

# China Shale Gas Sector Analysis

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## Abstracts

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China is basking in the glory of its recent world's largest shale finds. With almost 25% more reserves than the United States, China is dreaming about an even bigger energy revolution than the one seen in America. If estimates are to be believed then this 1,275 Trillion Cubic Feet of shale gas reserves found in China will last for about 300 years at the present rate of production and consumption. Since Chinese shale gas scenario is in its early years, the future is large and as of now looks promising. The practical production currently is zero, with a couple of experimental wells producing only 10,000 meters of gas per day but nothing substantial.

China's shale gas reserves are spread over almost all of the country with an estimated amount of about 1275 Trillion Cubic Feet. The exploration of shale gas in China is still in its infancy. Exploration of shale gas is picking speed with companies; Shell has recently announced that the exploratory results in the Sichuan basin are satisfying.

China's enormous shale gas resource has been mainly found in the Sichuan or South China and Tarim basins, but a lot is also scattered all over the region. The commercial viability of these reserves is a major concern. Nonetheless, they will be explored at a later stage to determine the amount of hydrocarbons present. For convenience, the reserves can be divided into four regions, North China, South China, Northwestern and Northeastern China. In these four regions, shale deposits have been found in eight basins viz. Songliao basin, Bohaiwan bay, NorthChina, Sichuan or the South China basin, Ordos basin, Tuha Basin, Zhungaer basin and Tarim Basin. Out of these, North China, Sichuan (South China) and Tarim basins are Marine Deposits and the rest five are Continental Deposits.

The Chinese Five Year Plan of 2011 to 2015 for the development of Shale gas in the

country has set a target of 6.5 Billion Cubic Meters by the end of 2015. The plan includes not just exploration and production, but also transportation and infrastructure, which China is currently struggling with. The pipeline network is insufficient to transport such huge quantities of gas and the Chinese terrain makes it even more difficult to lay any pipelines. This will require huge investment in the future. Another problem is the lack of water supply. Fracking, the shale gas extraction technology, requires large amount of water, which again means more money needs to be pumped in to ensure uninterrupted supply of water to the wells.

**“China Shale Gas Sector Analysis” research gives comprehensive insight on following aspects related to shale gas industry in China:**

Current Industry Overview

Shale Gas Reserves

Regulatory & Policy Framework

Shale Gas Blocks Auction Process & Result

Shale Gas Development Plan (2011-2015)

Shale Gas Investments

China Shale Gas Industry Future Outlook

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## About

### **Shale Gas Reserves by Basin & Region**

China's shale gas reserves are spread over almost all of the country with an estimated amount of about 1275 Trillion Cubic Feet. The exploration of shale gas in China is still in its infancy. Exploration of shale gas is picking speed with companies; Shell has recently announced that the exploratory results in the Sichuan basin are satisfying.

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The type of shale occurrence in these regions varies greatly, from the age of shale to the quality of the gas. Shale in these basins has been developed over different periods of time and from different geologic time periods which are Paleozoic, Cenozoic, Mesozoic and Simian.

### **Shale Blocks Identified for Second Auction (2012)**

For the second round of auctions, the Chinese Ministry of land and Resources had asked all the national oil and gas companies to invest three times their present investment. Precisely, any company that fails to invest xxxx Yuan per square kilometer in developing shale gas resources and infrastructure will run a risk of the block being snatched away by the ministry. More than 200 domestic private companies have applied for the bidding round, an exponential increase from the first round of bidding, after the companies realized the potential of shale gas in China. This auction, again, is beyond limits to any foreign companies but for the first time, private companies have been allowed to be a part of it because of the new status of shale gas. While there is no dearth of companies wanting a piece of the Chinese

shale gas pie but they are also wary of China's biased policies which have always favored national company dominance.

Foreign companies, as of now, can only work in partnership with national companies, the government is giving some serious thought to invite these companies also for the bidding rounds. This will mean more money and tailor made technology. The government will not exactly be relinquishing its right over the wells through the Production Sharing Contracts (PSC). PSC will make sure that the gas is sold only in the domestic market, on prices mutually agreed and the government gets a good share of money as royalty. China will have to bring in some changes to its bidding landscape to make it more attractive and invite companies that have the requisite money to develop the shale reserves at a better pace and with better efficiency. Total xx blocks were identified for the second stage of shale gas block auction in China during 2012. More than 80 companies submitted xx bids for these blocks.

### **Second Shale Gas Block Auction Results (2013)**

On 21'January'2013 result of second shale blocks auctions were announced by Ministry of Land and Resources. The second auction results were dominated by state owned entities and half of the winning entities represented coal and electricity businesses. For example, China Huadian, one of the largest state owned power generation companies in China, won four blocks in Hubei, Huzhou and Guizhou provinces while Shenhua Group Corporation, the largest coal producer and trader in China, won a block in Hunan province. Also, half of the winners were affiliated with local governments seeking to capitalize on a potential shale boom in China. Out of the 32 non-state owned entities that submitted bids, only two won acreage: Huaying Shanxi Energy Investment Co. Ltd. and Beijing Taitanyongyuan Natural Gas Technology Co. Ltd.



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