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# India Invites Texas Energy Companies to Invest in its Shale Market

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(This post is co-authored with Janani Srinivasan, UT LLM '15)

Last May, India's Petroleum & Natural Gas Ministry [announced](#) plans to expand the country's hydrocarbon production by commencing commercial drilling for shale oil and gas resources. Developing shale resources will require use of hydraulic fracturing (fracking), whereby fluid is injected underground at high pressure to fracture the rock, thereby enabling the flow of oil and gas. India's National Oil Company (NOC) – Oil and Natural Gas Corporation Limited (ONGC) – has [identified](#) 17 potential shale oil and gas well sites along the eastern and western coasts of India. ONGC is looking to partner with the private sector to develop the wells and hopes to raise much of the \$7 billion required for development from foreign investors.

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ONGC spent the last year interacting with energy companies in Texas and North Dakota, with the aim of educating smaller firms about the business opportunity in India. Its efforts have paid off. A number of U.S. companies, including Schlumberger and Halliburton, have agreed to enter into production sharing contracts with ONGC. Although the terms of these contracts are yet to be finalized, it is expected that the U.S. companies will make the initial capital investment, and provide technology, equipment, and support services to ONGC. In return, they will receive a share of production.

ONGC's decision to partner with U.S. companies reflects their significant experience with shale oil and gas production. ONGC's experience has been comparatively limited and it has little internal capacity in terms of investment, technology, and skilled manpower. To overcome this, ONGC hopes to leverage the experience of U.S. companies which have previously engaged in fracking, to produce shale oil and gas. Its timing couldn't be better. The recent collapse in oil prices has led many oil and gas producers to defer projects, resulting in a surplus of oil and gas field services, which has led to a reduction in prices. Seeking to take advantage of the reduced prices, ONGC recently sought [approval](#) from the Ministry of Environment, Forest, and Climate Change to prepare Terms of Reference to partner with service companies, to develop 11 of the 17 previously identified wells.

The push to begin commercial development of shale oil and gas comes five years after viable deposits were first discovered in India. In 2011, ONGC partnered with Schlumberger to drill the country's first non-commercial shale gas well in the Damodar Basin in eastern India. Initial assessments by ONGC and other private energy companies indicated that at least six other sedimentary basins could have commercial potential. The U.S. Energy Information Administration [estimates](#) that, across all Indian basins, over 96 trillion cubic feet of shale gas and nearly 4 billion barrels of shale oil are technically recoverable (see Figure 1 below).

Despite the significant resource potential, exploitation of shale oil and gas has run into significant obstacles. Chief among these is India's vaunted bureaucracy and unsupportive regulatory policy. By way of example, the Indian government has previously only issued

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leases for conventional hydrocarbon production, and not permitted development of unconventional resources, such as shale gas. This now looks set to change, however.

Seeking to encourage unconventional development, India's central government released new ["Policy Guidelines for Exploration and Exploitation of Shale Gas"](#) in 2013, to clarify the rights of NOCs to develop shale resources. Seeking to learn about development techniques, several Indian companies have purchased stakes in U.S. shale gas assets. The state-owned Gas Authority of India, for example, has signed an agreement with Carrizo Oil & Gas to acquire a 20 percent stake in the latter's Eagle Ford acreage for \$95 million and intends to spend a further \$1.5 billion in US shale assets over the next 5 years. Another privately owned Indian company, Reliance Industries Limited, is spending \$2.7 billion on shale joint ventures with Atlas Energy, Chevron, Carrizo Oil & Gas, and Pioneer Natural Resources.

Whereas most investment to date has flowed from India to the U.S., this is expected to change in coming years. Many U.S. companies have expressed interest in investing in India, particularly following reforms to wellhead pricing, [announced](#) by the Indian government last year. Under the reforms, producers will, for the first time, be able to sell oil and gas at market-determined prices, without any government interference. In the past, prices were regulated by government, and based on producers' costs.

Despite the recent reforms, there remain a number of risks for U.S. companies looking to invest in India's oil and gas sector. These include:

- Production costs in India may be higher than those in the U.S. given the relatively unknown geological terrain. Gas gathering and processing costs are also likely to be on the higher side due to inadequate domestic infrastructure. Over time, however, technological advances may significantly reduce these costs.
- Inadequate domestic service sector capacity and suitable equipment are potential bottlenecks. Compared to the US, there is a shortage of critical oil and gas field equipment in India. Equipment imported from other countries will likely have

to be modified to suit local conditions due to difference in terrain. These differences may also mean that technologies and practices employed in the U.S. cannot be replicated in India.

- India is yet to address potential environmental issues associated with developing shale. As previously [reported](#) on this blog, fracking generally requires large amounts of water, which [may put added pressure on water supplies](#), particularly in water-deficient countries such as India. In India over the next 12 to 15 years, water consumption is expected to increase by over 50 per cent, while supply will increase only modestly or perhaps even decrease. This will lead to greater competition for water, which could become a key issue for fracking operators.
- Whereas availability of land is not a major challenge in the US, given its vast open spaces, it may be a vital issue in India, where population density is significantly higher. Although government granted leases confer on oil and gas producers rights to occupy land, this could be met with opposition from community groups, particularly if production leads to the displacement of local residents.

These challenges will, no doubt, take time to overcome. The Indian government does, however, have a strong incentive to take action. Unlocking India's domestic shale reserves could help the country meet its rapidly growing energy demand, while reducing dependence on expensive energy imports. Recognizing this, the government is currently taking steps to remove the hurdles posed by a lack of infrastructure, gaps in the regulatory framework, and public environmental concerns. It has recently revised its policies to support foreign investment in the oil and gas sector. Whether the revised policies will be enough to foster a healthy partnership between Indian and U.S. companies for the development of shale resources remains to be seen.

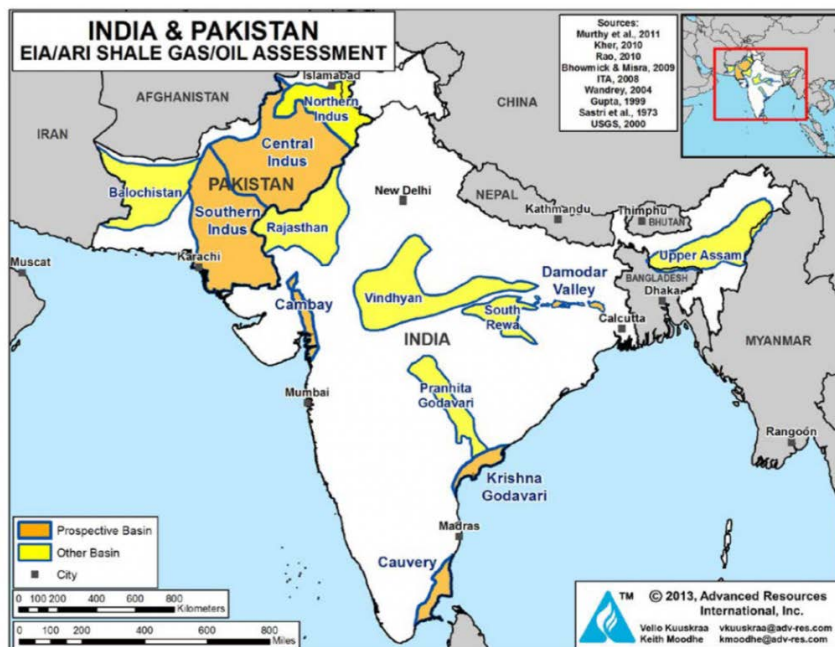


Figure 1: Shale Oil and Gas Basins in India

Source: U.S. Energy Information Administration (May 2013)

[fracking](#) [hydraulic fracturing](#) [India](#) [North Dakota](#) [oil and gas](#) [shale](#) [Texas](#)

## One comment



Jayashree

May 4, 2016 3:31 pm

Very informative.

Hope the following statement becomes real - " .... the government of India is currently taking steps to remove the hurdles posed by a lack of infrastructure, gaps in the regulatory framework, and public environmental concerns". Without removal of these hurdles, shale oil exploration will remain a shallow thought !

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