India’s LPG Supply Chain Shifts Toward the United States Amid Strait of Hormuz Disruptions and Energy Security Concerns

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Recent Developments:

India’s LPG Sourcing Has Shifted Rapidly:

• Union Minister for Petroleum and Natural Gas Hardeep Singh Puri recently stated that the United States has emerged as the dominant source of India’s LPG imports, reflecting a major restructuring of India’s LPG supply chain following disruptions in West Asia

• The latest reported figure of 67% should be understood in the context of India’s LPG import sourcing, rather than implying that 67% of total LPG consumed in India is produced in the United States

• In June 2026, the United States accounted for about 65% of India’s LPG imports, supplying approximately 0.77 million tonnes, according to Kpler data

• India had earlier concluded its first structured US LPG import contract, covering approximately 2.2 million tonnes per annum for 2026, equivalent to nearly 10% of India’s annual LPG imports

• The shift accelerated after disruptions around the Strait of Hormuz sharply affected traditional Gulf supplies, compelling India to diversify procurement towards the United States and other suppliers

India’s LPG Import Dependence:

Structural Dependence on Imports:

• India is the world’s second-largest LPG importer, with approximately 60–65% of domestic LPG requirements met through imports

• India’s LPG demand has expanded rapidly because of household electrification, rising incomes, urbanisation and wider access to clean cooking fuel

• Domestic LPG production has not increased at the same pace as consumption, creating a persistent domestic supply-demand gap

• Before the 2026 disruption, around 90% of India’s LPG imports originated from the Middle East, creating significant geographical concentration in the supply chain

Why the Strait of Hormuz Matters:

• The Strait of Hormuz is a strategically vital maritime chokepoint connecting the Persian Gulf with the Gulf of Oman and Arabian Sea

• A large proportion of India’s traditional LPG imports from the Gulf passes through routes associated with this chokepoint

• Disruption in the Strait can therefore simultaneously affect availability, freight rates, insurance costs and international LPG prices

• The 2026 disruption demonstrated that excessive dependence on a single geographical corridor can create a systemic energy-security vulnerability

Causes of India’s Shift Towards US LPG:

Geopolitical Disruption:

• The conflict and instability in West Asia disrupted conventional LPG flows from major Gulf suppliers

• India’s LPG imports from West Asia fell sharply during the disruption, forcing Indian oil companies to seek alternative suppliers

• The United States emerged as an important alternative because of its large-scale LPG production capacity and export infrastructure

Pre-existing US-India Energy Cooperation:

• India’s shift towards US LPG was facilitated by the 2.2 million-tonne annual structured contract signed for 2026

• The agreement represented India's first major structured procurement arrangement for US LPG and provided a foundation for rapidly increasing US supplies when Gulf shipments were disrupted

• The diversification therefore reflected both crisis management and a longer-term attempt to broaden India’s energy supplier base

Emerging Diversification Beyond the Gulf:

• India has simultaneously explored supplies from Australia, Argentina, Nigeria, Angola and other non-traditional sources

• Such diversification reduces the possibility that disruption in one geographical region will completely interrupt domestic LPG availability

• However, alternative suppliers cannot immediately replace the scale, proximity and established infrastructure of Gulf suppliers

Economics of US Versus Gulf LPG:

Freight and Distance:

• Gulf LPG shipments generally reach India faster because of their geographical proximity

• US LPG shipments require substantially longer maritime journeys, increasing exposure to freight rates, insurance costs, weather disruptions and shipping bottlenecks

• Longer voyages also increase the amount of capital tied up in cargo during transportation

Landed-Cost Advantage of Gulf Supplies:

• US LPG can have a competitive production price because of the country's large shale-gas and natural-gas liquids industry

• However, Gulf LPG can remain cheaper on arrival in India because of its shorter transportation distance and established shipping routes

• The 2026 geopolitical disruption temporarily altered this cost calculation because securing physical availability became more important than achieving the lowest landed cost

International Price Volatility:

• The disruption caused a sharp increase in Saudi Aramco Contract Price, the major benchmark used for Gulf LPG

• Higher Gulf benchmark prices reduced the relative disadvantage of US cargoes and encouraged Indian buyers to secure supplies from alternative markets

• This demonstrates that energy security decisions involve both price and reliability, rather than price alone

Why LPG Is Strategically Important for India:

LPG as a Household Energy Source:

• LPG is a major clean cooking fuel for Indian households and therefore has direct implications for public welfare

• Any prolonged shortage can affect household consumption, food preparation, public health and women's time-use patterns

• LPG availability is consequently more politically sensitive than many other imported commodities

LPG and Energy Transition:

• LPG has played an important role in India's transition away from traditional biomass-based cooking fuels

• Programmes such as the ???????????? ???????? ????? have expanded access to LPG among economically vulnerable households

• Maintaining reliable LPG availability is therefore connected with India's objectives relating to clean cooking, health, gender welfare and energy access

LPG as a Politically Sensitive Fuel:

• Governments may prioritise uninterrupted availability and affordable retail prices over short-term commercial optimisation during supply disruptions

• This creates a policy trade-off between consumer affordability, OMC financial sustainability and fiscal expenditure

Domestic Production and the Supply-Demand Gap:

Rising Domestic LPG Demand:

• India's LPG consumption has increased substantially over the past decade, while domestic production has not expanded sufficiently to eliminate import dependence

• As a result, India remains structurally exposed to international prices and maritime supply disruptions

Refinery Response During the Crisis:

• Indian refineries were directed to maximise LPG production during the disruption

• Domestic production was increased sharply to compensate partially for reduced imports, with production reaching approximately 50,000–52,000 tonnes per day during the crisis period

• Such measures demonstrate the importance of maintaining strategic operational flexibility within domestic refineries

Limits of Domestic Production:

• Increasing refinery LPG output can provide short-term relief, but it cannot by itself eliminate India's structural import dependence

• Long-term resilience requires greater domestic hydrocarbon production, refinery optimisation, alternative fuels and demand-side management

Financial and Fiscal Risks:

Oil Marketing Company Under-Recoveries:

• Public-sector Oil Marketing Companies can face under-recoveries when domestic LPG prices remain below the economic cost of imported LPG

• The government has faced substantial financial obligations associated with maintaining affordable domestic LPG prices

• Government dues associated with subsidised LPG sales had crossed ?59,000 crore by August 2026, highlighting the fiscal pressure created by subsidised cooking fuel

Exchange-Rate Risk:

• US LPG procurement increases India's exposure to US dollar movements

• A depreciation of the Indian rupee raises the domestic-currency cost of imported LPG even when the international dollar-denominated price remains unchanged

• Higher import costs can therefore simultaneously increase OMC losses, subsidy requirements and pressure on consumer prices

Freight and Insurance Risk:

• Longer US-to-India voyages increase exposure to freight-price volatility, marine insurance premiums and geopolitical risks along alternative maritime routes

• Diversification away from Hormuz therefore does not eliminate maritime risk; it redistributes the nature of that risk

Strategic Risks of Excessive Dependence on the United States:

Supplier Concentration Risk:

• Replacing excessive dependence on Gulf suppliers with excessive dependence on the United States would not constitute complete energy security diversification

• A resilient energy system should avoid excessive dependence on any single country, region, route or political bloc

Geopolitical and Trade Policy Risk:

• US energy trade can be affected by broader trade policy, sanctions regimes, export controls and geopolitical considerations

• Changes in US foreign-policy priorities could influence the commercial environment for energy trade

• India's energy security strategy should therefore preserve strategic autonomy and supplier flexibility

Contractual and Market Exposure:

• Long-term contracts can provide greater supply certainty, but they cannot completely eliminate price, freight, currency and geopolitical risks

• India needs a balanced procurement portfolio combining long-term contracts, spot purchases and geographically diversified suppliers

Implications for India’s Energy Security:

Positive Implications:

• Diversification towards US LPG reduces India's immediate dependence on West Asian suppliers and the Strait of Hormuz

• Greater supplier diversity improves India's bargaining position and reduces the probability of a complete supply interruption

• Expanded energy trade with the United States can also contribute to broader India-US strategic and economic relations

Negative Implications:

• Longer transportation distances can increase landed costs and freight exposure

• Greater dependence on dollar-denominated US supplies increases foreign-exchange exposure

• Excessive reliance on one alternative supplier could create a new form of supplier concentration risk

• Higher import costs can increase pressure on OMCs, subsidies and government finances

Broader Energy-Security Framework:

Energy Security Should Have Multiple Dimensions:

• Availability: Adequate fuel must remain physically available even during geopolitical disruptions

• Affordability: Energy must remain economically accessible to households and vulnerable consumers

• Reliability: Supply chains must withstand disruptions to individual suppliers and transport corridors

• Sustainability: Long-term energy policy must progressively reduce environmental externalities

• Resilience: Infrastructure, inventories and alternative supply routes must allow rapid recovery from shocks

Diversification of Suppliers:

• India should maintain a broad LPG supplier portfolio covering the United States, Gulf countries, Australia, Africa and Latin America

• Supplier diversification should be accompanied by diversification of shipping routes, storage infrastructure and procurement contracts

Strategic Storage:

• India should examine the feasibility of expanding strategic LPG storage capacity at locations capable of supporting major consumption centres

• Larger inventories can provide a buffer during temporary disruptions and reduce dependence on emergency spot purchases

• Strategic storage is particularly important for LPG because it is difficult to rapidly substitute large quantities of household cooking fuel during a crisis

Way Forward:

Strengthen Domestic Production:

• India should continue improving refinery efficiency and expanding domestic LPG availability while exploring economically viable increases in domestic hydrocarbon production

• Refinery upgrades should maximise recovery of LPG from domestic crude-processing operations where technically and economically feasible

Diversify International Suppliers:

• India should avoid replacing West Asia dependence with US dependence and instead develop a broader supplier portfolio

• Australia offers strategic potential because of its Indo-Pacific location and relative accessibility compared with the United States

• Argentina, Nigeria and Angola can provide additional diversification, although their current export capacities cannot fully replace Gulf supplies

Improve Maritime Resilience:

• India should develop diversified maritime routes and strengthen port, storage, shipping and emergency logistics infrastructure

• Greater use of alternative routes can reduce dependence on individual maritime chokepoints

Strengthen OMC Financial Resilience:

• OMCs should be provided with better foreign-exchange hedging mechanisms and risk-management tools

• Transparent and predictable compensation mechanisms can reduce financial stress arising from politically sensitive LPG pricing

• Pricing policy should balance consumer protection, fiscal sustainability and OMC financial viability

Promote Alternative Cooking Fuels:

• India should accelerate access to piped natural gas, electricity-based cooking and other cleaner alternatives where infrastructure and economics permit

• Diversification of household energy sources can reduce excessive dependence on LPG and improve overall energy-system resilience

• Such diversification should complement rather than abruptly replace LPG, particularly in areas where alternative infrastructure remains inadequate

Strengthen Demand Management:

• Improved energy efficiency and awareness can reduce unnecessary LPG consumption

• Digital monitoring of LPG distribution can help improve supply-chain efficiency, targeting and inventory management

• Continued strengthening of PAHAL and Aadhaar-based authentication can reduce diversion and improve the effectiveness of LPG subsidy delivery

UPSC Relevance:

GS Paper I – Geography:

• Strait of Hormuz as a major maritime chokepoint and its significance for India's energy flows

• Spatial relationship between West Asian energy production centres and Indian consumption markets

• Importance of maritime geography in determining freight costs, supply reliability and energy security

GS Paper II – International Relations:

• India-US energy cooperation and its implications for bilateral strategic relations

• India's engagement with West Asia, Indo-Pacific and other energy-producing regions

• Strategic autonomy and diversification of external economic dependencies

GS Paper III – Economy:

• Energy security, import dependence, exchange-rate risk and inflation

• Financial sustainability of Oil Marketing Companies

• Relationship between energy prices, subsidies and government finances

• Importance of strategic reserves, supply-chain resilience and infrastructure diversification

GS Paper III – Environment:

• LPG as a relatively cleaner household cooking fuel compared with traditional biomass

• Transition towards clean cooking energy and reduction of household air pollution

• Role of natural gas, electrification and renewable energy in diversifying the household energy mix

Value Addition for UPSC:

Energy Security Framework:

Energy Security = Availability + Affordability + Accessibility + Reliability + Resilience + Sustainability

• India's LPG experience demonstrates that supplier diversification alone is insufficient; true energy security requires diversification of suppliers, routes, contracts, storage, currencies and technologies

Strategic Concept:

“Do not replace one dependency with another; build a diversified and resilient energy portfolio.”

• The LPG crisis illustrates the broader principle of strategic resilience, under which India should minimise exposure to any single supplier or chokepoint while retaining flexibility to respond to geopolitical shocks

Key Facts for Prelims:

• India: World's second-largest LPG importer

• Import dependence: Approximately 60–65% of LPG requirements

• Traditional Middle Eastern share: Around 90% of India's LPG imports before the 2026 disruption

• US structured contract for 2026: Approximately 2.2 million tonnes

• US share of Indian LPG imports in June 2026: Approximately 65%, according to Kpler data

• US LPG imports in June 2026: Approximately 0.77 million tonnes

• Major traditional suppliers: Saudi Arabia, United Arab Emirates, Qatar and Kuwait

• Major maritime chokepoint: Strait of Hormuz

• Major Indian oil marketing companies: Indian Oil Corporation, Bharat Petroleum Corporation and Hindustan Petroleum Corporation

• Key policy objective: Diversification without creating a new single-source dependency