



Expert Commentary

*Main drivers and challenges
facing the Indian gas-based
economy ambition*

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The Gas Exporting Countries Forum (GECF) can be a valuable partner supporting India in its ambition to achieve a gas-based economy. The Forum, which involves major and reliable producers and suppliers of natural gas, values cooperation and dialogue between gas producers and consumers, among which India is a major actor. The GECF Secretariat can play a key role in facilitating this dialogue, through exchanging views with Indian actors and policy-makers on energy and gas market developments and discussing the appropriate ways that allow India to overcome its sustainability and energy security challenges. This dialogue, which has already been established through regular contacts and discussions between the Secretariat and the Indian officials and energy actors, culminated in September 2019, with the visit of His Excellency Mr. Dharmendra Pradhan, Minister of Petroleum and Natural Gas, Minister of Steel to the GECF headquarters, accompanied by a high-level delegation. The visit was an opportunity to discuss concrete ways of collaborating in the future, for example, in the form of research on energy and natural gas.

This expert commentary aims to address the main drivers and challenges affecting the Indian gas-based economy ambition and proposes a gas-ambitious scenario, which translates a potential pathway for India to meet its stated gas penetration target.

The government of India envisions to develop a gas-based economy and scale up the share of natural gas in the energy mix to 15% by 2030. Despite this gas ambition, the share of natural gas has been pointing at less than 6% since 2012. The gas demand reached almost 59 bcm in 2018, nearly 8% lower than the 65 bcm peak demand level attained in 2011. This lack of gas demand momentum, which has followed the domestic production decrease since 2011, has specifically materialised in the power and the industrial sectors, experiencing some difficulties accessing a competitive gas supply. The price distortions created by the gas allocation policy, non-harmonized energy taxation and heavily regulated electricity prices have also weighed on gas competitiveness in these sectors.

Indian gas demand proved to be responsive to low prices over the recent months

India has significantly increased its LNG imports over the past months, reaching a record monthly level of nearly 2.4 Million tonnes in February 2020. This LNG momentum has been underpinned by the low LNG price environment that contributed to support an increasing gas demand, particularly through coal to gas switching in power generation. Opportunistic buyers in India were able to procure, at affordable prices, cargoes deviated from China and other Asian LNG importers, affected by the COVID-19 outbreak. This effect adds to the oil price downturn that drove lower prices for the oil-indexed Indian contracts.

Nevertheless, the observed buoyant demand for natural gas and LNG has flattened, following the Prime Minister Modi decision to operate an economic lockdown starting from 25th of March. The lockdown, and more generally the economic shock triggered by the COVID-19 outbreak, will affect substantially the economic growth as well as the natural gas demand over the coming few months. Several agencies have revised downward their forecasts of economic growth in India. Moody's, for instance, estimates India will grow by 2.5% in 2020, representing a sharp decrease from the previously forecasted 5.3% growth. These revised forecasts translate the effect of the large industrial activity slowdown after COVID-19, in a context of global economic recession and difficulties to procure inputs from international markets. The pace of economic recovery will depend on the policy intervention and the success of the stimulus packages that India will deploy to address the current economic difficulties, including also the liquidity and financing issues experienced by the country.

Supportive policies are key in driving future gas penetration

The future of natural gas demand in India depends not only on the future evolution of international gas prices and economic growth but also on the success of implemented policies and measures in supporting the gas penetration target. The NITI AAYOG, a governmental advisory institution, released in 2017 a draft National Energy Policy that reaffirmed the importance of natural gas for the Indian economic, social and environmental progress and stated government's willingness to deal with the constraints affecting gas developments.

Energy pricing and affordability, in addition to upstream and infrastructure developments, are identified as critical aspects that need to be addressed to support the progress of natural gas. The Indian budget for the 20-21 fiscal year, presented in February, states that the government will strive to advance reforms aimed to reduce the distortions created by regulated and non-harmoniously taxed energy prices. The government has already initiated measures to improve open and competitive gas markets, promote upstream development and infrastructure buildings including gas pipelines in the under-developed southern and eastern regions of the country.

Among the main measures recently undertaken by the government to promote upstream development is to allow natural gas produced from new fields, especially deep offshore and stranded gas fields, to be priced competitively at market conditions. The government has also approved economic and fiscal incentives for upstream operators in the framework of its Hydrocarbon Exploration and Licensing Policy (HELP). India has launched its fifth oil and gas bid round in January 2020 for 11 blocks, but the round's outcome is very uncertain due to the deterioration of the oil and gas markets conditions in the aftermath of the COVID-19 outbreak.

The current low price environment could be not supportive of domestic upstream development and might favour LNG imports. Nevertheless, our assessment indicates that this upstream support continues to play a role in the Indian gas policy, given the country priority to reduce its import dependency. India has also announced a plan to create an independent gas transportation company, providing open access to gas carriers, and reducing the monopoly of traditional gas actors including GAIL that owns nearly 70% of the gas transmission network. This move can be an essential step for improving market competition and accelerating the development of gas market-based mechanisms.

On the demand side, India promotes natural gas as a way to ensure diversification from oil products, improve energy access and reduce air pollution, especially in highly populated cities. Some measures have been undertaken at federal and local levels to boost gas utilisation, especially in sectors where

gas can replace oil products such as transport and industry. For instance, the recent adoption of new fuel standards is one measure that can be supportive of gas in the transport sector.

Besides, the Indian government officials have announced the ongoing preparation for launching the 11th city gas licensing round, which follows two previous successful rounds. City gas licensing has brought some positive results in terms of enhancing competition and developing infrastructures to improve gas access for the residential and commercial sectors.

Gas prospects in the reference case: still far from the targeted level

Taking into account the various drivers of gas demand, our reference case assessment in the last edition of the GECF Global Gas Outlook 2050 shows that India remains far from achieving its 15% gas penetration target. Gas demand is, indeed, anticipated to reach around 100 bcm, equivalent to 7% of the Indian primary energy mix by 2030.

Despite the announced supportive policies, some key challenges persist and weigh on the outcomes of these policies and drive the mismatch between the reference case forecasts and the gas target for 2030 horizon. These challenges include the consistency of different policy actions and programs; issues with the implementation of reforms, especially at provincial and local levels; and the competition of renewables and coal. The competition of low-priced coal, especially in the power sector, remains a major impediment for India to fulfil its gas target. India does not restrict the utilisation of coal in its primary energy mix, as it is done in many other countries. Moreover, the recent decision to remove the coal green tax (i.e Coal Cess) plays in favour of this fuel, which is forecasted to continue dominating the primary energy mix over the long term.

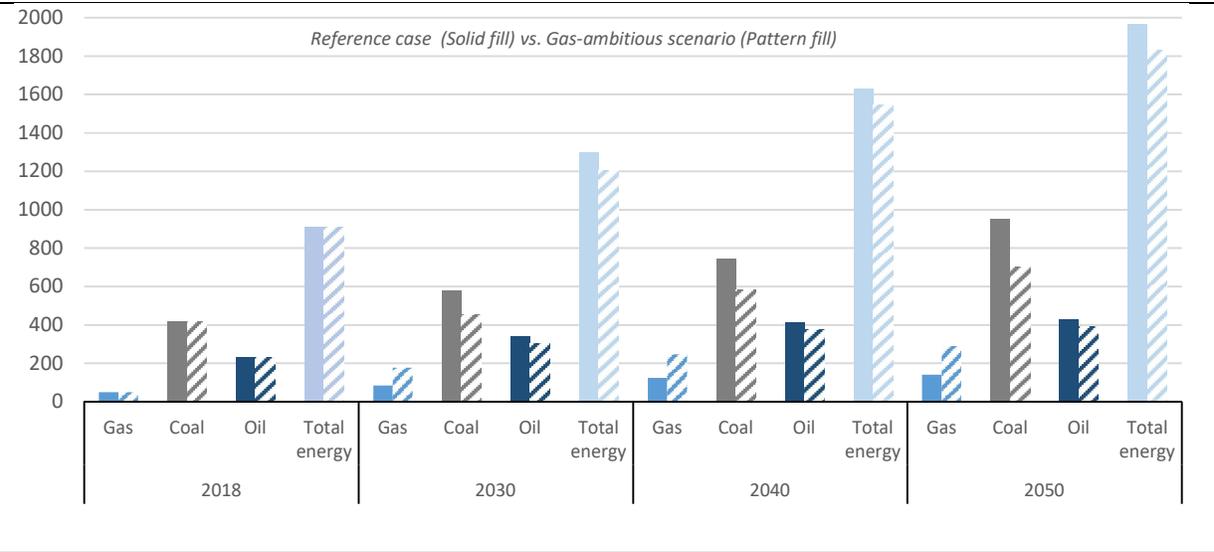
Gas-ambitious scenario: a potential pathway to meet the Indian gas penetration target

To achieve its 15% gas share target, India needs more than tripling the current consumption level and doubling the anticipated volume in our reference case, reaching more than 200 bcm by 2030. We consider in the following a Gas-ambitious scenario, which translates a potential aggressive pathway enabling India to meet its gas penetration target. This pathway can be achieved through the promotion of natural gas at the expense of other hydrocarbons, coal in particular, as well as the further deployment of energy efficiency options, especially in the industrial, buildings and power sectors. The combined effect of increasing gas demand and total energy demand savings will drive the gas share towards the stated 2030 gas target.

The Gas-ambitious scenario considers more aggressive policy-driven actions including mandates to phase out old coal-consuming plants, imposing environmental taxation or carbon prices, progressing in energy market reforms, and enhancing coordination of different energy programs and actions, including those targeting energy efficiency.

The Gas-ambitious scenario will see the anticipated coal share to shrink from 46% in the reference case to around 37% by 2030, and from 48% to 38% by 2050. This reflects a decrease of the coal demand annual growth rate from 2.6% to around 1.6% between 2018 and 2050. Over the same period, the expected oil demand growth rate will drop from 1.9% in the reference case to about 1.5% in the Gas-ambitious scenario, while non-hydrocarbon energy sources, including nuclear and renewables, will keep almost the same pace of progress in the two scenarios. The total primary energy demand also needs to reduce its momentum, decreasing its long-term growth rate from 2.4% in the reference case to around 2.2% in the gas ambitious scenario.

Figure 1. Total energy and hydrocarbons demand prospects for a Reference case and Gas-ambitious scenario (Mtoe)



Source: GECF Secretariat based on data from the GECF GGM

As a conclusion, we can say that the transition towards a gas-based economy can be instrumental in supporting the Indian ambition of transforming its energy system towards more efficiency and sustainability. However, scaling up the gas share requests policy effort from the government on both energy supply and demand sides. Advancing energy pricing and market reforms and integrating the environmental externalities to reduce the dominance of polluting and carbon-intensive fuels should be key drivers of this policy effort.