

India's Push for Piped Natural Gas



India is accelerating the expansion of Piped Natural Gas (PNG) connections to reduce import dependence, improve energy security, and transition towards a cleaner fuel mix.



Types of Gases



Liquefied Petroleum Gas (LPG):



- Composition:** Propane and Butane.
- State & Storage:** Stored as a liquid under moderate pressure in cylinders.
- Usage:** Domestic cooking, water heating, and small-scale industrial applications.
- Key Characteristic:** Heavier than air; collects on the ground if leaked.



Piped Natural Gas (PNG):



- Composition:** Primarily Methane.
- State & Storage:** Delivered as a gas through underground pipelines.
- Usage:** Residential kitchens, commercial cooking, and industries.
- Key Characteristic:** Continuous supply; no need for cylinder storage.



Compressed Natural Gas (CNG):



- Composition:** Primarily Methane.
- State & Storage:** Compressed to high pressure (200-250 bar) in tanks.
- Usage:** Vehicles (cars, buses, autos) and low-pressure industrial burners.
- Key Characteristic:** Cleaner burning than petrol/diesel.



Liquefied Natural Gas (LNG):



- Composition:** Primarily Methane.
- State & Storage:** Cooled to roughly -160°C to become a liquid for transport.
- Usage:** Transporting natural gas over long distances by sea, power generation.
- Key Characteristic:** Volume is reduced by 600 times, making it easy to store in bulk.

Reducing Import Dependence:

India imports nearly 60% of its LPG requirement, with a large share coming from West Asia and supply routes like Strait of Hormuz are geopolitically vulnerable.



Economic Efficiency:

PNG eliminates logistics costs associated with cylinder transportation and storage. Pricing can be more stable compared to LPG, which is sensitive to global oil prices.



Environmental Benefits:

Natural gas burns cleaner than LPG, producing fewer pollutants and greenhouse gases.