

Policy Perspective

Shale gas

Negotiating new energy, export finance and environmental equations

Summary

India is the second largest (after Mexico) client of the Export-Import Bank of the United States, with an \$8.5 billion line of credit. The energy and petrochemicals sectors are the major beneficiaries. The discovery of shale gas and the development of related technology in the U.S., however, are likely to change the nature of the exports of energy products and technology to India. The financing to procure them will also be different, because the U.S. is willing to compete with China on financial terms. Moreover, the shift from oil and compressed natural gas to shale can have a cascading negative impact on India's environment, if opportunities in tapping alternative energy sources are neglected. Indian policy must balance the benefits of securing new technology and better financing for shale gas exploration within the country and from imports, with a firm commitment to renewable energy initiatives within the country.

Dimensions

1. Implications for energy security: India has welcomed the advances made in the process of extraction of shale gas in recent years. Conservative estimates suggest that India does not have vast resources of this fuel. But the Indian government indicates that large volume of deposits — approximately 527 trillion cubic feet according to some reports, of which half is recoverable — are located across the country. However, the process of extracting shale gas is water-intensive; India lacks an adequate water supply to meet these requirements. Until technological innovation makes water supply a non-factor in the shale extraction process, the country will continue to be dependent on crude oil. However, a reduced global dependence on crude

will lower costs and result in a less onerous import bill for India's ever-increasing energy requirements, expected by India's Ministry of Power to rise by 41% in 2016-17. The energy import bill in 2012 was \$122.6bn (or Rs. 7,26,386 crores).

2. Shale technology can be exported: The U.S. already possesses the necessary infrastructure to extract shale gas, which the U.S. Department of Energy suggests could make the country self-sufficient in energy by 2030-35. It will now aggressively push its shale technology and products to India and other countries. Shale will also become an incentive for India to gradually wean itself off oil from Iran. Advanced technology will allow the exploitation of presently inaccessible shale deposits, making shale gas exploration in India a real possibility in the near future. But it will also set back efforts at developing indigenous renewable energy technology.

3. An environmentally unsustainable technology: The environmental damage caused by slickwater fracking — the process employed to extract shale gas — can deplete fresh water, and contaminate groundwater and air quality. Sixty per cent of the world's oil wells employ this process. Fuelled by environmental concerns, Quebec, Canada — the fracking technology leader — introduced a law in May 2013, banning the fracking of shale deposits even as the neighbouring province of New Brunswick, which needs to boost its revenues, presently welcomes it.

4. The return of U.S. manufacturing – a catalyst for export: The lower prices of shale-based fuel will make it more economical for the U.S. to localise manufacturing. The country has an export agenda for the first time in decades. Overall global exports, which were just 4%-5% of GDP in the

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1950s, have been steadily growing and are now nearly at 14% of GDP. This is still less than half of China's 30% or Germany's 52% export rate. If the large percentage of American export financing in oil, gas and renewable energy, and the resultant job creation in manufacturing become a reality, the export of shale gas technology will be a priority for the U.S; it could create an estimated million new American jobs by 2025.

5. Competitive export financing: The U.S. is smartening up to Chinese export financing tactics. In the past, Chinese export finance banks provided favourable rates to borrowers, to the disadvantage of U.S. banks. Now, western banks are matching the new China price. For example, in 2010, the U.S. beat China by offering better financing terms to Pakistan to win a contract for 150 locomotives manufactured by General Electric. This contravened decades-old non-competitive financing agreements with the OECD, indicating that the U.S. is willing to compete fiercely to support its increasing exports.

The way forward

1. Negotiate better financial terms: The U.S. is India's largest international financier in the energy and petrochemicals sector. But China will soon catch up — according to the U.S. Energy Information Administration's reports, it possesses almost 50% more shale gas reserves than the U.S., and has a track record for rapidly developing energy technology. If India wishes to import shale and new renewable energy products and technology, the country should use the competition between the

U.S. and China to secure better export credit terms from the U.S.

2. Counter U.S. double standards: To support a revival in its own manufacturing industry, the U.S. has filed numerous complaints at the WTO against India and China citing "protectionism." In February 2013, the U.S. filed a WTO complaint (DS456) against India for the preferential treatment given to local manufacturers of solar energy equipment. Two months later, India countered with a complaint that four American states — Connecticut, Delaware, Massachusetts and Minnesota — were using similar practices, preventing Indian solar panel manufacturers from entering the U.S. market. The issue remains unresolved. In June, India instituted the 75% domestic content requirement in renewable energy to promote local manufacturers of solar equipment. While the Indian government is presently reviewing similar measures in its electronic requirements for the IT sector, it is advisable to stick to this quota in renewable energy to ensure that Indian companies are not sidelined by imports.

3. Maintain momentum on renewable technology: Meanwhile, it is imperative that Indian companies pursue the long-term goal of expanding green energy technologies and programmes, not least because of fracking's expense and water-intensity. A focus on developing, improving and sustaining India's own affordable renewable energy technology will set the country on the path to sustainability. A detailed study of the benefits and consequences is needed before India embarks on a shale gas exploration programme.

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