

INDUSTRY OVERVIEW

Investors should note that the Directors have included in this section information relating to the energy market and the natural gas industry in the PRC. The information contained in this section has been extracted from publicly available documents that have not been independently verified by the Company, the Sponsor, the Underwriters or any of their respective advisers or affiliates in connection with the Placing. In addition, potential investors should be aware that market conditions in the PRC may have changed significantly since the dates to which the relevant statistics pertain.

INTRODUCTION

For the past decade, the PRC has experienced rapid economic growth due to the implementation of economic reform and the adoption of an open door policy. The GDP (based on current prices) has grown from RMB1,691 billion in 1989 to RMB8,191 billion in 1999 (Source: China Statistical Yearbook, 2000). On an inflation adjusted basis, the real GDP (based on comparable prices) grew by a compound annual growth rate of 9.7%. In December 2000, the PRC Government declared that the GDP had exceeded its target set in the ninth five-year plan for the period 1995 to 2000, and the GDP for the PRC in 2000 was estimated by the 國家統計局 (National Bureau of Statistics) to have reached RMB8,900 billion, representing an increase of 8.7% over 1999. In addition, the PRC Government has targeted a GDP growth rate of 7% for 2001. This trend of economic growth is expected to continue in the foreseeable future especially in view of the PRC's imminent accession to the World Trade Organisation. Significant development of energy related infrastructure is essential if the PRC is to sustain its rapid economic growth.

ENERGY MARKET IN THE PRC

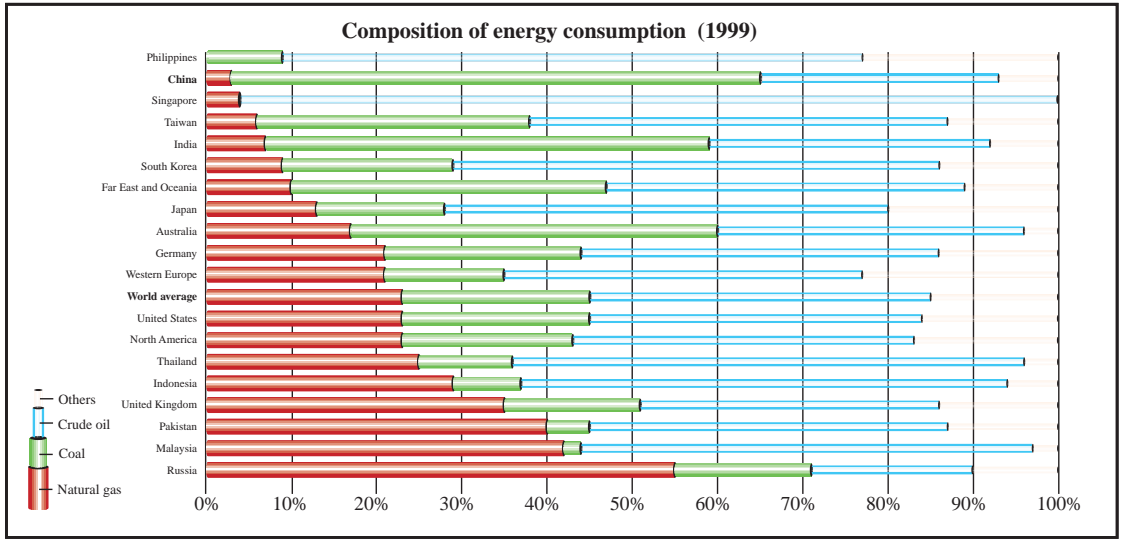
Although the PRC is the world's second largest energy consumer, its energy consumption per capita is lower than the per capita level in most other countries. This is largely due to the fact that a relatively large portion of the population in the PRC live in rural areas where access to energy sources is limited and the energy supply infrastructure in the PRC as a whole is still relatively underdeveloped. Energy consumption is concentrated in the urban areas where there is greater access to energy sources.

The PRC is the most populous country in the world, with a population of approximately 1.26 billion at the end of 1999. Between 1989 and 1999, the population in its urban areas grew at an average rate of 3.1% per annum whilst the population in its rural areas grew at an average rate of approximately 0.5% (Source: China Statistical Yearbook, 2000). With the development of energy related infrastructure, the accessibility of energy by the general population is expected to increase. A combination of the above factors is expected to lead to an increase in both total actual energy consumption for the nation and energy consumption per capita.

In 1999, coal, crude oil, hydro-electricity and natural gas accounted for approximately 67.1%, 23.4%, 6.7% and 2.8%, respectively, of the PRC's total energy consumption (Source: China Statistical Yearbook, 2000).

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The following graph illustrates the composition of energy consumption in the PRC, as compared to various other countries in the world:



Source: Energy Information Administration, US Department of Energy

The PRC has historically relied heavily on coal as its primary energy source. Coal represented approximately 67.1% of the PRC's total energy consumption in 1999. This greatly exceeded the world's average coal consumption, which was approximately 22.2% in 1999 (Source: Energy Information Administration, US Department of Energy).

Over the past decade, air pollution and other damages to the environment caused by coal combustion have caused serious concerns in many countries around the world and resulted in a global trend to reduce coal usage. The continued heavy reliance on coal in the PRC has led to serious pollution problems in various areas. In an air pollution study conducted by the World Health Organisation in 1998, seven of the ten most polluted cities in the world were located in the PRC. Recognising the serious problems caused by coal usage, the PRC Government has planned to gradually reduce coal usage by substituting coal with other more environmentally friendly forms of fuel such as crude oil and natural gas.

The use of crude oil as a percentage of the PRC's total energy consumption was similar to that of other countries and the world's average in 1999. On the other hand, the use of natural gas as a percentage of the PRC's total energy consumption was approximately 2.8% in 1999, which was significantly lower than the world average of approximately 22.8% (Source: Energy Information Administration, US Department of Energy). As the natural gas industry in the PRC is in its infant stage of development and natural gas is one of the most environmentally friendly and economical energy sources, the Directors believe that there is enormous growth potential in the near future for the natural gas industry.

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NATURAL GAS

In recent years, global warming and erratic weather patterns have attracted the world's attention to the environmental problems caused by air pollution. As a result, many countries have decided to devote an increasing amount of resources to environmental protection. Natural gas is often referred to as the cleanest fossil fuel available. The pollutants emitted by natural gas are only a fraction of those emitted by most other energy sources such as coal and crude oil. Therefore, natural gas is regarded as a preferred energy source for the future and an environmentally friendly alternative to other fossil fuels. Some of the more desirable qualities of natural gas can be summarised as follows:

Clean	Natural gas is one of the cleanest fossil fuels available. When burnt, the principal products are carbon dioxide and water vapour. Combustion results in virtually no atmospheric emissions of sulphur dioxide or small particulate matter, and far lower emissions of harmful elements when compared to combustion of other fossil fuels, such as coal and crude oil.
Economical	On a heat content adjusted basis, the price of natural gas is cheaper than most other forms of fuel. For example, natural gas is approximately 34% to 88% cheaper than coal gas, approximately 38% to 52% cheaper than LPG and approximately 63% to 80% cheaper than electricity (for details on pricing of various fuel sources, please refer to the paragraph headed "Natural gas in the PRC – Pricing of natural gas in the PRC" below).
Safe	Natural gas is not explosive on its own, it can only be burnt after mixing with oxygen resulting in the oxygen content of the mixture exceeding a certain percentage. Furthermore, natural gas does not contain carbon monoxide and other toxic gases, thus it is not harmful when inhaled in small quantities. Unlike bottled LPG, natural gas is delivered to end-users through pipelines, hence the danger associated with fuel storage is eliminated.
Efficient	Natural gas has a high heat content compared to other forms of fossil fuel. Under the same pressure, combustion of an equal volume of natural gas results in a higher heat content than most other forms of fossil fuel.
Convenient	As natural gas is delivered to end-users using pipelines, there is no need to store or replenish the fuel on-site, as is required for other fuel sources such as bottled LPG. Furthermore, for industrial users, gas units tend to be less complex and easier to operate and maintain than equipment powered by coal and other fossil fuels. In addition, there is no solid waste or ash requiring disposal following the consumption of natural gas.

NATURAL GAS IN THE PRC

The major method for transportation of natural gas from source to end-users within the PRC is by means of pipelines. In order to develop the natural gas industry, it is essential that the necessary pipeline infrastructure be in place so that natural gas is easily accessible for distribution to end users. The backbone of the gas delivery system in the PRC consists of long distance pipelines which are used to transport purified natural gas from the gas fields to major consumption areas. The long distance pipelines are owned and operated by national oil and gas exploration and production companies.

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The PRC Government has re-affirmed its commitment to making significant investments in the expansion of the natural gas pipeline infrastructure over the next decade in its tenth five-year plan for 2001 to 2005. One of the PRC Government's major projects is the construction of long distance pipelines for the transportation of natural gas from the reserve-rich western provinces of the PRC to the more affluent provinces in the east referred to as 西氣東輸 (“West to East Pipelines”). Construction of the approximately 4,200 km West to East Pipelines has been approved by the State Council and is expected to be completed by 2003.

The following map shows long distance pipelines constructed or currently planned to be constructed in the PRC:



Source: 《中國城市煤氣協會》 (Chinese Gas Association)

In addition to its investment in the natural gas pipeline infrastructure, the PRC Government is encouraging the use of natural gas. In most locations where natural gas supply is available, the local governments have promulgated rules requiring that all new residential buildings incorporate piped gas connections in their designs as a condition to the issuance of the construction or occupational permit. Furthermore, in an effort to control pollution problems, there are a growing number of cities where the local governments have issued legislation to gradually replace coal with other cleaner energy sources such as natural gas.

The average compound growth rate of natural gas consumption in the PRC was 6.4% per annum for the years 1991 through 1999. Natural gas consumption as a percentage of total energy consumption in the PRC increased slightly from 2.0% to 2.8% over the same period.

At the end of 1999, 10,638 km of natural gas long distance pipelines had been built in the PRC and the population that had access to piped natural gas was approximately 22 million.

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According to forecasts made by the Petroleum Economist, natural gas usage as a percentage of total energy consumption in the PRC will increase from 2.8% in 1999 to approximately 9% to 10% in 2010, representing an increase of up to approximately 257%. Coal consumption as a percentage of total energy consumption is projected to decrease in the future. The natural gas industry is expected to experience significantly higher growth relative to other energy sectors.

Reserves and production

According to the 第二輪油氣評估結果 (Second Oil and Gas Reserve Assessment) carried out by the 地質礦產資源部門 (Geological and Mineral Resources Department), natural gas reserves in the PRC are estimated to be approximately 38,000 billion cubic metres with approximately 30,000 billion cubic metres onshore and 8,000 billion cubic metres offshore. These estimated reserves are sufficient for 74 to 120 years of PRC consumption based on the current consumption level. However, since the energy reserves in the PRC is underexplored and has substantial coal reserves (with coal-bed methane), it is likely that reserves are much higher than currently estimated, with the majority of the reserves lying in the far western region.

Natural gas reserves in the PRC are mainly owned by 中國石油天然氣股份有限公司 (PetroChina Company Limited), 中國海洋石油總公司 (China National Offshore Oil Corporation) and 中國石油化工集團公司 (China Petrochemical Group Corporation).

Pricing of natural gas in the PRC

The wholesale price of natural gas payable by distribution companies to the suppliers of natural gas is comprised of three components, namely the wellhead price, the pipeline transportation tariff and the purification fee. The wellhead price is fixed by the State Development Planning Commission, and is currently set at RMB0.90 per m³ with a 10% allowance for upward or downward adjustments for negotiation between suppliers and distribution companies. The pipeline transmission tariffs are determined by reference to the investment costs of the relevant long distance pipeline, depreciation, wear and tear and the distance of delivery. The purification fee is based on the actual purification costs of the suppliers. Both the pipeline transmission tariffs and the purification fee must also be approved by the State Development Planning Commission.

Market-oriented pricing policies are currently being proposed to encourage major energy consumers such as power and chemical plants to use natural gas as their energy source. According to the advice of the State Petroleum and Chemical Administration (國家石油化學工業部), the wellhead price should be negotiated by the supplier and the buyer in line with a pricing formula approved by the PRC Government and the pipeline transportation tariff should be fixed by the relevant authorities, taking into account the operators' costs and profit margin, as well as an inflation factor.

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For comparison purposes, the table below sets out the pricing of various energy sources in the PRC in January 2001 on an energy adjusted basis:

	Price range (RMB)	Price per heat content (RMB per gigajoule)
Natural gas	0.7 - 3.0 per m³	19.3 - 79.5
Coal	125 - 430 per tonne	4.9 - 16.9
Coal gas	0.5 - 11.3 per m ³	29.4 - 661.8
LPG	1,830 - 5,770 per tonne	40.7 - 128.2
Light oil	3,350 - 4,697 per tonne	79.8 - 111.8
Electricity	0.34 - 0.78 per kilowatt hour	94.4 - 216.7

Source: 重慶價格信息網 (Chongqing Price Net) and安徽省經貿信息網 the website of Anhui Economic and Trade Committee

On a heat content adjusted basis, the price of natural gas is approximately 34% to 88% cheaper than coal gas, approximately 38% to 52% cheaper than LPG and approximately 63% to 80% cheaper than electricity. The Directors believe that the low price, high heat content and low emission characteristics of natural gas are some of the reasons that have led to the PRC Government's determination to increase its usage.

Distribution companies are required to submit price proposals on connection fees and gas usage charges to the local state price bureau for final approval. Future upward adjustments are also subject to approval of the local state price bureau. For further details, please refer to the paragraph headed "The Group's business – Pricing" in this prospectus.

Regulatory framework for natural gas distribution companies

In the PRC, entities engaged in the gas distribution business must obtain an operational permit from 建設部 (Ministry of Construction) before commencement of business. In addition, a construction permit must be obtained if such gas distribution company also engages in the construction of facilities and pipelines. In both cases, the Ministry of Construction will review the qualifications and experience of the directors and technical staff of the distribution company and consider whether the distribution company is capable of fulfilling the operational and construction standards (as the case may be) required by the Ministry of Construction.

According to the Catalogue for the Guidance of Foreign Investment Industries (外商投資產業指導目錄) approved by the State Council on 29 December 1997 and jointly promulgated by the State Development and Planning Commission (國家發展及計劃委員會), the State Economic and Trade Commission (國家經濟貿易委員會) and the Ministry of Foreign Trade and Economic Co-operation (對外貿易經濟合作部) on 31 December 1997, foreign investors are prohibited from ownership and management of complete gas supply networks for cities. As advised by the Company's PRC legal adviser, the Group's business, being the provision of piped gas to residential, commercial and industrial establishments in economic development zones and independent residential districts and counties surrounding a city, is not in contravention of the PRC legislation and regulations. In addition, the Directors believe that as the services provided by the Group contribute to environmental protection, they are consistent with national policy and, therefore, local governments are highly supportive of the business of the Group. This is evidenced by the approvals granted by the relevant local foreign trade and economic co-operation departments, the authority overseeing the implementation of the Catalogue for the Guidance of Foreign Investment Industries in respect of the establishment of the Existing Project Companies and their relevant businesses.

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FUTURE DEVELOPMENT OF THE NATURAL GAS INDUSTRY IN THE PRC

In the future, the PRC's average annual gas consumption is estimated to reach 50 and 100 billion cubic metres during the periods 2006 to 2010 and 2011 to 2020, respectively.

The PRC Government has the following plans in relation to the development of the natural gas industry and the promotion of the downstream use of natural gas:

- Completion of the approximately 4,200 km West to East Pipelines by 2003, which is estimated to supply approximately 20 billion cubic metres of gas per annum by 2010.
- Feasibility studies and discussions with the Government of the Russian Federation regarding the importation of gas from Russia. Should the outcome be positive, the supply of gas will commence in 2005. Under the proposed plan, the long distance pipelines are estimated to be approximately 4,000 km in length with 2,400 km located in the PRC. Annual supplies of gas could reach 20 to 25 billion cubic metres.
- Construction of LNG terminals proposed for the cities of Fuzhou, Guangzhou, Qingdao and Shanghai. It is expected that the importation of LNG will reach 3 million tonnes by 2010 and 10 to 15 million tonnes by 2020.