

Global Energy Dialogue: India and Natural Gas
The Joining Together of Plentiful Supply with Promising
Demand

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Distinguished guests;

Friends from the media;

Ladies and gentlemen;

Good Morning and a very warm welcome to all of you !

I welcome all the participants to today's deliberation on natural gas. As you must be aware, this winter Delhi's air quality has been in news for the wrong reasons. Alarm bells have been ringing on the worsening level of air pollution in the city.

Friends, the pollution situation here is contributed by several factors including burning of crop stubble in the fields in adjoining states, diesel vehicles plying on the roads of Delhi, coal based thermal plant on the edge of Delhi, construction dust, so on and so forth.

Almost two decades ago when the pollution levels started rising to critical levels, the Supreme Court of India mandated use of CNG in commercial vehicles in Delhi. During the recent event, the coal based power plant in NCR region was shut down for few days.

While such steps help in lowering the levels of pollution in the short term, much more is needed to be done to address the long-standing problem in a sustainable manner. India faces dual challenges of greenhouse gases (GHG), as well as local pollution like in Delhi and other cities in India. Further, Climate Change is real and its adverse impact hits the poor countries the hardest even though they are not the primary polluters. We are determined to find a long term solution to tackle both.

In COP 21, India demonstrated its commitment to reduce emission intensity to combat climate change. On 2nd October 2016, on the occasion of the birth anniversary of Mahatma Gandhi, India ratified the Paris Agreement. Hon'ble Prime Minister Sh Narendra Modi said that he chose Gandhiji's birthday as he gave an example of how to live with a low-carbon footprint.

India has committed to improve its carbon footprint and while improving standards of living by providing universal access to energy:

1. We are committed to reducing emissions intensity by 33-35 per cent by 2030, compared with 2005 levels.
2. We plan to have 175 gigawatts of renewable energy by 2022.
3. India's third commitment is to increase the forest cover of the country and absorb 2.5 to 3 giga tons of carbon from the atmosphere. This means creating another five million hectares of forest, and improving the quality of another five million hectares of forest.

We have realized that one of the things that would positively contribute to our commitment to COP21 is increased share of natural gas within the fossil fuel supply basket.

As of now, India's gas uptake is about 6% of its primary energy basket against a global average of more than 24%. Under the leadership of our Hon'ble PM, Gujarat went on to become role model for Natural Gas with 26% share in its energy mix.

We are determined to increase the gas offtake significantly as it would serve several objectives. By switching to this cleaner fuel and diversifying our energy mix, we can augment our fight towards climate justice. Secondly, we can substitute liquid fuels with natural gas in several applications; this will help us in our objective of reducing our import dependency for crude oil by 10% from the current levels by 2022, as articulated by Hon'ble PM.

I recently chaired the Parliamentary Consultative Committee on PNG, where we deliberated on 'Promoting Gas Economy'.

In this direction we are doing the following:

1. On the supply side, we are working to increase the availability of natural gas in India by boosting domestic gas output, import LNG and through trans-national gas pipelines.
2. We are improving gas infrastructure including gas pipeline, city gas network and LNG import infrastructure.
3. We are looking to increase consumption of gas in various segments of economy.

I will briefly touch upon each of these.

Unprecedented shale gas boom in the USA, conventional gas finds elsewhere and expansion of LNG trades have contributed to the gas supply prospects globally. As per projections, global gas production is expected to increase from 3.3 Trillion Cubic Metres in 2010 to 5.1 Trillion Cubic Metres by 2035. IEA has called it the Golden Age of Gas.

Also natural gas is fast becoming a global commodity like oil, with increasing share of LNG. As on January 2016, the world had liquefaction capacity of more than 300 million metric ton per year and by estimates almost 900 million ton additional liquefaction terminals have been announced. The world would have liquefaction capacity of 450 MTPA marking an almost 50% increase in available supply of natural gas by 2020.

Supply dynamics are changing in the global market. The US and Australia are going to play a major role in shaping the supply dynamics in the near term. US which has the world's second largest regasification facility today has turned exporter of gas due to ample availability of shale gas.

The LNG contracting mechanisms are also seeing a change with short term contracts growing and replacing long term contracts.

Short and medium term contracts which were not even 10% by volume in 2000, have increased to cover almost 30% today.

We have also successfully renegotiated our long term contract with RasGas, Qatar to benefit from the lower LNG prices available globally. Oil based contracts are getting replaced by gas on gas contracts. Our domestic pricing is also now gas on gas based. Indian companies have also signed gas on gas based contracts with US counterparts based on the Henry hub prices. There will be innovation in the gas market with changing price dynamics such as swaps. Today, a vast majority of India's long-term LNG volumes comes from Qatar. Going forward, this is going with India importing LNG supplies from other major exporting countries like US, Russia and Australia.

We are now expediting production of gas from domestic sources to the extent of 20 Trillion Cubic Feet from already discovered sources through policy, fiscal and regulatory mechanism. These fields and the current auctions of Discovered Small Fields are going to add to the domestic supplies in the next 3 to 4 years.

Overall, we believe there will be plenty of supply of natural gas at reasonable price for next few decades. Global experts, present here in this meeting can enlighten us, if this understanding is correct or not.

Six able chunk of our gas infrastructure was developed in the last decade assuming a large domestic supply coming from the East Coast. This did not happen. Now, we are realigning the infrastructure planning given the role LNG is going to play in our supply mix. The North and Western regions in India consume around 80% of the overall volume of gas utilized in the country. We are working to change it and make Eastern and Southern India as new growth centre. We are also expanding capacity in existing terminals. Around 34 MTPA of additional LNG regasification capacity is being pursued by various agencies. We are also developing corresponding pipelines. Overall, our existing network, which we also call as the National Gas Grid, will be doubled to about 30,000 km in next 5 years.

To ensure availability of gas in Southern and Eastern regions, we are aggressively pursuing development of terminals along the Eastern coast. In eastern India, GAIL (India) Limited has been given the responsibility to implement 2,539 km Jagdishpur-Haldia and Bokaro-Dhamra Pipeline having an overall budget of around Rs 12,900 crore, with Central Government making a budgetary support of 40%. We call this the Pradhan Mantri Urja Ganga since we believe that this pipeline will lead to accelerated economic growth of the eastern region. Commissioning this pipeline will lead to investment of

about US\$ 8 billion which includes revival of three large fertilizer units in the eastern region, industrialization of above 20 cities and city gas development in 7 towns.

Some other cross-country gas pipelines are under various stages of development; these will help complete the National Gas Grid by connecting locations which do not figure on the country's gas map as of now. Surat-Paradip Pipeline, Mallavaram-Bhopal-Bhilwara-Vijaipur Pipeline, Mehsana-Bhatinda-Jammu-Srinagar Pipeline are the prominent ones among them. We are hopeful that we will be able to take natural gas to most areas of the country within the next 5-7 years.

We are also pursuing trans-national pipeline projects. India is an active participant in the development of the Turkmenistan-Afghanistan-Pakistan-India, or the TAPI pipeline. A 1,300 km SAGE undersea gas pipeline to bring natural gas from Iran to India is also being studied. These transnational gas pipeline projects, we believe, will greatly help India in diversifying its natural gas supplies.

Currently, India consumes around 120 MMSCMD of gas of which 60% is consumed by the power and fertilizer sectors. With all our policy initiatives, planned infrastructure investments and global fall in gas prices, we expect the gas

consumption to double in India in the next 5 years to 240 MMSCMD.

We have the target to provide Piped Natural Gas to all large cities of the country. Government plans to connect 10 million households to PNG network in the next three years. 35 new cities have been approved for CGD in last two years. We have already provided highest priority of domestic gas to the CGD network. Ministry of Urban development has declared PNG as public utility to ensure faster development and this will be an integrated part of all Smart Cities.

The annual consumption of urea in the country is approx. 320 Lakh MT, out of which 245 Lakh MT is produced in India and the rest is imported. To enhance the production of urea indigenously, Government has approved the revival of Talcher (Odisha) & Ramagundam (Telangana) units of FCIL by PSUs. In July this year, Government approved the revival of three more defunct Fertilizer Units in Gorakhpur, Sindri and Barauni at Rs 18,000 Crores. These revived units will meet the growing demand of urea in the states of Odisha, Bihar, West Bengal, Andhra Pradesh and Jharkhand.

Usage of LNG and promotion of energy efficiency has helped increase domestic production of urea in the country which in

turn would reduce the government's subsidy burden. The pooling of domestic gas with imported LNG is presently limited to the power and fertilizers sector. There is a school of thought to pool all domestic gas with imported LNG for having a transition to comprehensive, across the industry gas pooling mechanism. We can have an academic discussion on this proposition, to begin with. I would welcome your views on this subject.

Coming to the Power sector, India has almost 24 GW of gas-based capacity. When our Government came into power in May 2014, almost 14 GW of gas based capacity was idle and 10 GW was operating at PLFs of less than 35%. To improve this, our Government started the gas pooling mechanism which has increased LNG consumption in Power sector from the level of 3 MMSCMD during April-2015 prior to Pooling to a maximum level of 11.47 MMSCMD during March-2016. With the LNG prices expected to be lower in near future, we expect gas utilization in power sector to improve significantly.

As you are aware India is committed to build 175 GW of renewable energy capacity by 2022 out of which 100GW will be solar power. Gas based power plants that can ramp up and down in less time would act as an excellent complement of base power to these Renewable capacities.

My government is determined to increase use of CNG and introduce use of LNG in the transport sector. CNG in vehicles is the key demand driver for most cities in India. With the current level of pollution, we are encouraging more vehicles to be converted to CNG. In Mumbai, CNG run vehicles have doubled in last 3 years. We are also encouraging public transport busses to run on CNG. We are identifying Green Highways where we may connect neighboring cities through CNG dispensing stations.

The Ministry of Road Transport and Highways has released draft notification for the use of LNG as an automotive fuel. Final notification is expected to be released soon. Earlier this month, we entered into a new era of gas-based transportation, when we rolled out LNG fueled bus in Kerala for the first time in the country. We are also evaluating use of LNG in coastal shipping and Railways. These LNG highways will be the highways of the future connecting major economic hubs with LNG fueled vehicles.

Overall it would not be far stretched to imagine that in future 25% of India's transport fuel requirement can be met from CNG and LNG sources.

Currently India has 23 refineries operating with an installed capacity of 230 MTPA which currently use naphtha and FO as primary fuels. Given the price parity between naphtha and LNG, it makes an ideal case to shift to a cleaner LNG as a process fuel. We are aggressively augmenting our refinery capacity. We have also decided to establish petrochemicals hubs in and around refineries generating 10 million jobs and increased usage of gas. Thus, the role of gas in refineries and petrochemicals is expected to increase in the future.

Currently, very few industries use Natural gas. With improved gas pipeline infrastructure, natural gas will be available more freely to all the industries. We also plan to gradually replace the Furnace Oil used in the industries to reduce the pollution caused by FO.

So friends, I wanted to tell you that doubling of gas consumption from 120 mmscmd to 240 mmscmd in the next 5 years has a basis and we are taking huge number of policy initiatives to make this happen.

I am regularly having deliberation with my colleague ministers from power, fertilizer, surface transport, chemical and petrochemical, urban development etc. to see what more can be

done to increase use of gas in every possible segment of the economy.

We also have to change the collective consciousness and public perception about natural gas. In this direction, we have recently launched an initiative called [#Gas4India](#) in collaboration with industry bodies like CII, PetroFed and Natural Gas Society (NGS)

To sum up, Natural Gas is the natural choice for green economy.

When I saw the topic of deliberation as India and Natural Gas: The Joining Together of Plentiful Supply with Promising Demand – one Hindi term came to my mind: “*Mauka bhi hai, aur Dastoor Bhi*”. Gas-based economy in India was never closer to reality than it is today. It calls for concerted efforts on the part of all stakeholders. Let us make it happen, friends.

Jai Hind !!!