



INDIA'S NATURAL GAS EXPERIENCE TILL NOW

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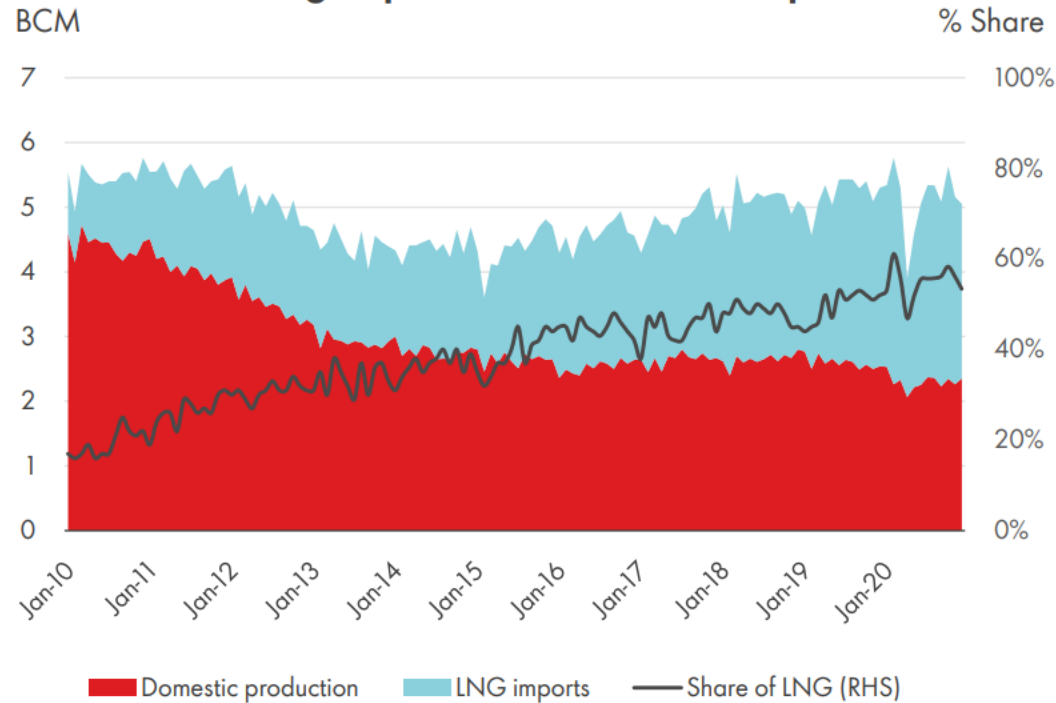
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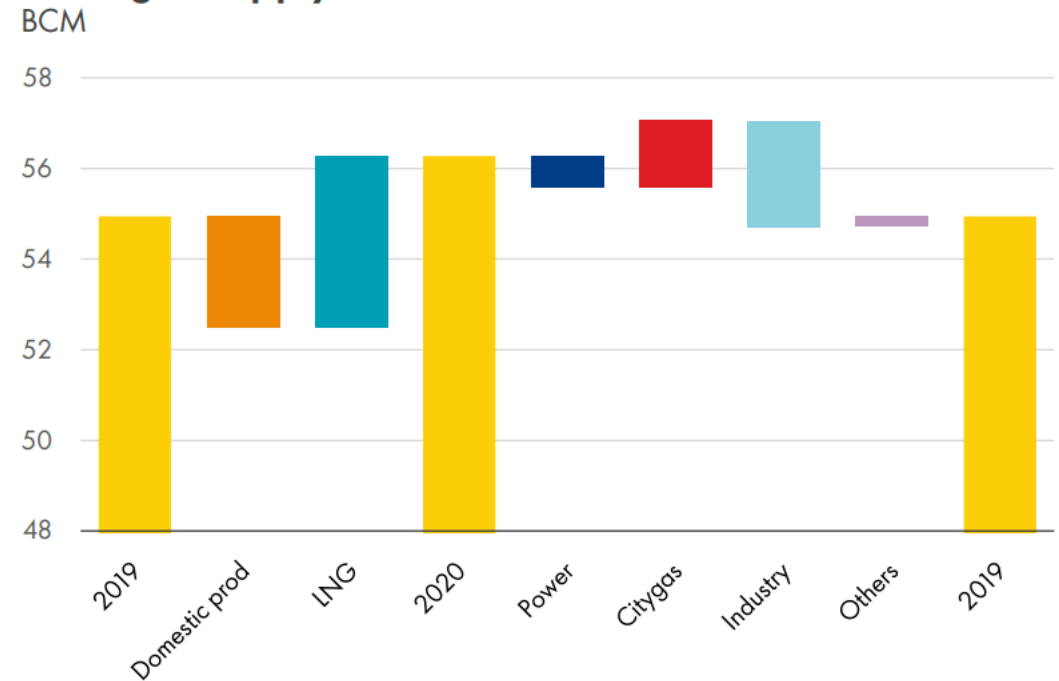
Lower-priced LNG results in 11% increase in Indian imports

LNG supplements reduced domestic gas production

India domestic gas production & LNG imports



India gas supply & demand



Sources: Shell interpretation of Petroleum Planning and Analysis Cell (PPAC), Central Electricity Authority (CEA), IHS Markit and Kpler 2020 data

Unlocking the gas potential for India

India is now clearly a major swing demand in the global hydrocarbon trade. This paper and associated presentation will relate the opportunities for the liquefied natural gas (LNG) industry and for the Indian government to further unlock the natural gas, potential for India, keying in on the following points with supporting references and insights.

Recognizing the versatility of gas

India is heavily import dependent on hydrocarbons, with close to 80 percent of its oil and 43 percent of gas needs met by imports. A key to net reduction in India's hydrocarbon import dependency is actually through much higher contributions of natural gas, which would support growing a base of more diversified solutions. Apart from being substantially cleaner than coal and commercially available liquid fuels, natural gas is also more versatile as a resource. However, the merits of natural gas have not been adequately recognized to date.

Reversing a falling contribution in the energy mix

Despite gas growing in absolute terms, contribution has dipped from a high of 12 percent 5 years ago to only 6.5 percent at present, and in contrast to the global average of 23.8 percent. From a sectoral standpoint, gas is seen as an extension of oil and clubbed with it in fiscal policies. The unfortunate consequence of this has been exclusion from the GST regime in India since in India's federal structure the states have been opposed to the inclusion of oil from which they derive very substantial tax revenues.

Outlook for gas is stronger, indicators of change

Even as the share of gas in India's energy basket has fallen considerably in the past few years due to declining domestic production, all major players are betting on India's gas share to increase sharply in the coming years, especially with the price outlook on LNG. Some indications are already visible.

— Increased imports and interest in market making:

Imports of LNG have steadily risen over the years from about 7 bcm in 2006 to about 21 bcm now. More starkly, in April 2016 the imports grew by 45 percent as compared to April 2015. The sharp and sustained growth has caused India to become a magnet for international suppliers, and many of them are evolving new strategies for penetrating deep into the Indian market, not just as suppliers but also as market makers.

— **Infrastructure investment:** Concomitant with increased imports is terminal capacity increases. A string of investment commitments to terminals along the eastern and western seaboard is set to enhance India's terminal capacity to three times the present level within a relatively short 5 year time frame.

— **Further growth:** Recent long term supplies contracted by the major Indian players such as IOC and GAIL have fueled current growth. Future growth is expected to propel demand well beyond current levels, especially in the 2020–2025 time frame, where on the back of anticipated economic growth, Indian energy consumption is set to increase and a move to cleaner energy sources will also become imperative.

DOMESTIC DISCOVERIES DID NOT BEAR FRUIT

Promise –

14 Trillion cubic feet gas discovery by Reliance in 2002

20 trillion cubic feet of gas by GSPC in 2005

Outcome –

14,305 megawatts of gas based power plants are stranded due to lack of gas

Policy flip-flops of gas price and political tussle between State government and centre

OPPORTUNITY

- 1) Serving completely unmet consumers (very small fraction)
- 2) Reaching LPG consumers wanting to shift to PNG (larger section but concerns of pipeline network)
- 3) Car owners looking for cheaper fuel
- 4) Industries looking for alternative cleaner fuel



CHALLENGES

- 1) Policy flipflops
- 2) Politicisation of businesses – corruption allegations
- 3) Delays in project completion
- 4) Price sensitivity of consumer