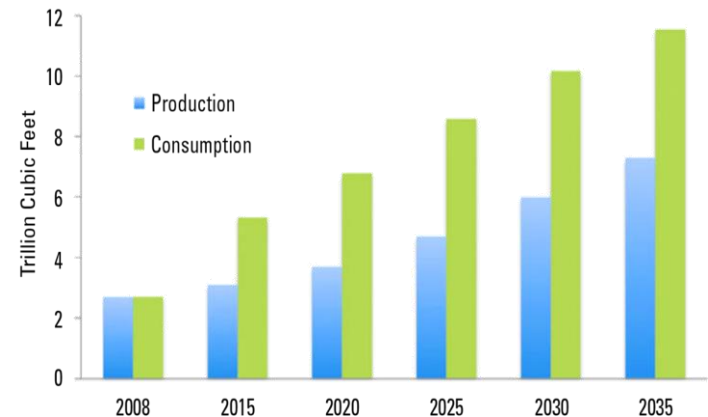




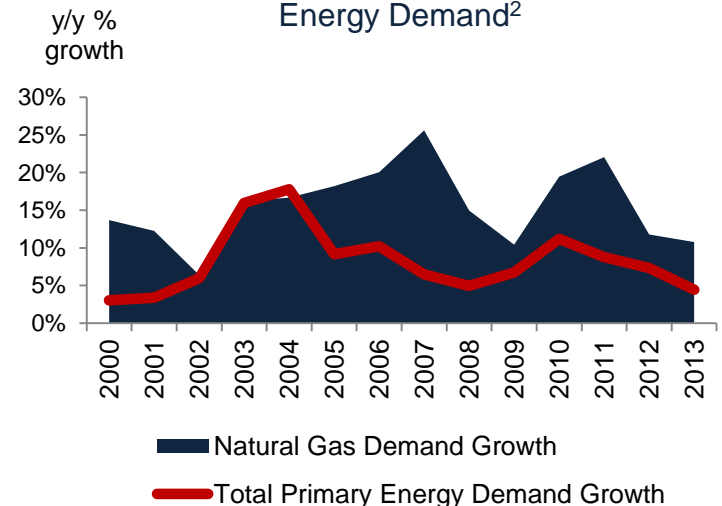
# DEMAND GROWTH OUTSTRIPS DOMESTIC SUPPLY

- Significant **structural changes** driving increased demand for gas in all sectors
- Since 2000, gas demand has grown at **twice the rate** of primary energy demand (16% vs. 8%)
- Gas demand forecast to **more than double** by 2020
- China needs **significant additional supply** from domestic unconventional gas and imports (long distance pipeline and LNG) to meet anticipated demand
- Import dependency** expected to continue to rise

China Domestic Market Outlook<sup>1</sup>



Gas Demand Growing Faster than Total Energy Demand<sup>2</sup>



# CHINA POLICY HIGHLY SUPPORTIVE OF NATURAL GAS

## China pushing for increased adoption of natural gas

- Cleaner, more affordable energy source

## 12<sup>th</sup> 5 year Plan:

- Aims to increase natural gas share of energy mix from 4.4% (2011) to 7.5% (2015)

## 2020 Energy Development Strategy Action Plan:

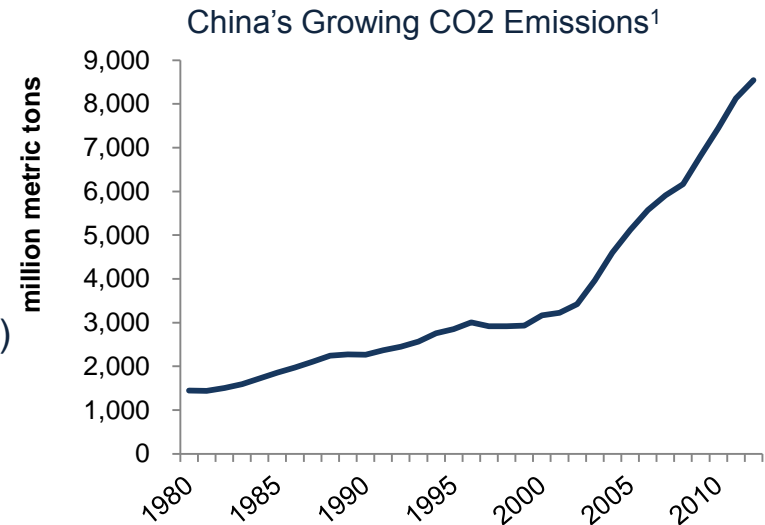
- Plans for natural gas share to continue to grow to over 10% of energy mix by 2020

## Air Pollution Prevention and Control Action Plan (2013):

- Expected to encourage adoption of natural gas over coal, especially in three core major metropolitan control areas

## Comprehensive policies being enacted to secure the necessary supply

- Domestic price reform
- Securing long term imports (Pipeline, LNG)



# INCENTIVISING SUPPLY THROUGH GAS PRICE REFORM

## Global gas prices as of January 2015<sup>1</sup>

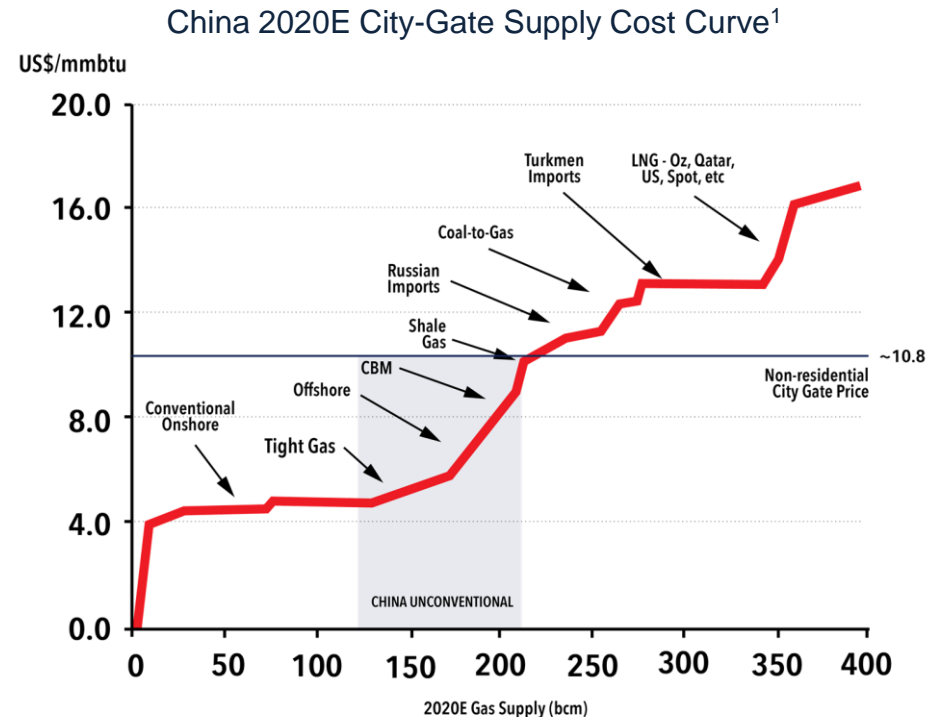


- ~ China gradually increasing gas prices to encourage domestic production and limit losses incurred on imports as import dependency rose (currently c.30%)
- ~ Two domestic gas prices increases since mid-2013
- ~ City-gate prices average US\$10.80-13.45/Mscf for 'existing' and 'incremental' supply respectively - Sino Gas' current well head price c. US\$9.50/Mscf
- ~ Domestic Chinese prices still below cost of imported LNG and pipeline gas

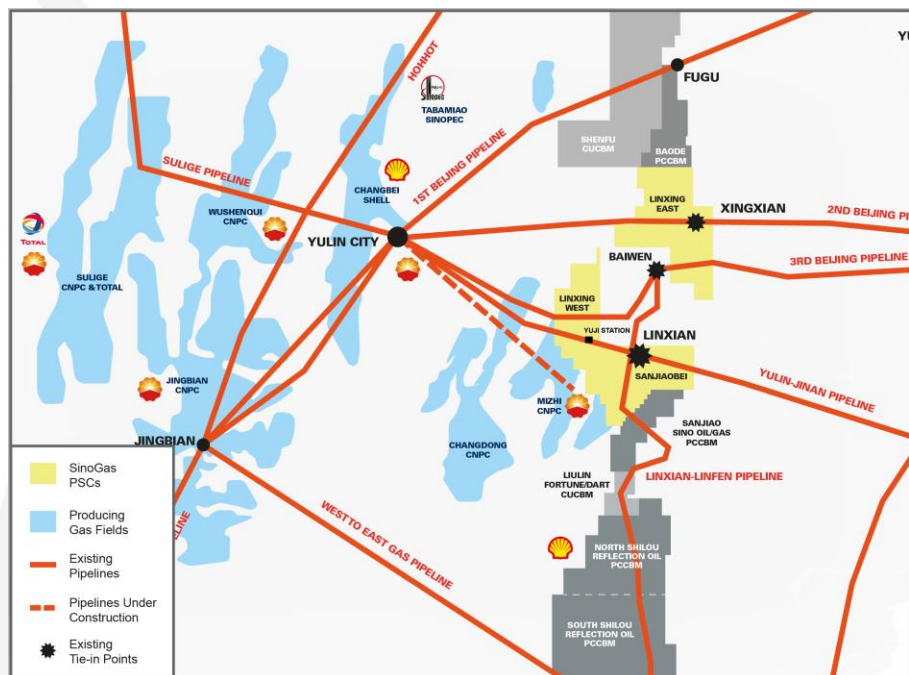


# SINO GAS ATTRACTIVELY POSITIONED ON COST CURVE

- Conventional gas cheapest source of supply but in structural decline
- Imports (both pipeline and LNG) and shale gas at high end of cost of supply
- NDRC has implemented gas price reform to encourage domestic production
- Sino Gas' assets highly cost competitive with est. capex + opex of \$1.50/Mscf<sup>2</sup>



# SUPPLYING CHINA'S GROWING GAS NEEDS



***Sino Gas is situated in the Ordos Basin, the most productive natural gas basin in China***

## Ordos Basin:

- Unconventional gas production of over 3bcf/day
- Ready access to key demand centres with multiple tie-in points
- Sino Gas' ~3,000km<sup>2</sup> acreage is located approx. 500km from Beijing



# A UNIQUE CHINA GAS INVESTMENT OPPORTUNITY

## Attractive market dynamics

- ≈ **Strong demand outlook:** Gas demand forecast to double by 2020<sup>1</sup>
- ≈ **Strengthening prices:** City-gate prices now average ~US\$10.80-13.45/Mscf
- ≈ **Supportive policy:** Government policy prioritising unconventional gas production

## Large scale / low cost resource

- ≈ **Substantial scale:** 1 tcf gross 2P & 3 tcf unrisked 2C in the prolific Ordos Basin<sup>2</sup>
- ≈ **Significant upside:** 4 tcf gross prospective resource<sup>2</sup> – 30% acreage under-explored
- ≈ **Low cost supply:** Competitively positioned on the China gas supply cost curve

## Pathway to commercialisation

- ≈ **Pilot Production:** First pipeline gas sales achieved in November 2014
- ≈ **Gas Sales:** Initial sales at up to c.US\$9.50/Mscf, securing additional agreements
- ≈ **Market Access:** Adjacent to existing infrastructure with ready access to key markets

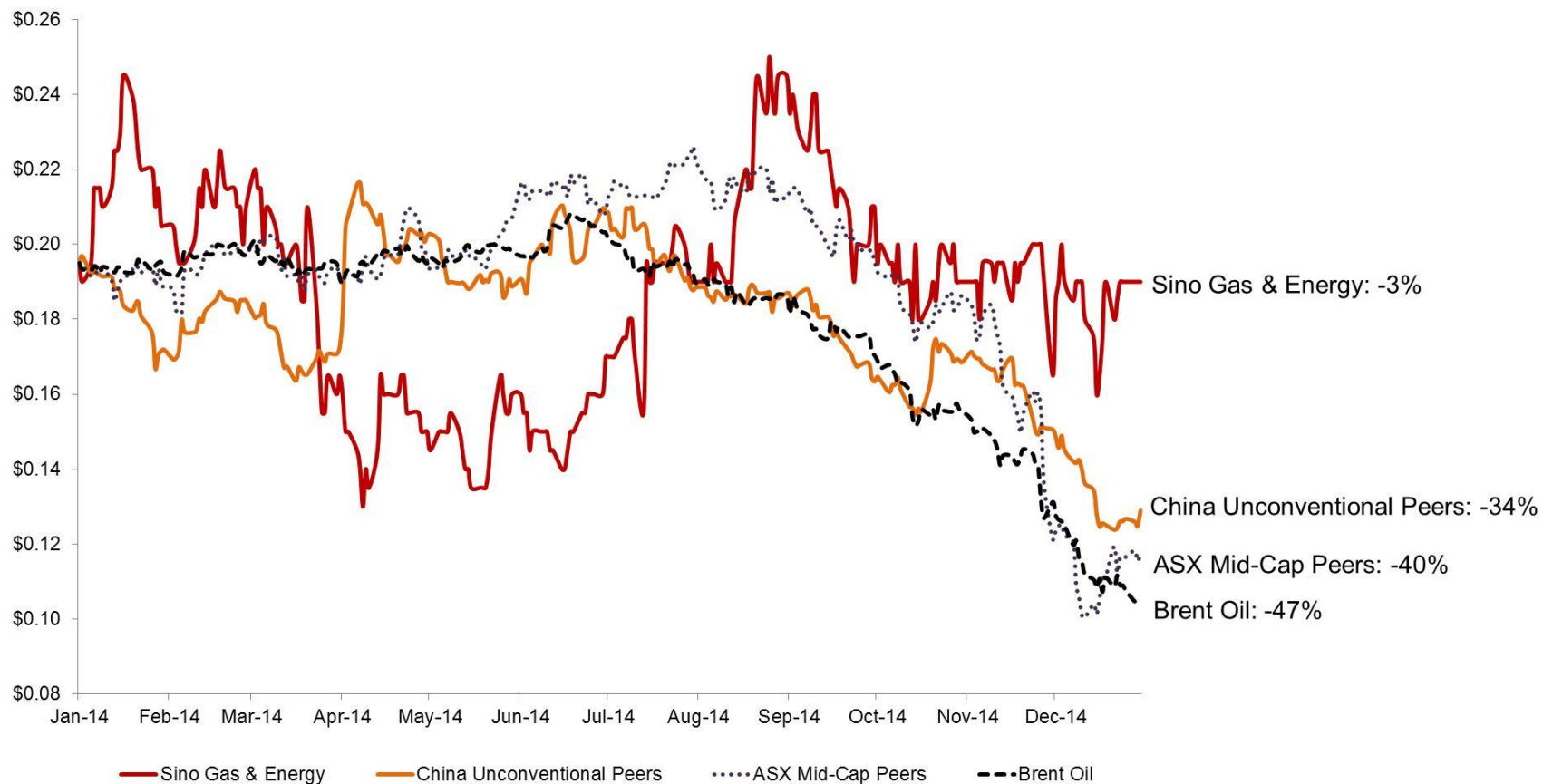
## Strong partners

- ≈ **SOEs:** Tier 1 PSC partners (CNPC & CNOOC) with established unconventional operations in the Ordos Basin
- ≈ **MIE:** Strategic JV partner with proven track record of operating PSCs in China

## Experienced team / well financed

- ≈ **Strong board and management:** Experienced team with strong technical and commercial expertise
- ≈ **Financing:** US\$34.1<sup>3</sup> cash plus a further US\$40 debt facility in place

# 2014 SHARE PRICE: RESILIENT TO OIL PRICE



# LARGE SCALE ASSETS WITH SIGNIFICANT UPSIDE

≈ **Size & Scale:** 1 Tcf gross 2P (184 Mmboe) & 3 Tcf unrisks 2C (507 Mmboe) <sup>1</sup>

≈ **Exploration Upside Remains with c.4 tcf prospective**

≈ **Attractive Geology with Stacked Multiple Pay-Zones**

≈ **Surrounded by Substantial Existing Production**

- Ordos Basin currently produces over 3Bcf/day from conventional and tight gas reservoirs

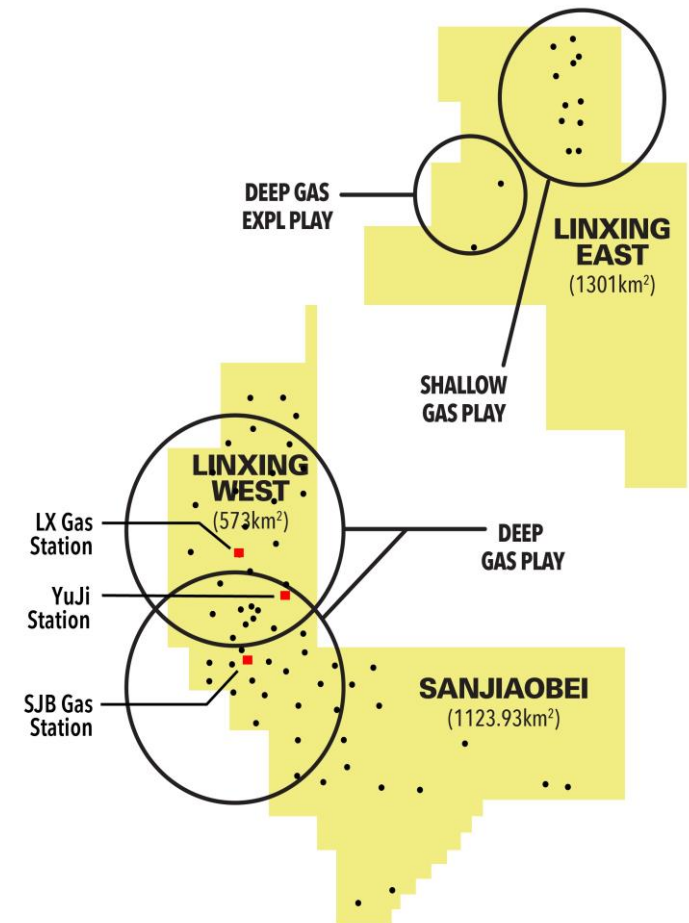
≈ **Commercialisation**

- First pipeline sales achieved, continuing to ramp up

≈ **Cost Competitive Resource base**

- Cost of development estimated to be c.US\$1.50/Mscf<sup>2</sup>

## Project and Drilling Overview





# SINO GAS BECOMES A FULL CYCLE E&P

- ≈ **First pilot pipeline production announced 1 December 2014**
- ≈ Completes value chain and designed to prove sustainable reservoir productivity
- ≈ Initial installed capacity of ~25 MMscf/day by mid-2015 with space for expansion
- ≈ Initial gas sales at up to c.US\$9.50/Mscf
- ≈ Access to multiple gas pipelines with existing tie-in points provide optionality for direct market access
- ≈ Crucial step towards full field development, Chinese Reserve Reports submitted for Partner Review



Sanjiaobei Central Gathering facilities commissioned

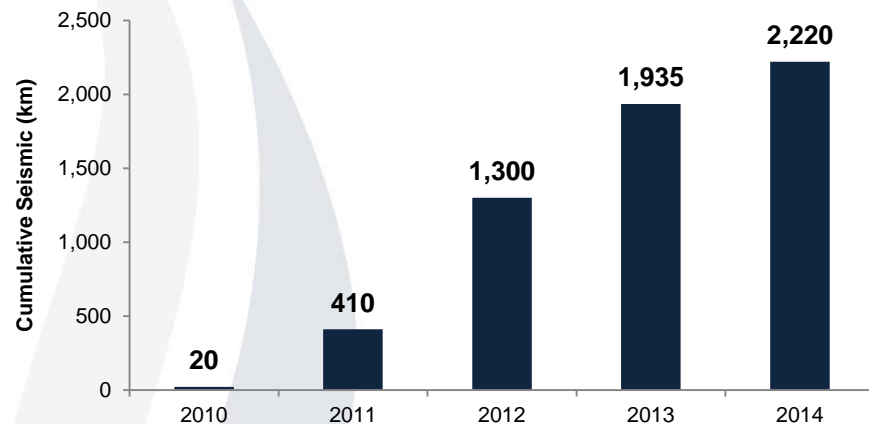


Linxing Spur Line over 90% complete – capacity in excess of 100 MMscf/day

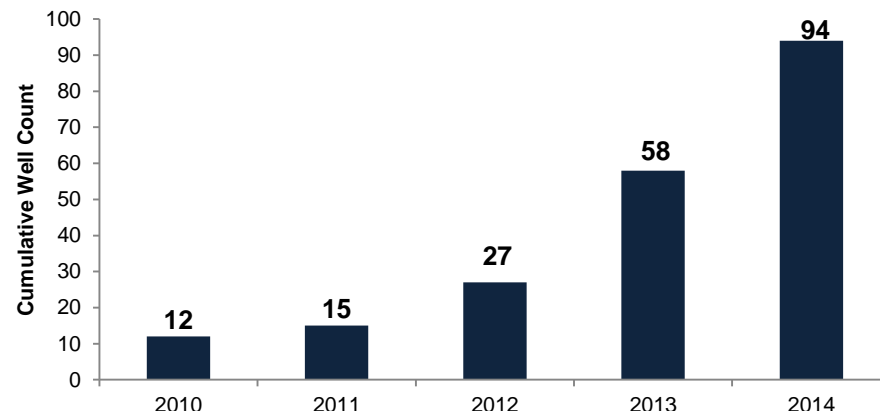


# WORK PROGRAMME ADDING RESERVES, RESOURCES, VALUE

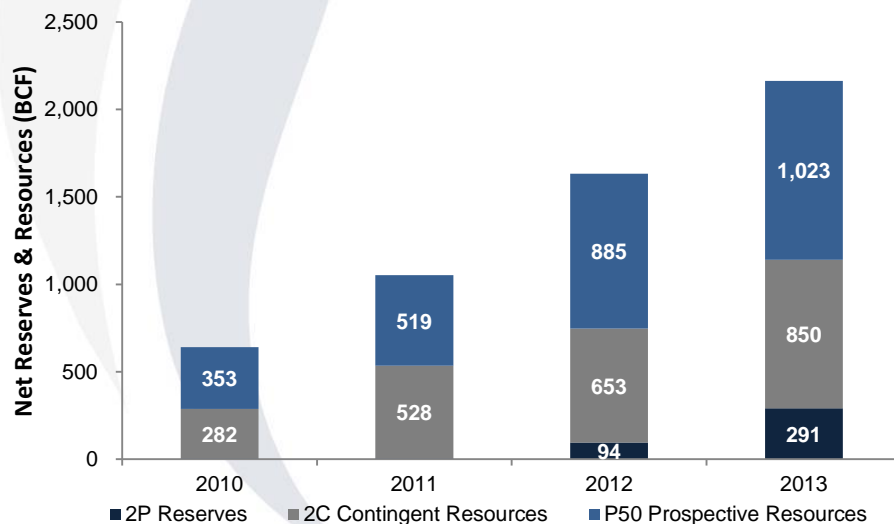
## Cumulative Seismic (km)



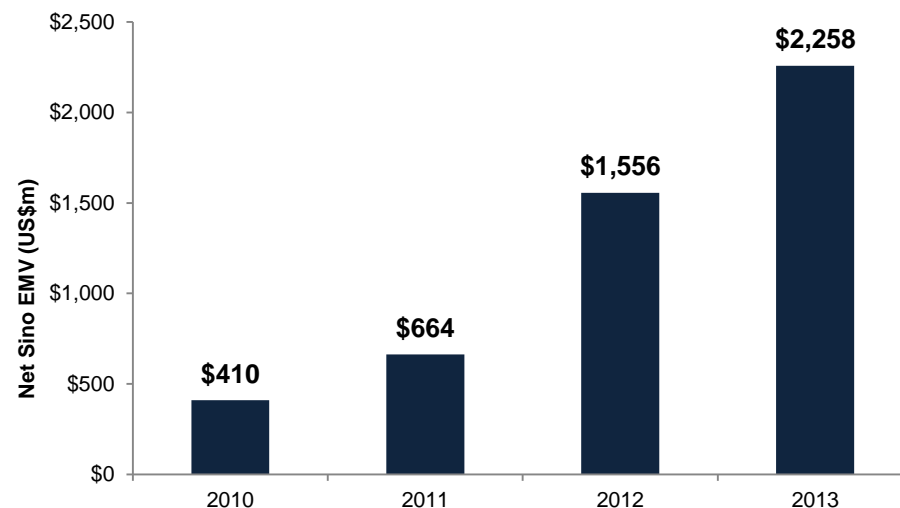
## Cumulative Well Count



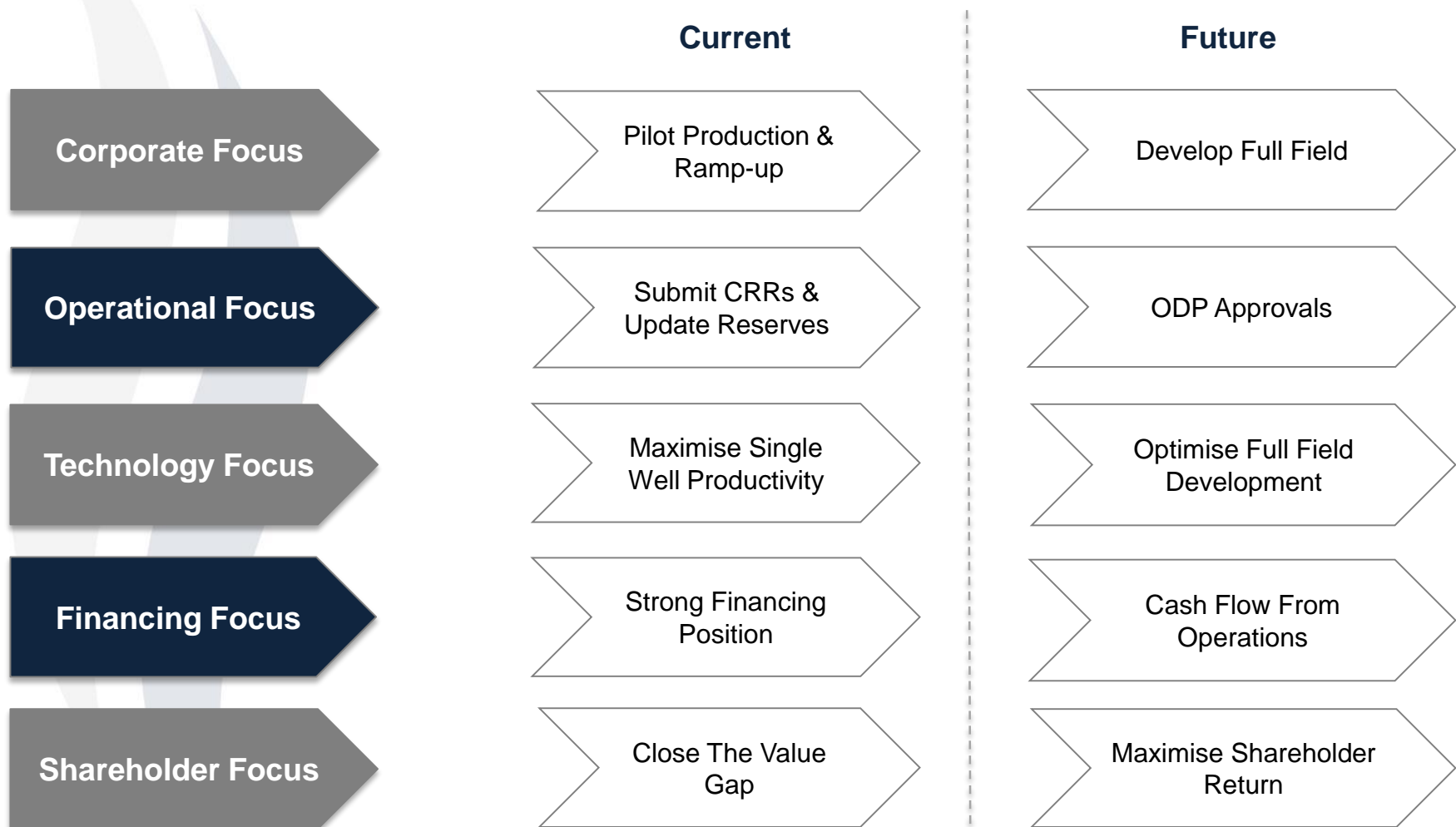
## Sino Gas' Net Reserves & Resources Growth<sup>1</sup>



## Sino Gas' Net EMV<sup>2</sup>



# STRATEGIC FOCUS: DELIVERING VALUE TO SHAREHOLDERS



# 2014 - 2015 PRIORITIES

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## ≈ Q4 2014

- ✓ Second horizontal well test results October
- ✓ Sanjiaobei gas sales agreement December
- ✓ **Pilot gas from Sanjiaobei central gathering station** December
- ✓ Submit CRRs for SJB and LXW for partner review December
- ✓ Linxing East seismic and exploration drilling October - December

## ≈ Q1 2015

- Independent Reserve & Resource update March
- Infield development drilling and testing Ongoing
- Connection of additional pilot wells Ongoing

## ≈ Q2 2015

- **Pilot gas from Linxing central gathering station** June - July

## ≈ Q3/Q4 2015

- Submission of ODP on Linxing East August
- CRR approvals anticipated August - December

# CONTACTS

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**For more information, please contact:**

Investor Relations

+86 10 8458 3001

1300 746 642 (local call within Australia)

[ir@sinogasenergy.com](mailto:ir@sinogasenergy.com)

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