DECODING INDIA'S GAS DEPENDENCE

LNG & LPG In Focus

List of Contents

Why This Matters Now?

Global markets are operating under **heightened geopolitical uncertainty**, as West Asia hosts **key chokepoints** such as the **Strait of Hormuz**, which handles **20% of global oil trade**. Recent history shows how during the **Russia-Ukraine war, natural gas prices hiked 250%**. Current tensions have not yet resulted in a physical supply shock, but have **already increased freight, insurance, and risk premiums**.

India, as a **large energy importer**, remains **directly linked** to global supply risks, with **limited control over pricing**. **LNG and LPG are critical to key sectors, fertilizers, power, and household consumption,** making **any disruption economy-wide rather than sector-specific.**

Items	Weight in WPI
Crude and Natural Gas	*10%*
Fuel and Power (LPG,Diesel, Petrol)	*5.5%*
Fertlizers	*1.2%*

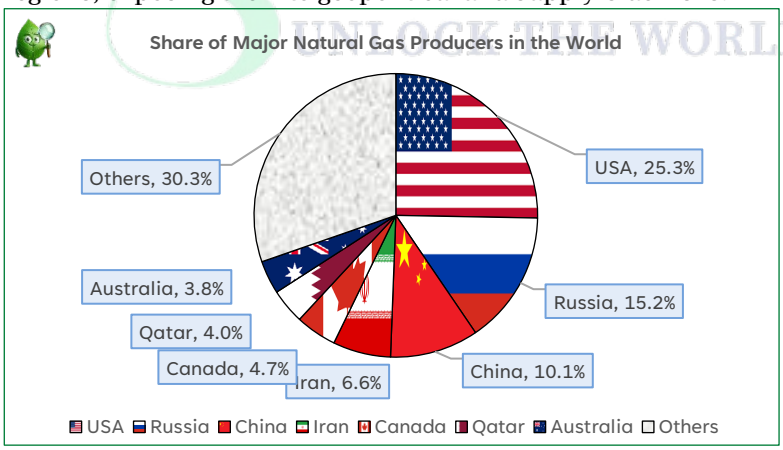
Items	Weight in CPI
Fuel and Light(LPG,Kerosene)	*2.4%*
Transport and Communication(Petrol)	*8.6%*
Food inflation via Fertrlizers	*45.9%*

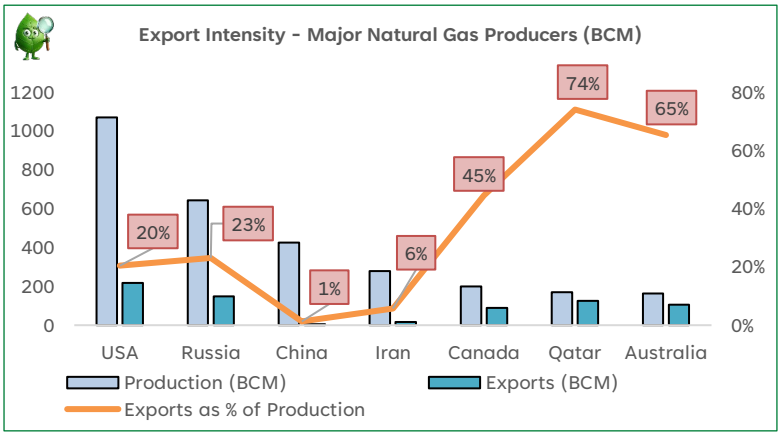
India's two main inflation gauges, WPI & CPI capture energy price stress. Crude oil prices don't just impact trade; they hit the government's budget directly the government provides subsidies on fuels like LPG, kerosene, and fertilisers, all of which are oil-linked.

During the Ukraine war in 2022, headline CPI inflation rose to 7.79% in April'22, while the fuel and light component surged 10.8% YoY, breaching the RBI's tolerance band.

Global Market Structure

LNG is a capital-intensive, infrastructure-dependent market with rigid supply and high price volatility, while LPG is a more flexible, trade-driven fuel linked to crude oil pricing. However, both remain concentrated in a few key exporting regions, exposing them to geopolitical and supply-side risks.





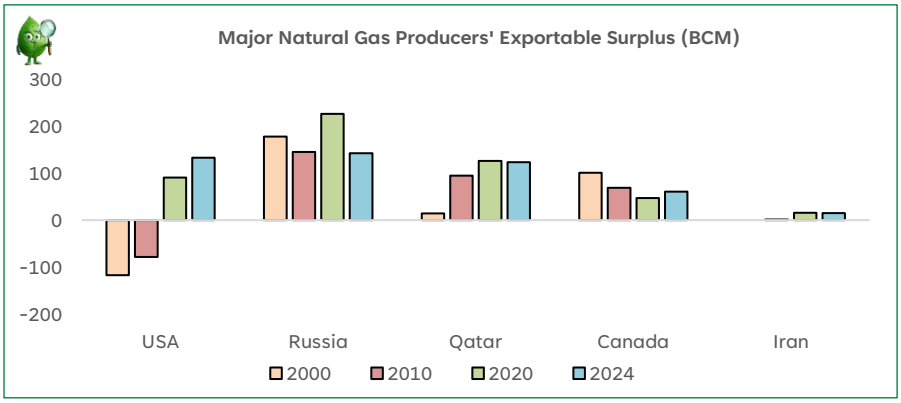
Global gas production is **concentrated** among a few players, with the **US and Russia** dominating supply, and smaller producers take the remaining share.

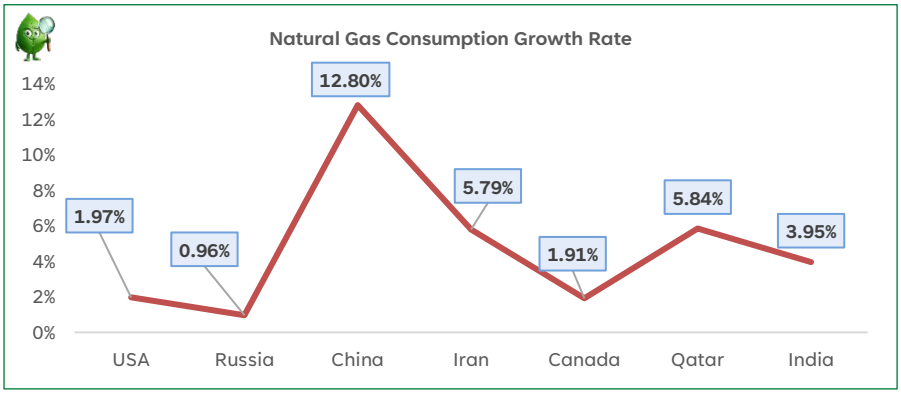
However, ***production does not translate directly into export power***. Countries like **Qatar and Australia are export-driven**, while China and Iran are largely domestic-focused.

Nearly half of global exports are controlled by a core group of exporters, with a secondary layer of suppliers providing additional flexibility, which creates trade dependence.

SHARE IN GLOBAL NATURAL GAS PRODUCTION

Tier	Countries	Share (%)
Core exporters (Market Drivers)	USA	**18%**
	Russia	**12%**
	Qatar	**10%**
	Australia	**8%**
Total (Core)		**48%**
Secondary exporters (Supply Stabilizers)	Norway, Algeria, Nigeria, Malaysia	**22-25%**
Others		**27-30%**



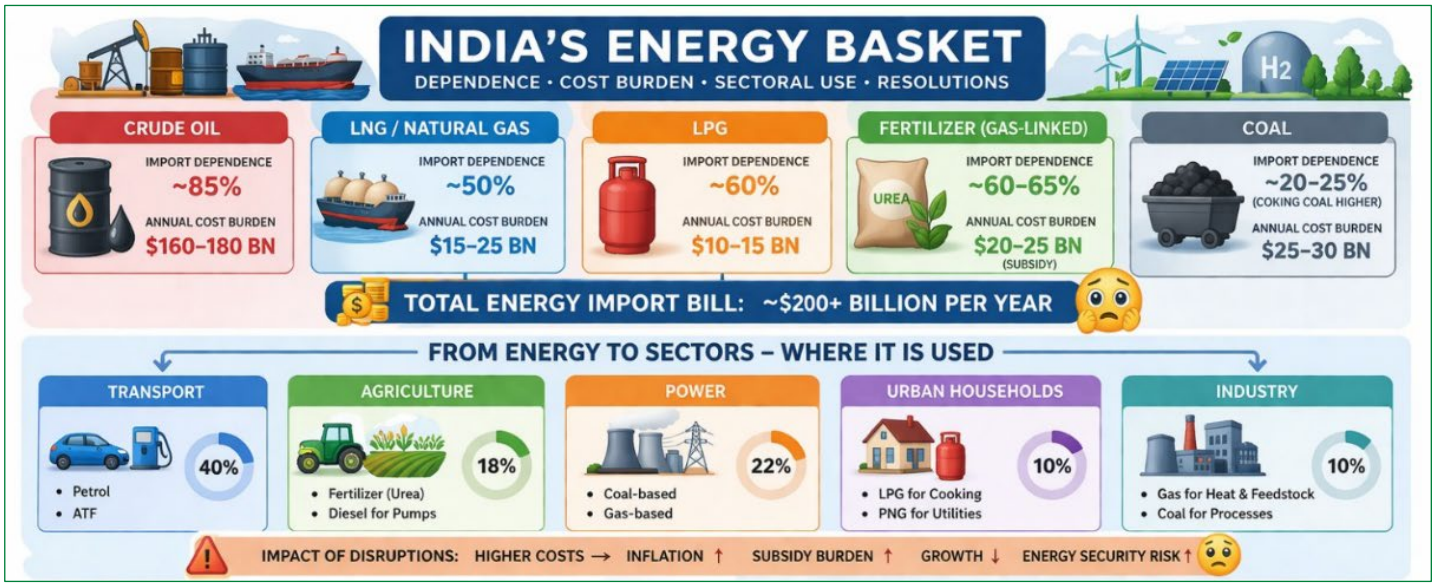


Demand growth is increasingly **concentrated** in emerging markets, particularly **China (10-12% CAGR),** shifting global LNG demand toward Asia and intensifying competition for supply. At the same time, export capa**city remains concentrated**, with countries like the US, Qatar, and Australia dominating global trade and accounting for a large share of exportable surplus.

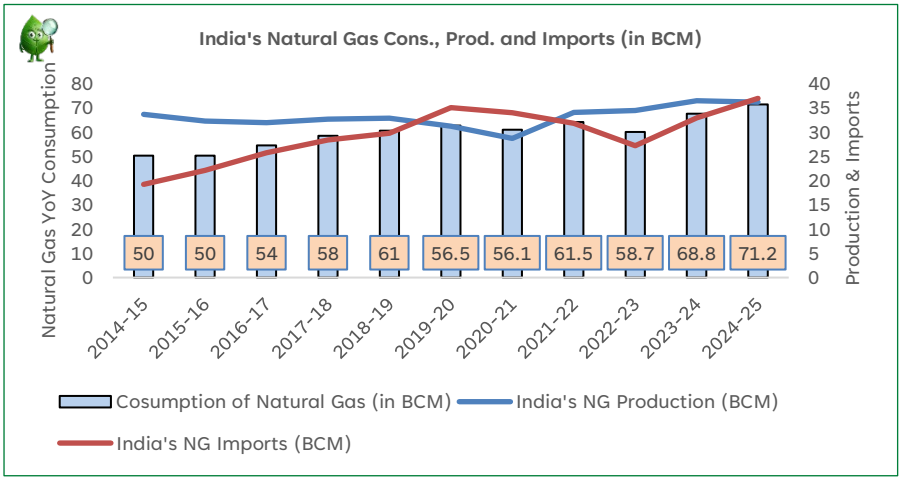
Only a **limited** number of countries possess **scalable surplus capacity**, making them **critical swing suppliers** during global disruptions.
With **limited short-term flexibility** and ***high regional concentration on both supply and demand sides***, the global gas market is highly sensitive to disruptions, where **even localized shocks** can **trigger sharp price movements** and cargo diversions.

India's Dependency Mapping

India's energy story is, at its core, a story of dependence and the cost that comes with it. A significant share of our key energy inputs crude, LNG, LPG, and even fertilizer-linked gas relies heavily on imports. This dependence translates into an annual outflow exceeding **$200 billion**, exposing the economy to global price volatility, geopolitical risks, and currency pressures.
Each fluctuation in international markets doesn't just impact costs, it **ripples** through **inflation**, **subsidy burdens**, and overall **economic stability**. Understanding this import dependence is critical to decoding India's energy security challenges, and why diversification, efficiency, and domestic capacity building are no longer optional, but essential.



HOW IS INIDA'S LNG AND LPG POSITIONED RIGHT NOW?



India consumes **71.31 BCM (Billion Cubic Meters)** of Natural Gas of which the split between **Domestic** to **Imported** reached from **64:36** in 2014-15 and has reached **50:50** in 2024-25.

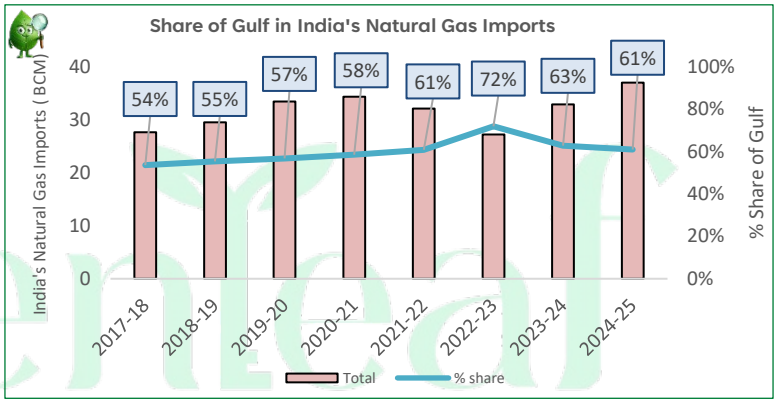
While our consumption of Natural Gas has increased 40% in last decade, our import dependence has risen by 92%.

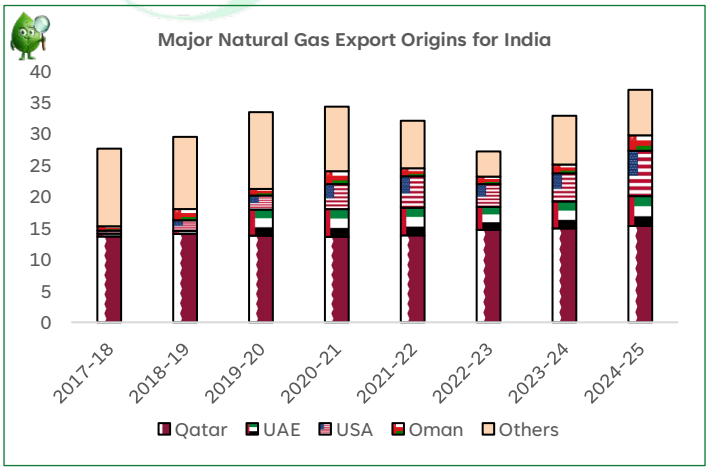
But where does all of India's natural gas come from?

Major importers to India are Qatar (more than **41%** i.e.**15.3 BCM** of our natural gas imports), UAE, Oman and the US.

*India's baseline energy security is anchored firmly in the **Gulf**, while its ability to move supply upward depends on the volatility of global spot markets.*

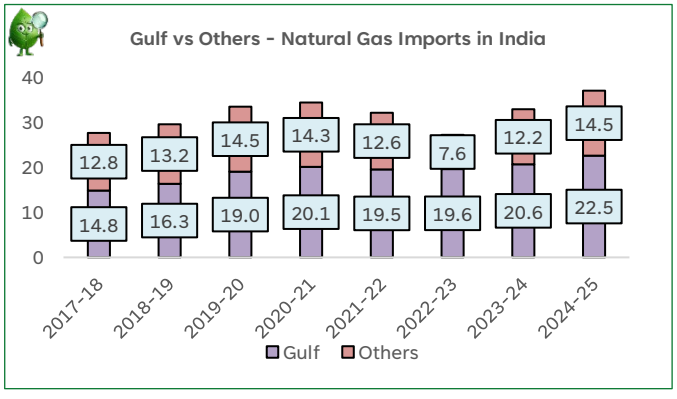
The share of Gulf has ranged between 54% at its lowest in 2017-18 to 72% at its peak in 2022-23, settling at 61% in 2024-25. In 2022-23, when global spot prices made non-Gulf cargoes unaffordable, India fell back almost entirely on its Gulf term contracts, making its share jump by 11% in a year.





The imports from gulf - constantly growing - rose from **14.8 BCM** in 2017-18 to **22.5 BCM** in 2024-25.

The **share of US has also been growing** from **0.5 BCM in 2014 to 7.2 BCM in 2024-25**.



The others category includes the US, Australia, North and West Africa. It peaked at **14.5** BCM in 2019-20, dipped sharply to **7.6 BCM** in 2022-23 due to the Ukraine-driven price spike year when spot LNG became prohibitively expensive and recovered to **14.5 BCM** again in 2024-25 as prices normalized.

THE LNG STORY

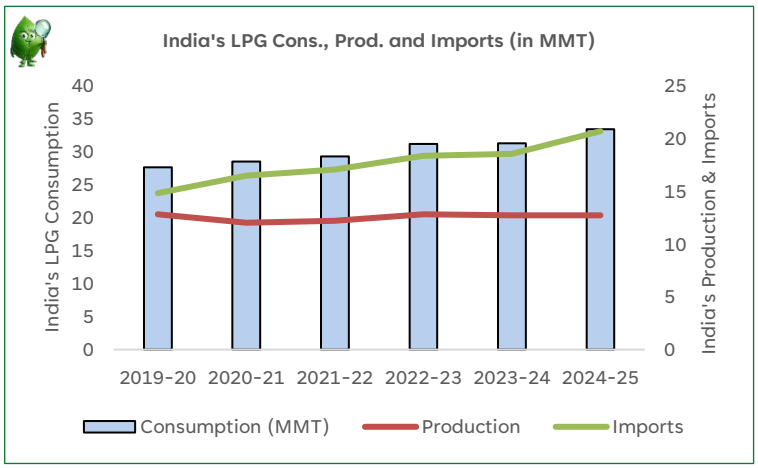
If India's LNG import story is one of deepening Gulf concentration, the LPG story is more alarming.

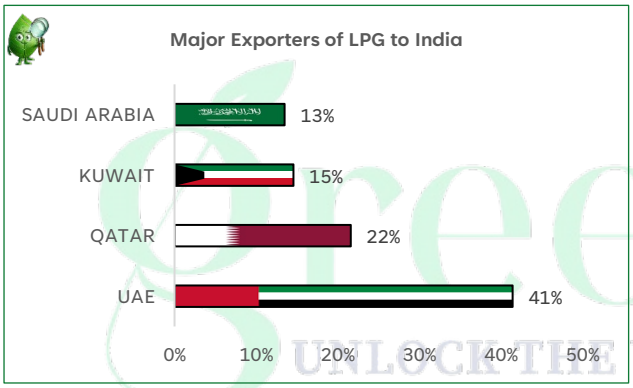
Consumption has grown by nearly 21% in 6 years, domestic production has been completely flat, imports surged by 40%, and the entire import is concentrated in 4 Gulf countries three of which sit behind the Strait of Hormuz.

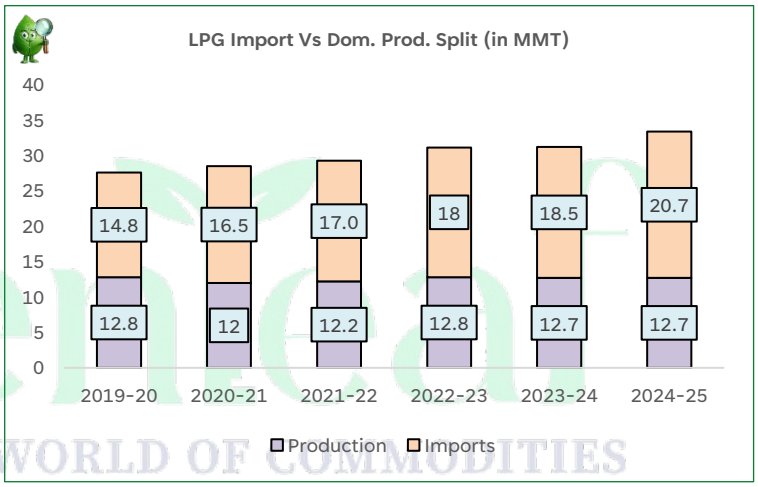
Numbers reinforce how less margin India has. Domestic production at **12.7 MMT** covers just **1.5 months** of total annual consumption at current rates. If import flows are disrupted for **2-3 months** with no domestic compensating mechanism, **India's LPG buffer would be exhausted.**

Unlike oil, India has no strategic LPG reserve.

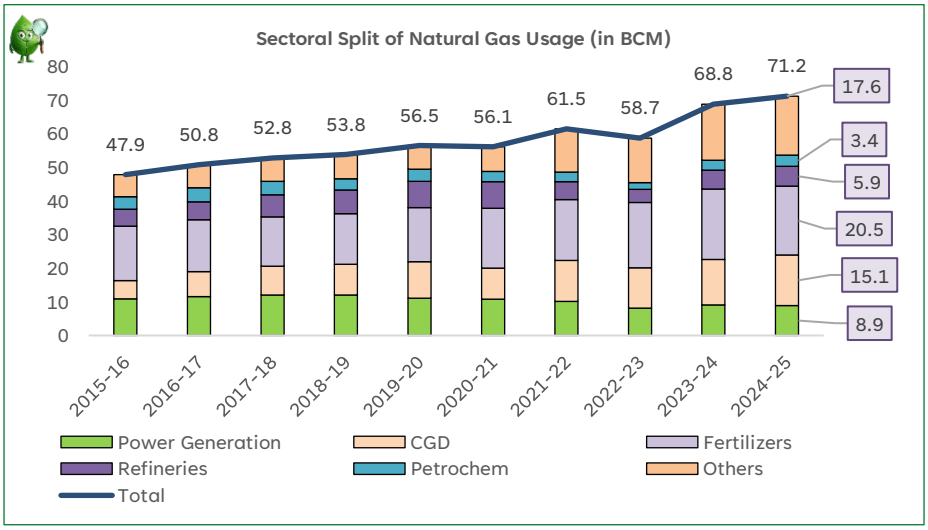
The **govt's response** to a supply shock is **rationing and allocation orders** *(Mar'26 Natural Gas Supply Regulation Order)* demonstrating no drawdown from a buffer, because no such buffer exists at scale







India's Sectoral Vulnerability Analysis

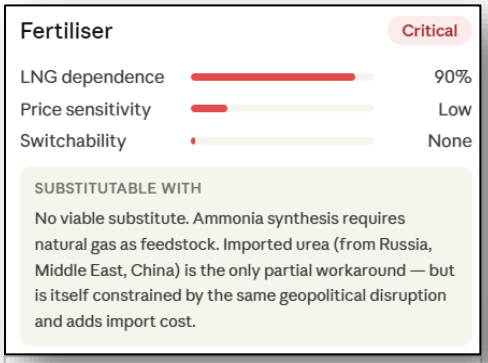


Sectoral distributive consumption of natural gas consumption in India shows a steady uptrend over the last decade, with total demand rising from **47.9 BCM in 2015–16 to 71.2 BCM in 2024–25**, reflecting increasing reliance on natural gas, including LNG imports, as a transition fuel in the energy mix.

*With the Iran war and the blockage of **Strait of Hormuz,** all these sectors dependent on LNG will suffer, but how much is the threat?*

SECTORAL DEPENDENCE & RISK PROFILING

FERTILIZERS:



Current Fertilizer-wise Stocks in India (as of March'26)	
Fertilizer Type	Stock (MMT)
Urea	6.15
DAP	2.51
NPK	5.63
MOP	1.29
SSP	2.42
Total	18

The fertilizer sector remains a stable natural gas consumer. 60-63% of gas used in urea production is **imported LNG.**

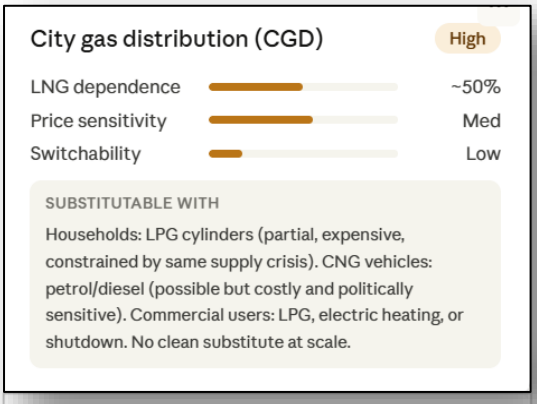
There is **no** viable feedstock **substitute for ammonia**, natural gas is the only scalable input. Any **disruption flows directly into the kharif sowing season** in near term, and rabi sowing season if the war persists, and ***pushes the government subsidy bill upward***.

Month	April	May	June	July	August
Fertilizer Consumption (in MMT)	Moderate	High	Very High	Peak	Moderate
	3.2	5.3	8.1	10.2	3.8

A 10-15% production drop, if disruption lasts three months. Under the **2026 emergency order**, fertiliser plants receive **70% of normal gas allocation**, with the gas ring-fenced exclusively for urea production. If the gas imports on regular basis are not resumed coming **Kharif season will be the first one to see the effects** as the sowing will start this month, here is the fertilizer usage as per intensity by month. May, June and July where the Urea usage peaks will be the one where we need to be most prepared for in the short run. *Though we have enough stocks as of now to manage the crisis for the upcoming 1.5 Months given the high urea consumption and higher sowing area this year compared to last, we could see a grave threat to India's food security.*

Month	September	October	November	December	January	February	March
Fertilizer Consumption (in MMT)	High	Very High	Peak	Peak	High	Moderate	Low
	5.3	7.8	9	10.5	4.5	3.9	2

As for the long run, if the war continues, going into the Rabi season, this is what the intensity during those months will look like, where right off the bat, we would have high and peak fertilizers demand in the first 4 months of the season. Consumption starts of high during mid-September and stays at peak till December. With crops like **Mustard, Wheat and Rabi Maize**, they **need higher Urea and NPK** as they are **high nutrients absorbing crops** and providing a higher yield than Kharif crops.

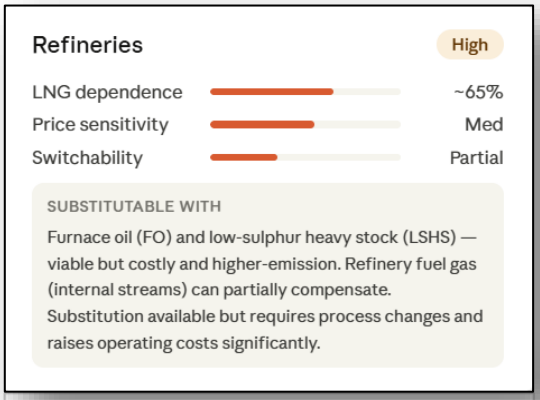


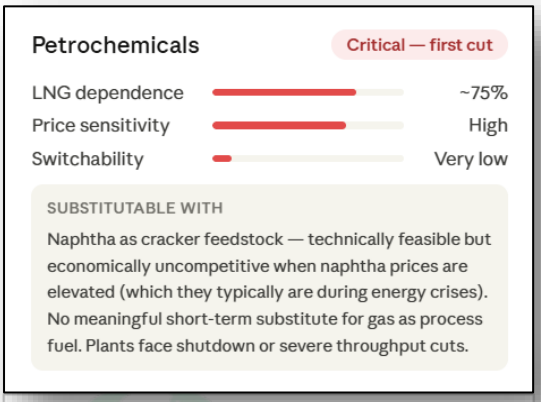
CITY GAS DISTRIBUTION (CGD):

PNG (Households) and **CNG (Transport)** receive **100%** gas allocation under the emergency order (protected class). **Commercial CGD** (Hotels, Restaurants, Industries connected to distribution networks) receive **80%.** ***In a crisis, commercial users face immediate cuts while household users are insulated.*** Infrastructure expansion is increasing future vulnerability by connecting more users to a disproportionate supply base. At a scale at which India uses PNG for CGD, the **substitutability to other resources is either higher in price or sensitive to consumer**, leading to a very low possibility of substitution.

REFINERIES:

Under the 2026 emergency order, refineries are directed to **absorb disruption by cutting to 65% of past consumption** and are simultaneously redirected to **maximise LPG output** by **diverting propane and butane streams to the LPG pool**. This dual instruction cut fuel use while increasing LPG production ***compresses refinery operating margins significantly***. Any sustained throughput reduction **ripples** into availability of **petrol, diesel, and aviation turbine fuel (ATF)**.

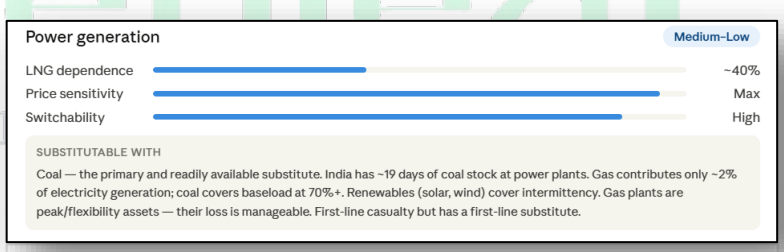




PETROCHEMICALS:

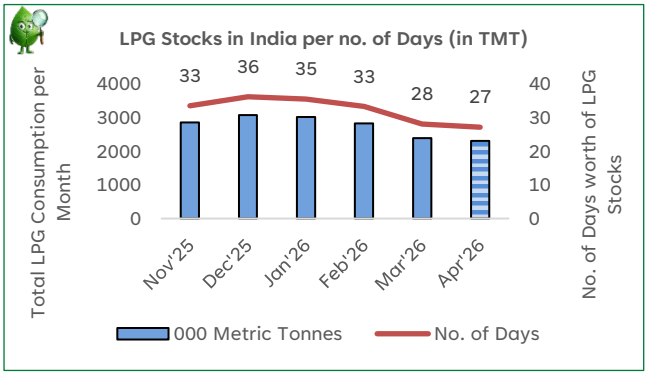
Gas demand in the petrochemical sector has been stagnant over the years. The sector is the **designated first cut** under the 2026 Natural Gas Supply Regulation Order, with ONGC Petro Additions (OPaL), **GAIL Pata Petrochemical Complex, and Reliance O2C** explicitly **named as first in line** for full or partial curtailment. *A shutdown forces downstream disruption in plastics, polymers, and packaging supply chains, which has second-order effects on food packaging, agricultural inputs, and manufacturing broadly.*

POWER GENERATION:



Of all the Natural Gas that power plants consume, about 40% of it is sourced from imported LNG though Natural Gas contributes 2% of India's total electricity generation today. Gas-fired plants function as **flexible, coal covers baseload at over 70% of the generation mix**. The **high substitutability to coal** is what **keeps this sector at medium-low vulnerability overall**. In March, gas power output fell to approximately **1 TWh** against a **2 TWh** monthly target within days of emergency allocation order.

India LPG Consumption : What's at stake?



LPG consumption in India is largely household driven (87%), with the HoReCa sector accounting for 13%. The country remains import dependent, domestic production has remained flat, while over 100 million households benefit from subsidized LPG under PMUY.

India consumes 85 KMT of LPG per day and currently we have enough stocks to last for April and new shipments are on way. Supply conditions remain stable, no reported shortage.

Domestic production has increased by 40% to 50 TMT/day, meeting over 60% of demand, reducing import requirements to 30 TMT/day. Additional secured cargoes ensure about one month of supply, while cylinder distribution has reached a certain level of normalization from the earlier panic at 50 lakh per day after a temporary surge.

Risk Transmission: Conflict to India Impact

Global energy disruptions impact India through a layered transmission mechanism heavily shaped by the dependence on imported hydrocarbons such as LNG/ LPG, ultimately affecting consumers, industries, and government finances.

Metric	Value
India LNG Import Dependence	~50%
Share of Imports from Gulf	~60-70%
Qatar Share in LNG Imports	~41%
LNG via Hormuz (global)	~20-25%

At the global level, export capacity is concentrated among a limited set of suppliers - any disruption can quickly tighten supply. ***This is further amplified by the structure of LNG markets, where cargoes are dynamically redirected toward higher-paying regions, often leaving price-sensitive buyers exposed.*** Even in the absence of a complete supply halt, the market is responding through higher freight costs, insurance premiums, and risk-adjusted pricing. ***A disruption in the Strait of Hormuz therefore risks affecting a majority of India's import-dependent supply base.***

The **first level of transmission** is logistical and price-based. Increased voyage costs and delivery time while global prices adjust upward in anticipation of tight er supply leads to India facing high landed costs, regardless of whether physical volumes are immediately affected.

Component	Impact During Conflict
Freight rates	↑ 400% (war-risk premium)
Insurance	Limited/No Coverage Offered (war-zone)
LNG Spot Prices	Spike risk (historically up to 5x)
Delivery delays	Route diversion/congestion/country priority

The **second level of transmission** is market-driven reallocation. In periods of global tightness, ***LNG cargoes are diverted toward regions with higher willingness to pay***, particularly **Europe** and **advanced Asian economies**. This reduces access for emerging economies like India, effectively tightening supply even without a global shortage.

The **third level of transmission** is domestic economic impact. Higher import costs feed directly into:

- *Increased fertilizer subsidy burden*
- *Higher input costs for CGDand industrial users*
- *Upward pressure on inflation through energy-linked sectors*

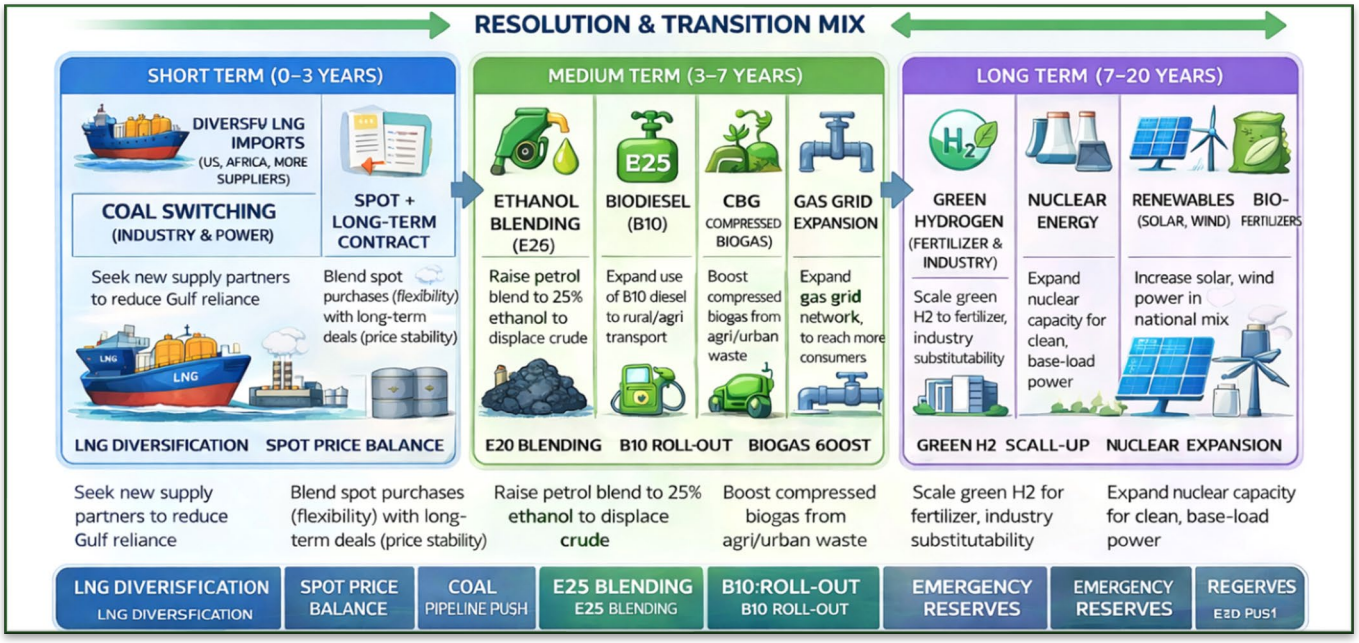
Channel	Impact
Fertilizer sector	60-63% gas = imported LNG
Indian NG consumption	~71 BCM
NG Import growth (10 yrs)	92%
Fertilizer share of NG use	~1/3rd

Stage	Effect
Conflict	Supply disruption risk
Shipping	Freight & insurance ↑
Global market	Prices ↑
India	Import cost ↑
Govt	Subsidy ↑
Economy	Inflation ↑

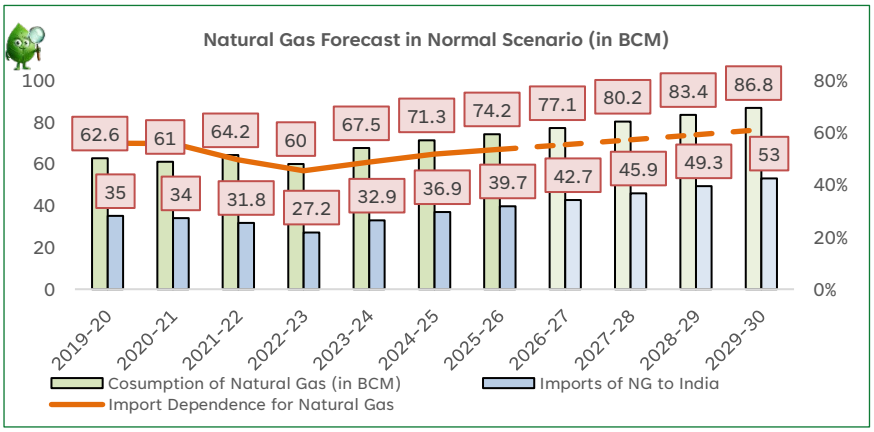
At the same time, supply-side constraints force administrative responses. As observed during past disruptions (Russia-Ukraine) and reflected in the March 2026 Natural Gas Supply Regulation Order, **allocation priorities** shift toward **protected sectors** such as households and fertilizers, while **industrial and commercial consumption absorbs the adjustment**.

This results in uneven economic impact across sectors.

HOW DO WE MITIGATE THE CURRENT RISKS? (INDIA'S SUSTAINABLE ENERGY ROADMAP)

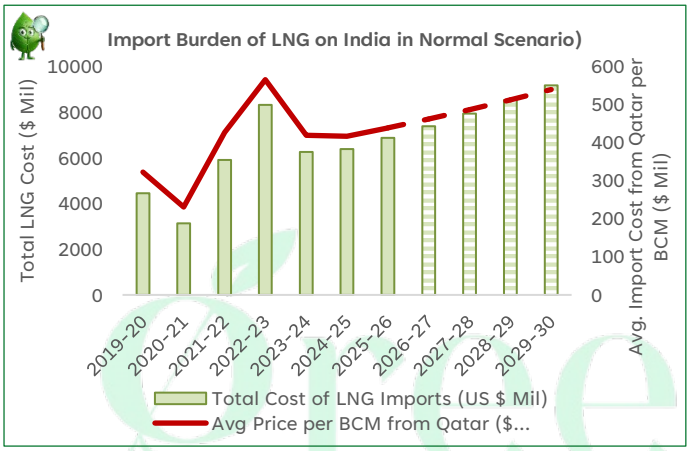


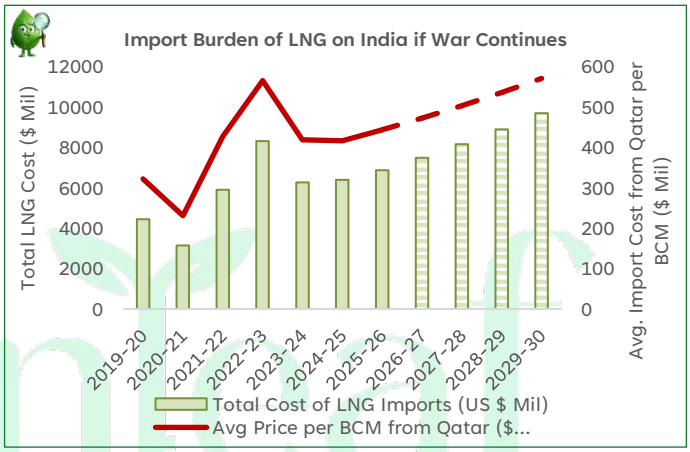
Strategic Outlook and Way Forward



Going forward India's energy consumption is expected to grow faster than any other country in the world, from Agri sector to Energy Distribution for cooking and Industrial use or medical use. And the backbone of our growth story is heavily import-dependent on Gas and Crude.

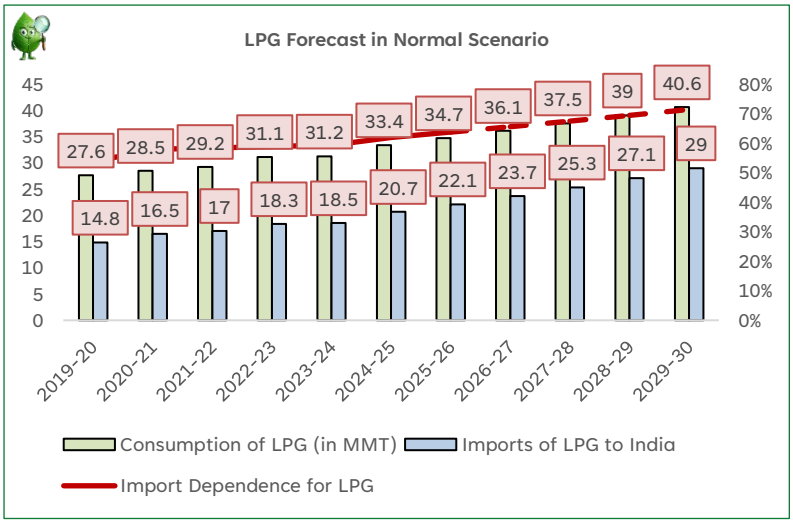
India's Natural Gas consumption is expected to grow to **86.8 BCM by 2029-30** of which **60%** will be **imported from the Gulf and the US**.





Imports ($ Billion)	FY (2024-25)	Share of India's Expenditure Budget	FY (2029-30)	Share of India's Exp Budget (2029-30)
Fertlizer	***2.7***	***0.5%***	***6***	***0.8%***
LNG	***7***	***1.2%***	***12.2***	***1.5%***
Crude	***137***	***24%***	***200***	***25%***

India currently spends approx **$ 7 Billion** to import **LNG** which is **1.2%** of India's total budget and this number has been growing, with a fall during covid years and then a spike in 2022-23 and is expected to grow to **$ 9 Billion** level by 2029-30 **(1.4% of India's total budget)**. While the average import price per BCM from Qatar currently **is $ 439 Million** in the next 5 years this number will go **upto $ 540 Million**, this is a normal case scenario given that Trump and Iran sustain on this ceasefire, but if the war continues this number could reach up **to $ 571 Million** while our cost of imports of LNG could go up, to **$ 9.7 Billion (1.52% of our budget).**



As for LPG we are heavily import dependent so much so that by 2029-30 we would get **71%** of our LPG from the gulf from the current levels of **64%.**

Crude imports alone makeup **24%** of India's expenditure budget, with fertilizer imports contributing **0.5%** and LNG contributing **1.2%**, which is a significant portion of our budget.

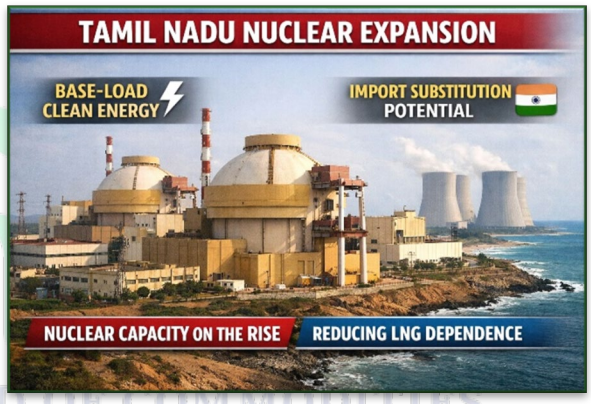
AT THE CROSSROADS?

ANOTHER RISK FACTOR LOOMING ON THE WORLD?

With the tension growing in the Gulf, there are also talks of the closing of ***Strait of Bab-el-Mandeb*** which is the alternative to Strait of Hormuz, around 20-25% of global oil trade and 13% of total trade happens from here while **8% of global oil trade** and **10% of total sea trade** happens from **Bab-el-Mandeb** if these two shut down there will be a huge energy and trade crisis in the world if that happens there will be a major shocker to world trade.

INDIA HAS ALREADY STARTED PLANNING AHEAD?

This situation indirectly and directly has shown India's shortfall and dependence on energy imports, and given a good indication to shift to alterative sources of energy thus to begin immediately on that, India entered its second phase of Nuclear energy mission, In the *new development India this week successfully achieved criticality in* ***Prototype Fast Breeder Reactor (PFBR)*** *at Kalpakkam, Tamil Nadu, marking a key milestone, a self-functioning reactor. This plutonium-based reactor advances India into the second stage of its three-stage strategy. It can produce more energy that it consumes, strengthening long term energy security. This will help India achieve self-reliance and deeper sense of energy security.*



REMEMBER TO LOOK FORWARD...

To know more about us, scan the QR code or visit us at www.gleaf.in