



Investment for Creating Gas Infrastructure

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Why in News

The government will invest around **60 billion USD** in creating gas infrastructure in the country till **2024** and increasing **gas's share** in the energy mix upto **15%** by **2030**.

Currently, gas accounts for **6% in the country's total energy mix**.

Key Points

- **Proposed Infrastructure Plan:**

- It includes **pipelines, LNG (Liquefied Natural Gas) terminals** and **CGD (City Gas Distribution) networks**.
- It has been envisaged to develop **additional about 14,300 km pipelines** to complete the **National Gas Grid** and are at various stages of development.
- At present, the country has **6 operational LNG regasification terminals**.
The government has further planned to have **1,000 LNG fuel stations** across the country.
- Coverage of CGD projects is being expanded to 232 geographical areas spread over 400 districts, with potential to cover about **53% of the country's geography and 70% of population**.

- **National Gas Grid:**

Since a **National Gas Grid (NGG)** was conceptualized in 2000, India has built more than 16,000 km of gas network. Recent initiatives include:

- **Pradhan Mantri Urja Ganga Project:** It seeks to cater to the energy requirements of **Uttar Pradesh, Bihar, Jharkhand, Odisha and West Bengal**.
- **North East Region (NER) Gas Grid:** It will pass through Assam, Sikkim, Mizoram, Manipur, Arunachal Pradesh, Tripura, Nagaland and Meghalaya in a phased manner.

- **City Gas Distribution (CGD) Network:**
 - Under the **Petroleum and Natural Gas Regulatory Board (PNGRB) Act 2006**, PNGRB grants the authorization to the entities for **developing a CGD network** in a specified Geographical Area (GA) of the country.
 - The CGD sector has four distinct segments – **Compressed Natural Gas (CNG)** predominantly used as **auto-fuel**, and **Piped Natural Gas (PNG)** used in **domestic, commercial and industrial segments**.
- **Related Government Initiatives:**
 - **Natural Gas Marketing Reforms:** Recently, the Cabinet Committee on Economic Affairs (CCEA) has approved the **Policy framework on reforms in the exploration and licensing sector** for enhancing domestic exploration and production of oil and gas.
 - **Indian Gas Exchange:** India's first automated **national-level gas trading platform** was unveiled in June 2020, to promote and sustain an efficient and robust gas market and foster gas trading in the country
 - **Pradhan Mantri Ujjwala Yojana:** It aimed to provide **free cooking gas connections** to poor families.
 - **Gas4India Campaign:** It is a multimedia, multi-event campaign to communicate to people, the national, social, economic and ecological benefits of using natural gas as the fuel.
 - **Hydrocarbon Exploration and Licensing Policy (HELP):** It is a **contractual and fiscal model** for award of hydrocarbon acreages towards exploration and production (E&P). It provides a **single, or uniform, license** for the exploration and production of all conventional and unconventional hydrocarbons from an entire contract area.
 - Promotion to **Compressed Natural Gas based Public Transport**.
- **Transnational Gas Pipelines:**
 - Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline.
 - Middle East to India Deepwater Pipeline

Natural Gas

- Natural Gas is mainly extracted from the **petroleum deposits deep beneath the earth**. It occurs **just above the layer of crude oil, as gases are lighter than oil**. **High temperatures and pressure leads** to the conversion of the **remains of plants and animals buried under the earth** into naturally occurring gas along with petroleum and coal.
- In India, **Jaisalmer, Krishna Godavari delta, Tripura** and some areas offshore in **Mumbai** have natural gas resources.
- The **Gas Authority of India Limited** was set up in 1984 as a public sector undertaking to transport and market natural gas.

- **Need for Gas-based Economy:**

- **Energy efficient:**

- Natural gas produces more energy than any of the fossil fuels in terms of **calorific value.**

- **Cleaner fuel:**

- Natural gas is a superior fuel as compared with coal and other liquid fuels; being an **environment-friendly, safer and cheaper fuel.**

- **Emission commitments:**

- India made a commitment to **COP-21 Paris Convention** in December 2015 that by 2030, it would reduce carbon emission by 33%-35% of 2005 levels.

- **Diverse applications:**

- Natural gas can be used as **domestic kitchen fuel**, fuel for the **transport sector** as well as a fuel for fertilizer **industries** and commercial units.

- **Pacing up the progress line:**

- On the global front, switching to natural gas is bringing commendable results. The latest report released by the **International Energy Agency** shows that the electricity produced by natural gas worldwide was more than that of coal for the first time ever.

Source:TH