

# Sino Gas & Energy Holdings Update May 2014









"Size, Scalability, Market and Pricing"

## Disclaimer



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.

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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).

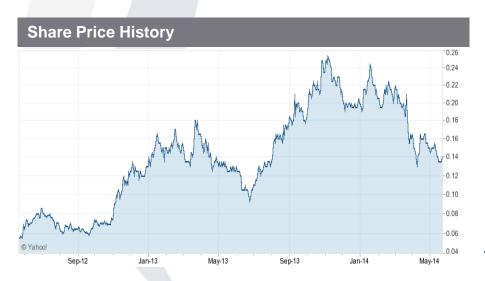
## **Company Snapshot**



#### **Corporate Information - as at 26 May 2014**

| Share Price (ASX:SEH)      | A\$0.16   |
|----------------------------|-----------|
| Issued Shares              | 1,530m    |
| Market Cap                 | A\$244.9m |
| Cash Balance (30 Apr 2014) | A\$61.0m  |

US\$90m of 2012/14 PSC work program expenditure being funded by MIE - approximately 73% cash called to 30 April 2014.



#### **Transitioning Share Register** March 2014 January 2013 6.0% 20.3% 33.5% 31.8% 43.3% 25.7% 14.8% 20.7% 2.3% 1.5% ■ Corporate Shareholders Institutional Investors ■ Directors, Employees & Related Parties ■ Private Stakeholders > 3m shares ■ Private Stakeholders

| Top Shareholders – 8 April 2014         | Shares (m) | %    |
|---|------------|------|
| FIL Investment Management               | 129.4      | 8.5% |
| Imdex Limited                           | 91.9       | 6.0% |
| Colonial First State - Growth Australia | 58.0       | 3.8% |
| Kinetic Investment Partners             | 55.6       | 3.6% |
| JP Morgan Chase & Co                    | 47.0       | 3.1% |

## Sustained Natural Gas Demand



#### **Strong Market Fundamentals**

#### **➣** Increasing Demand

Forecasts indicate strong and increasing demand for natural gas

#### **≈** Prices Strengthening

Pricing robust with domestic prices set by government policy at ~US\$ 10/mscf

#### **≈** Domestic Production Shortfall

Shortfall to continue as unconventional gas production slowly ramps up (tight gas, CBM, shale gas)

#### Sino Gas well positioned

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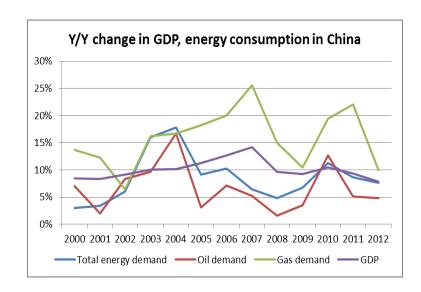
World class gas assets at pre-development stage move to early production in 2H of 2014

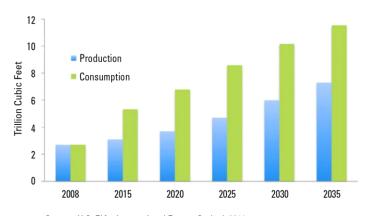
#### Commercialisation

Infrastructure, services, equipment and water readily available in Ordos Basin

#### Pathway to Production

Sino Gas is well advanced and on track to commence pipeline production and sales in 2014





Source: U.S. EIA - International Energy Outlook 2011

## **Project Overview**



#### 

Sino Gas' PSCs are approximately 3,000km<sup>2</sup> or 741,000 acres

#### **≈** Exploration Upside

Substantial acreage yet to be explored (~30% remaining)

#### 

Gas sourced from deep coal – redeposited to ~2,000m, with gas migration to adjacent sands

#### Stacked Multiple Pay-Zones

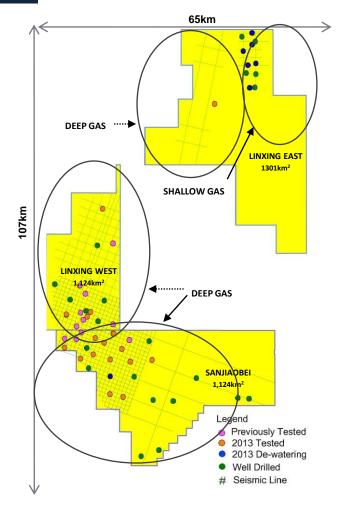
River channel depositional environment, up to 16 pay-zones per well evidenced

#### Surrounded by Prolific Production

Ordos Basin has been on large-scale oil & gas production since the 1980s e.g. Changqing oil and gas field alone producing 2.8 bcf/day gas in 2012 (27% of China's total gas production). Sulige tight gas field achieved peak production of 1.7 bcf/day in 2012

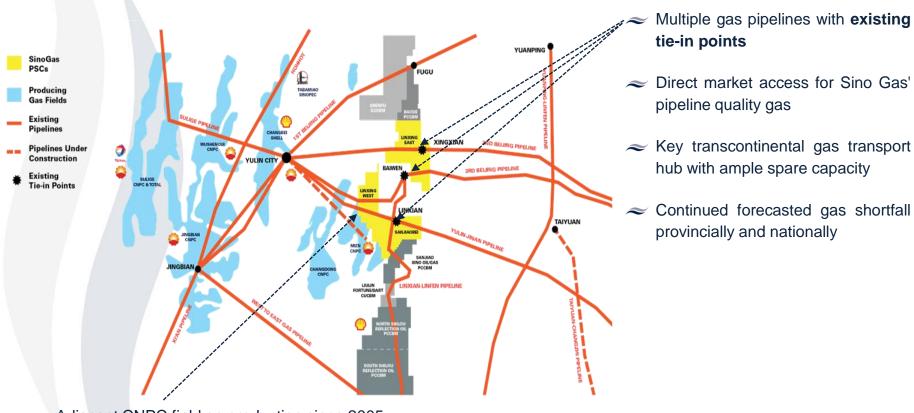
#### Commercialisation

Sino Gas is well advanced and on track to commence pilot pipeline production and sales in 2014



## Existing Infrastructure & Market





- Adjacent CNPC field on production since 2005
- ≈ CNPC is the SOE PSC Partner with Sino Gas in the adjacent Sanjiaobei PSC

### Resource Statement



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 completed with MIE Holdings Corporation ("MIE" SEHK: 1555) in July 2012 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.

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 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. 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 wellhead gas price of \$US8.79/Mscf and lifting costs (opex+capex) of ~ US\$1.5/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.

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 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.

### Reserves & Resources



RISC's independent mid-case assessment up to 31 December 2013 identified:

- ≈ 227% increase in Gross Project 2P Reserves to 1,068 bcf, with Sino Gas' share at 291 bcf¹
- Gross Project Contingent Resources increased 32% to 2.9 tcf, with Sino Gas' share increasing to 850 bcf1
- ≈ Sino Gas' share of project EMV has increased by a further 45% to US\$2.3 billion²

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

| Sino Gas'<br>Attributable Net<br>Reserves & Resources <sup>1</sup> | 1P<br>RESERVES<br>(Bcf) | 2P<br>RESERVES<br>(Bcf) | 3P<br>RESERVES<br>(Bcf) | 2C<br>CONTINGENT<br>RESOURCES <sup>3</sup><br>(Bcf) | P50<br>PROSPECTIVE<br>RESOURCES <sup>3</sup><br>(Bcf) | EMV <sub>10</sub><br>(\$USm) <sup>2</sup> |
|--|-------------------------|-------------------------|-------------------------|---|---|---|
| March 2014<br>(Announced 4 March 2014)                             | 129                     | 291                     | 480                     | 850   | 1,023   | 2,258                                     |
| March 2013<br>(Announced 20 March 2013)                            | 32                      | 94                      | 199                     | 653   | 885   | 1,556                                     |
| TOTAL 2013 CHANGE (+/-)%   | +21                     | 1% (2P Reserv           | /es)                    | +30%  | +16%  | +45%                                      |
| Total Project<br>March 2014  | 466                     | 1,068                   | 1,786                   | 2,941   | 3,978   | N/A                                       |

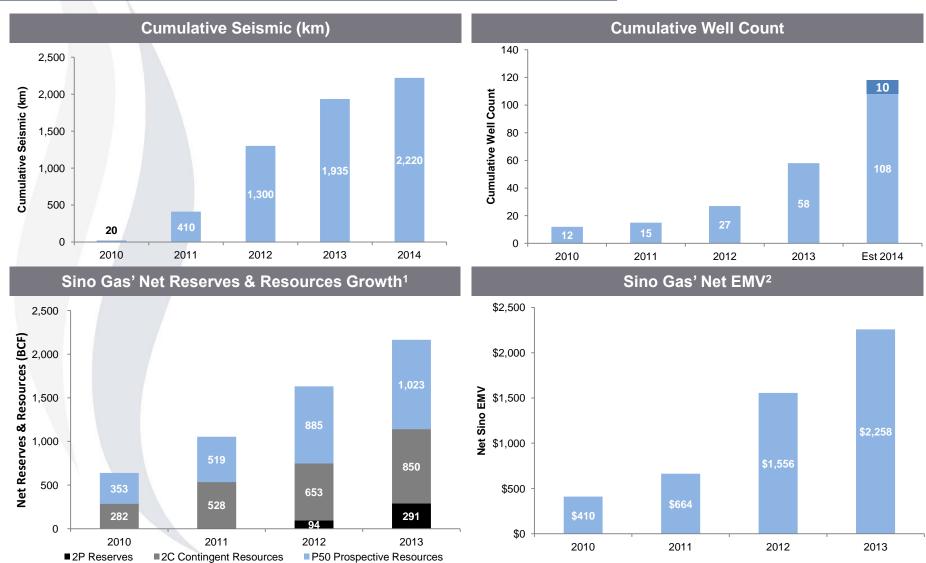
Note 3: Contingent and Prospective Resources have not been risked for the risk of development and discovery. The estimated quantities of petroleum may potentially be recovered by the application of future development project(s) relate to undiscovered accumulations. These estimates have both an associated 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:

| SINO GAS'<br>ATTRIBUTABLE<br>ECONOMIC VALUE <sup>2</sup> | NPV <sub>10</sub><br>(\$USm) | EMV <sub>10</sub><br>(\$USm)² |
|--|------------------------------|-------------------------------|
| Reserves   | 625                          | 653                           |
| Contingent Resources                                     | 828                          | 754                           |
| Prospective Resources                                    | 1,350                        | 851                           |
| TOTAL  |                              | 2,258                         |

## **Project and Company Growth**





## Independent Economic Evaluation



#### **RISC Independent Economic Evaluation**

US\$2.3 billion1

Expected Monetary Value (EMV) announced 3 March 2014

**Project IRR ~ 52 to 66%**<sup>1</sup>

mid-case across both PSCs2

~ 1 Bcf/day modeled steady state production

for 100% Reserves, Contingent + Prospective Resources across both PSCs

#### **Project Economic assumptions**

EUR Per Well ~2 Bcf

Well Head Gas Price US\$8.79 /Mscf

Average Cost Per Well ~ US\$2.1m

P50 Total Capex ~US\$0.80/Mscf

P50 Total Opex ~US\$0.70/Mscf

### Further upside still remains

Pad Drilling

**Horizontal Wells** 

Underexplored Acreage

## Pathway to Production



|   | ≤ 2012   | 2013                                     | 2014                              | 2015+                     |  |
|---|--|--|-----------------------------------|---------------------------|--|
| Corporate Focus                                 | Securing funding Delineating acreage                 | Proving up resources                     | Bringing on Pilot<br>Production   | Develop<br>Full Field     |  |
| # Wells Drilled                                 | 27   | 31                                       | 50-60                             | 100+ / year               |  |
| 2P Reserves / 2C<br>Resource (Net) <sup>1</sup> | 0 / 528 bcf  | 94 / 653 bcf                             | 291 / 850 bcf                     |                           |  |
| Funding   | US\$10 mm cash<br>+ US\$90 mm MIE<br>+A\$3 mm option | A\$10 mm + A\$53<br>mm equity issues     | Funding secured                   | RBL /<br>Internal<br>Cash |  |
| Sales   | N/A  | First GSA signed<br>CNG sales near<br>YE | Pilot Pipeline gas sales mid-year | Ramp-up<br>Production     |  |
| Net Independent<br>EMV <sup>2</sup>             | US\$664 mm   | US\$1,556 mm                             | US\$2,258 mm                      |                           |  |

## 2014 Work Plan – Forward Milestones



| Key      | / Event                           | Q1 CY14 | Q2 CY14 | Q3 CY14 | Q4 CY14 |
|----------|-----------------------------------|---------|---------|---------|---------|
| ✓        | Seismic Data Collection (285 km)  |         |         |         |         |
| <b>✓</b> | RISC Reserves Update              |         |         |         |         |
|          | Frac & test horizontal well       |         |         |         |         |
|          | GSA Sanjiaobei Signed             |         |         |         |         |
| ✓        | Exploration Drilling program      |         |         |         |         |
|          | Development Well Drilling Program |         |         |         |         |
| ✓        | 39 well testing program           |         |         |         |         |
|          | LXW CRR Submission                |         |         |         |         |
|          | LXE CRR Approved                  |         |         |         |         |
|          | Linxing Pilot Production          |         |         |         |         |
|          | Sanjiaobei Pilot Production       |         |         |         |         |
|          | SJB CRR Submission                |         |         |         |         |

# SEH provides an opportunity to invest in the China energy growth story



#### 

A growing reserve and resource base (Gross Project 2P Reserves at 1,068 bcf<sup>1</sup>) in **one of the world's largest gas** basins

#### Market Demand

Natural gas consumption in China planned to double by 2018

#### 

Tier 1 partners (CNPC / CUCBM) and attractive PSC fiscal regime

#### Equipment Availability / Central Gathering

Competitive well and operating costs - US\$1.50/mscf<sup>1</sup>, extensive rig and service industry availability – delivery infrastructure in place providing access to a **large domestic market** 

#### Sales Secured

Pilot pipeline gas sales **second half 2014** from both PSCs with attractive pricing US\$7.00/mscf under GSA for first year, expected to move in line with national pricing – circa US\$10+/mscf

# SEH provides an opportunity to invest in the China energy growth story



#### **≈** Upside Remaining

Horizontal well development and substantial acreage yet to be explored.

#### **≈** Funded through CY2014

The Company is in a position to fund forecasted 2014 cash calls.

#### **≈** Supportive Macro Environment

Chinese government policy is supportive of domestic gas producers. The recently announced gas supply agreement between Russia and China is a significant vote of confidence in the Chinese move towards gas.

### Contacts



## For more information, please contact:

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

www.sinogasenergy.com











# **Appendices**

- A. Board and Management
- B. Unconventional Reserves Calculation Methodology
- C. History of Unconventional Gas in China
- D. Attractive Partners
- E. Key PSC Terms & Cost Recovery
- F. On Ground Progress

## Appendix A: Board and Management





Gavin Harper Chairman

- More than 37 years experience in the oil and gas industry, 25 years with Chevron
- Previously business manager Chevron Australia Gorgon Project and led the project to integrate Chevron's Australian & PNG operations
- ≈ Extensive worldwide project management experience
- Member of the Australian Institute of Company Directors



Robert Bearden Managing Director and Chief Executive Officer (Beijing based)

- More than 30 years of experience in the upstream petroleum industry, predominantly in the areas of field development and production operations
- Previously worked for major corporations in the industry, including field executive management roles with Chevron based in Kazakhstan, Africa, Indonesia and the United States
- Most recent role since leaving Chevron was the Director of Operations for Addax Petroleum, a Sinopec subsidiary with substantial production operations in Africa and Middle East
- Member of the Australian Institute of Company Directors



Bernie Ridgeway Non-Executive Director

- Over 23 years corporate experience with public and private companies as owner, director and manager
- Member of the Institute of Chartered Accountants Australia
- Member of the Australian Institute of Company Directors



Colin Heseltine Non-Executive Director

- → 40 year career with Australian Department of Foreign Affairs and Trade (1969-2008)
- Australian Ambassador to Republic of Korea (2001-2005); Director of Australian Commerce and Industry Office in Taiwan (1992-1997); Deputy Head of Mission in the Australian Embassy Beijing (1982-1985 and 1988-1992)
- Recently retired secretary of APEC and currently a senior associate with the Nautilus Institute and vice chairman of the Australia Korea Business Council
- Member of the Australian Institute of Company Directors

## Appendix A: Board and Management





Philip Bainbridge Non-Executive Director

- ✓ More than 30 years experience in the oil and gas industry, 23 years with the BP Group
- Former COO of Oil Search and Executive General Manager LNG responsible for gas growth and exploration
- Currently a member of the Board of PNG Sustainable Development Program and a non-executive director of Drill Search Energy Company
- ≈ Extensive gas project development and management experience
- Member of the Australian Institute of Company Directors

# Appendix B: Unconventional Reserves Calculation Methodology



#### 

RISC assigns reserves to existing wells and the two adjacent well spacings within the discovered area

# ➤ Linxing (West) Reserves Cover 42% of discovered area

Reserves have been assigned to 173 km<sup>2</sup> of the 410 km<sup>2</sup> discovered area or 42% of the area

#### **∼** Contingent

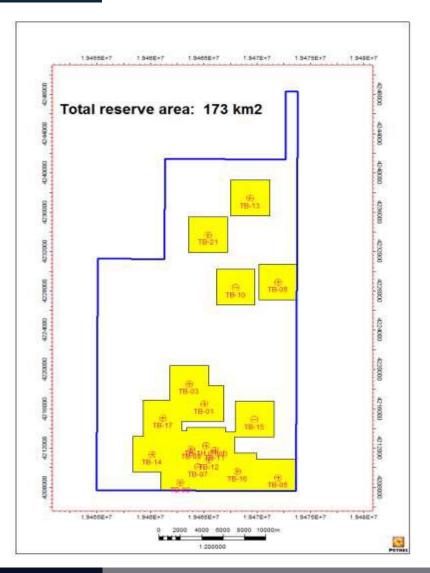
Remainder of the discovered area is classified as contingent until drilled

#### Prospective

Remainder of the block outside the area declared discovered is classified as prospective

#### 

The same methodology of reserves calculation applies to both Sanjiaobei and Linxing (East)



# Appendix C: History of Unconventional Gas in China



- ≈ 1980's: Creation of three national oil companies (NOCs) CNPC, Sinopec and CNOOC during the process of economic reform
- ≈ 1992: CNPC commenced an overall evaluation of China's CBM resources, selecting Qinshui Basin, Ordos Basin, Junggar Basin and Erlian Basin as the prospective regions
- ≈ 1998: Broad-scale restructuring with CNPC (PetroChina) and Sinopec to handle entire upstream/downstream segments
- 2006: CBM opened to foreign investors in order to accelerate its development (Sino Gas & Energy Holdings Limited established in Beijing)
- ≈ 2009: MOU on Sino-American co-operation in Shale Gas development projects
- ≈ 2009 2011:CNPC, Sinopec and other Chinese companies sign agreements for co-operative development of shale gas in China with Royal Dutch Shell, ConocoPhillips, BP, ExxonMobil and other international companies
- ≈ 2011 2013: NDRC have approved four CRRs and two Overall Development Plans (ODP), with others in various stages of approval. Sino Gas submitted its first CRR in August 2013.

### Appendix D: Attractive Partners



#### ≈ MIE

- Strategic Partner MIE has a proven track record of successfully delivering PSCs through the Chinese regulatory approval system
- 400+ wells drilled per year in China for the last 2 years
- Operations in Kazakhstan, USA & China
- Successful execution of 3 ODP approvals in China

#### ≈ SGE

 Production Sharing Contract Operator partnered with major State Owned Enterprises (SOE) with extensive development delivery experience since 2006

#### **≈** CUCBM

- The original SOE formed to develop the CBM industry in China
- Now 70% owned by CNOOC

#### 

- China's largest oil and gas producer with an extensive international presence
- Strong focus on the development of unconventional gas in China
- SGE is partnered with PetroChina CBM a subsidiary of CNPC

#### Strategic Partners

**CBM Energy** 

Associates 1

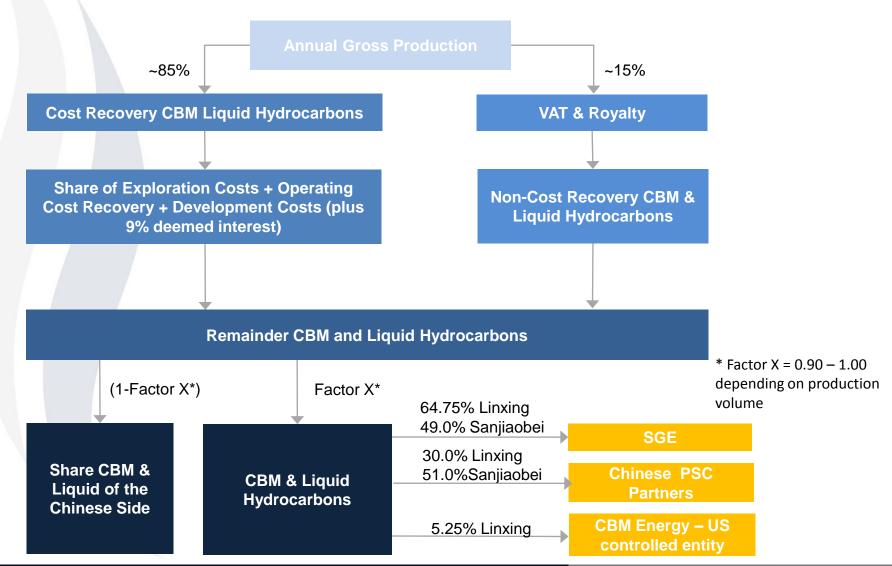






## Appendix E: Key PSC Terms & Cost Recovery





## Appendix F: On Ground Progress





Construction of Sanjiaobei spur pipeline

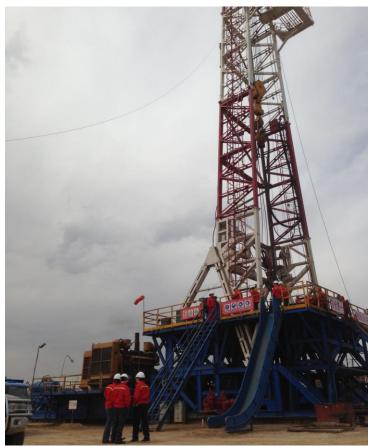


Separator at Sanjiaobei Central Gathering Station

## Appendix F: On Ground Progress







Flow metre station at Sanjiaobei

**Drill Rig** 

## Appendix F: On Ground Progress







Gas Test Sanjiaobei

Gas Compressors at the Sanjiaobei Central Gathering Station