

**Asian Oil & Gas:
Megatrends, Balance and Geopolitics**
A Closer Look at China

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Preface

This report is a compilation of research conducted at the Energy Institute by a Visiting Researcher and now Research Fellow, Xiaojie Xu of China National Petroleum Corporation. It represents our first attempt to document, analyze and understand the tremendous changes taking place in China and how they relate to the global oil and gas economies.

We extend our appreciation to Mr. Xu for his interest in our Institute and in collaborating with us on these projects. Mr. Xu received support for his efforts through our annual corporate underwriting, which provides the Institute with the resources to pursue independent studies of this type.

We also must acknowledge those publications in which portions of Mr. Xu's work already appeared. They are as follows.

"China Reaches Crossroads for Strategic Choices," *World Oil*, April 1997, Houston.

"China's Oil and Gas: Crossroads and Strategic Choices," *IAEE Newsletter*, Spring 1997, Cleveland.

"The Virtual National Oil Companies: A New Paradigm for China," The 17th IAEE/USAEE North American Conference *Proceedings*, October, 1996, Boston.

"China's Looming Oil Crisis and Ways of Avoiding It," *OPEC Bulletin*, January 1997, Vienna.

"(De)regulation of China's Oil and Gas Sector," *IAEE Newsletter*, August 8, 1996, Cleveland.

"The Greater Oriental Oil and Gas System," The First International World Energy System Conference *Proceedings*, June 20, 1996, Toronto.

"China's Future Oil Industry: Pitfalls and Pathways," *Asia/Pacific Oil Weekly Report*, Pennwell publishing, June 1996, Houston.

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A Closer Look at China

Executive Summary

Since the early 1990s, there have been fundamental changes in Asian oil and gas development and its geopolitical atlas. With the break-up of the Soviet Union, Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan emerged as new powerhouses of petroleum with more than 25 billion barrels of proven reserves. Except for Uzbekistan, these countries, Russia and Iran surround the Caspian Sea. Oil reserves in the Caspian Sea have been recently updated to around 180 billion barrels from a much more conservative but still significant 80 billion barrels -- of which 27.5 billion barrels are proven. The rich resources of this region are integrating with those in the Persian Gulf and North Africa to form the "New Greater Middle East" for oil and gas supply. Russian resources from Siberia and Russian Far East is connected to this region as well. We call this greater area -- which strongly connects the Asia/Pacific Rim, the Indian Subcontinent and the European continent in demand -- the "Petroleum Heartland."

Although estimates vary between sources, 75 to 80 percent of world oil and gas reserves are located in this region. These vast reserves place the Petroleum Heartland in a position of being the major supplier of oil and gas for the foreseeable future to countries located in either the "Inner Demand Crescent" (non-UK Europe, the Indian subcontinent, the Asia/Pacific Rim) or the "Outer Demand Crescent" (the U.K., the Americas, Japan, sub-Saharan Africa, Australasia), which currently account for more than 60 percent of the world demand. These megatrends, interactions and the new geopolitical reality will greatly impact future Asian and world energy performance and international stakeholders' behaviors.

Our analyses of dramatic changes in the emerging oil and gas system in Asia with major emphasis on interconnections and the balance between the Petroleum Heartland, the Inner Demand Crescent and the Outer Demand Crescent led us to the following conclusions.

- There are still several uncertainties concerning the development of Asian oil and gas resources.
- There is a severe lack of infrastructure, and existing infrastructure is old.
- Development of some of these resources requires technological know-how that host countries do not possess.
- A considerable amount of capital investment is needed; however, host countries do not have necessary financial resources.

This situation clearly identifies the necessity of international assistance, the form of which depends on each country's economic and institutional conditions and preferences. Nevertheless, the need to render their bureaucracy less of an obstruction and more encouraging to western investment is obvious.

However, the critical issues for host countries are not merely how to reform oil and gas industries and foster cooperation with western companies but also how to manage the geopolitical relationships that are involved. As ever, the politics of oil and gas plays an important role, especially when most of the Asian economies are expected to depend more and more on imported energy in the very near future. Russia tries to dominate Former Soviet Union countries regarding the control of their resources as well as their claims on the Caspian Sea, which also brings Iran into the picture. China, on the one hand, aspires to become the dominant superpower of the region and, on the other hand, tries to sustain its fast growing economy. This situation sometimes leads to conflicts with other countries in the region as in the case of

the East and South China Seas. These political issues undoubtedly present serious dilemmas for the energy companies that are planning to operate in Asia.

In light of this new geopolitical reality, we concentrate on China, one of the major players in this new era of world energy markets. China is not only the sixth largest oil producer but also one of the top 20 major natural gas producers in the world. However, China's economy has grown at an average rate of about 10 percent within the last decade making it one of the fastest growing economies of the world. This dynamic economic growth has propelled a strong demand for oil and gas. Oil consumption has increased at an average rate of 6.5 percent during the same period. *As a result of this, China has become a net oil importer in 1993 after almost thirty years of self-sufficiency and twenty years of net exporter status.*

The increase in consumption is expected to continue well into the next century while the production from current fields will remain fairly constant. The increasing shortage in domestic oil supplies will cause imports to rise, unless the country starts developing its own oil and gas resources in West China and China Offshore. China needs to invest in development of long distance pipelines between the country's petroleum resources in the West and increasing demand in the rapidly industrializing East and South. A T-form gas pipeline grid was recommended to link local pipelines and a future international trunk line. All of these projects necessarily require large sums of capital investment that China cannot afford by itself as required by the country's traditional philosophy of self-reliance.

Forming strategic alliances with multinationals has proved to be a successful institutional arrangement to explore giant frontier fields of higher risk and to stimulate major infrastructure development in other parts of the world. Project finance has been another appropriate option to make major profitable projects happen. However, although the central government has recently been more open to foreign investment, the level of current development is far from the country's potential. There is, therefore, a further need for the Chinese government to render the domestic markets more attractive to foreign investors.

Since the early 1980s, China adopted a gradual transition policy from a centrally planned economy towards a "socialist market economy" which entails more open and liberal market conditions. Some industries have already seen the benefits of the new system, although the oil and gas industry appears to be lagging behind. Part of the problem is the current structure of the petroleum industry, which is non-integrated, centrally controlled and regionalized. The industry is heavily taxed; revenues from oil and gas form a significant portion of government revenues. Oil pricing remains a political instrument to tame inflation. Under these conditions, national oil companies neither operate efficiently nor look attractive to major oil companies of the world as potential partners in a strategic alliance. China has taken steps to decrease the role of central planning and to increase commercialization, but further improvements in rules and regulations are required.

Overall, China is moving in the right direction towards more open markets, but the central government needs to expedite all of its efforts of privatization if the country is to capitalize on opportunities that the new geopolitics of the world energy market is offering. China has to continue on the same track to join in international activities taking place in the Petroleum Heartland and to integrate its own oil and gas industry to this region's system as an indispensable part. The central government, however, will have to make decisions fairly soon as substantial changes are expected in socio-economic conditions of the country.