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Fossil Fuel Imports (Oil & LNG) Industry

Overview:

Pakistan's energy mix comprises fossil fuels (oil, gas, and coal), nuclear power, and renewable sources such as hydropower, wind, and solar. However, it remains heavily skewed towards imported fuels, particularly oil and LNG. The limited domestic reserves of oil and natural gas, coupled with underdeveloped coal potential, have intensified reliance on imports. Energy is a fundamental driver of economic progress, with reliable supply essential for sustaining industrial activity, urban development, and overall productivity. Recognizing these challenges, the Government of Pakistan has implemented structural reforms and policy frameworks to enhance sector efficiency, encouraging private sector participation to reduce import dependency. Initiatives such as the Medium-Term Development Framework and Vision 2025 underscores a strategic shift towards sustainable energy development with focus on indigenous resource mobilization, infrastructure modernization and long-term energy security.

Pakistan Fossil Fuel Industry: Key Milestones (1947–2025)

YEAR	KEY DEVELOPMENTS
1947	Energy system largely biomass-based (wood, dung, traditional fuels) with minimal fossil fuel infrastructure. Shift began with major gas discoveries: Sui (1952–53) in Balochistan and Mari (1957) in Sindh, forming the foundation for urban and industrial energy supply.
1961	Exploration expanded in Punjab, leading to discovery of the Toot Oilfield (1961).
1967	Toot Oilfield (drilled in 1964) began commercial production, marking Pakistan's first commercial crude oil output.
1970	Development of state-owned petroleum institutions, later consolidated into Pakistan Petroleum Ltd (PPL) and Pakistan Oilfields Ltd.
1975	Establishment of the Hydrocarbon Development Institute of Pakistan (HDIP) under the Ministry of Petroleum & Natural Resources.
1991	Introduction of Pakistan's first comprehensive Petroleum Policy, formalizing upstream and downstream hydrocarbon governance.
1995	Development of FOTCO Oil Terminal (Port Qasim) with ~9 million tonnes/year capacity, strengthening import, storage, and distribution amid rising oil demand and imports.
2000	Continued oil and gas discoveries in Sindh and Punjab by PPL, OGDCL, and Mari Petroleum, along with development of onshore fields in Sindh, Potohar, and Khyber Pakhtunkhwa.
2002	Establishment of OGRA, regulating oil, gas, LNG, and LPG sectors through licensing, pricing oversight, infrastructure regulation, investment facilitation, and supply security management.
2010	Foreign oil companies such as Shell, Chevron, and TotalEnergies remained active in downstream fuel retail, lubricants, and distribution, with limited major equity expansion in local firms.
2012	Energy mix remained gas-dominant; declining domestic fields led to increased imports of crude oil, refined petroleum products, and furnace oil driven by transport and power demand.
2015	EETPL LNG Terminal became operational (March 2015), Pakistan's first LNG import and regasification facility. FSRU-based system (~170,000 m^3 storage; 550–690 mmscfd capacity).
2016	Pakistan began LNG imports from Qatar (Ras Laffan) under first long-term G2G agreement: 3.75 MMT/year for 15 years, later extended in 2022 for 10 more years.
2017	PGPL LNG Terminal became operational (Sept 2017), expanding LNG infrastructure with FSRU-based capacity (~171,000 m^3 storage; 600–750 mmscfd regasification).
2018	Agreement with Saudi Arabia to develop a refinery in Gwadar. Downstream sector remained stable and JV-led, with global majors focusing on consolidation and selective participation.
2023	Structural shift with Saudi Aramco acquiring a 40% stake in Gas & Oil Pakistan Ltd (GO), marking one of the largest foreign investments in downstream fuel retail.
2025	LNG demand declined from 8.2 MMT (2021 peak) to 6.1 MMT, driven by solar adoption and industrial slowdown, creating temporary system oversupply.

Pakistan Energy Imports, LNG System and Emerging Risks

(1) Pakistan Fuel Import Dependence: Pakistan's energy system depends heavily on imported fossil fuels including crude oil, refined petroleum products, and LNG. Hydrocarbons remain the main energy source, while coal, hydro, nuclear, and renewables play a smaller role. This dependence is due to long term supply and capacity gaps. Domestic gas production has declined since its peak around 2012. Local refining capacity is not enough to meet demand. Currency depreciation further raises import costs and fiscal pressure. The system is also affected by circular debt, which delays payments and creates financial stress. Oil imports mainly meet transport fuel demand. LNG has been used as a bridging fuel since 2015 for power generation and industry. LNG infrastructure has expanded through terminals at Port Qasim and private sector participation. However, costs remain high due to spot purchases and long-term contracts linked to global prices. Underused terminals and pipelines also create efficiency losses.

(2) LNG Contracts: LNG imports mainly come from Qatar and the United Arab Emirates under long term take or pay contracts. These ensure supply but require payment even when demand is low. After 2021, demand fell sharply. Between 2021 and 2025, LNG use dropped from 8.2 million tonnes to 6.1 million tonnes due to solar growth, industrial slowdown, and high prices. This created surplus supply by 2024 and 2025. Limited storage and rigid contracts increased system stress. The result was excess cargoes, pipeline pressure, and reduced domestic gas output to balance supply and demand. Seasonal gaps between summer surplus and winter shortages further added to inefficiency.

(3) LNG Demand in Power Sector: About 70 percent of LNG is used in power generation. Demand fell as gas-based electricity became more expensive than alternatives. Major plants such as Bhikki, Balloki, Haveli Bahadur Shah, and Trimmu operated at lower capacity. Industrial demand also declined due to higher tariffs, weaker exports, and reduced competitiveness. Rapid solar growth further reduced grid dependence. By 2025, distributed solar capacity reached around 34 gigawatts, lowering demand for grid electricity. These changes have permanently reduced LNG demand in the power sector and increased variability in energy use.

(4) External Risks: Pakistan remains highly exposed to global shocks due to import dependence, limited storage, and concentrated supply sources. Energy disruptions increased during the US Israel induced war on the Islamic Republic of Iran. The conflict affected LNG supply chains, damaged regional energy infrastructure, and disrupted shipping through the Strait of Hormuz. This route handles more than 20 percent of global oil and LNG trade. Refined fuel markets also tightened due to lower refinery output and export restrictions in the Asia Pacific region. This reduced supply availability and forced demand adjustments of lower inventories and precautionary buying.

(5) Macro Stress: Pakistan faces combined pressure from LNG and refined fuel imports. This creates dependence on LNG for power and refined fuels for transport. During global disruptions, this increases import costs, inflation, and pressure on foreign exchange reserves. Even before recent shocks, LNG had a structural imbalance due to long term over contracting and falling demand. By early 2026, excess supply was projected at up to 177 cargoes over the next decade under existing contracts. This shows a clear mismatch between contracted supply and actual demand. To manage surplus LNG, Pakistan has used diversion under net proceeds differential arrangements, reduced domestic gas production, and increased supply to subsidized households. However, these steps have increased circular debt, strained infrastructure, and created inefficiencies due to the gap between imported LNG prices and subsidized domestic tariffs.

Future Energy Import Outlook

Pakistan is shifting toward a cleaner and more decentralized energy system. The target is about 60 percent clean electricity by 2030 to reduce import dependence, lower costs, and improve economic stability.

Solar energy is expanding rapidly. Rooftop solar is expected to meet around 20 percent of electricity demand by 2026. Between 2017 and 2025, about 50 GW of solar panels were imported, close to the size of the national grid.

However, structural issues remain. Circular debt reached about Rs. 1.889 trillion by 2026. Transmission and distribution constraints continue to limit efficiency and require major upgrades.

Oil and LNG imports will still remain important for power generation, industry, and seasonal balancing. Declining domestic gas production further supports continued LNG reliance.

Future policy focuses on improving efficiency, demand management, and increasing renewable and nuclear energy share. Fossil fuel imports are expected to be managed more flexibly rather than expanded.

Overall, Pakistan's energy system is moving toward a mixed structure where renewables grow quickly while fossil fuels continue to play a balancing role during the transition.

S.W.O.T Analysis of Fossil Fuel Import (Oil & LNG) Industry

This is a simple overview of Pakistan's fossil fuel import industry using the SWOT framework. It shows key strengths, weaknesses, opportunities, and threats, not a detailed analysis

STRENGTHS

- Imports ensure stable energy supply
- LNG terminals and oil systems ensure steady fuel flow
- Fuel switching helps manage shortages
- IPP system increases generation capacity
- Long term LNG contracts support supply stability

WEAKNESSES

- High imports increase trade deficit and dollar pressure
- Expensive fuel raises electricity prices
- Low local gas and refining capacity increases dependence
- Weak planning creates supply gaps
- Currency depreciation raises import costs

OPPORTUNITIES

- Renewables can reduce import needs
- Local exploration can cut LNG dependence
- Refinery upgrades can reduce fuel imports
- Policy reforms can improve energy mix
- Regional projects can diversify supply

THREATS

- Global price volatility increases costs
- Dollar shortages stress imports
- Geopolitical risks disrupt supply
- High import dependence weakens energy security
- Emissions remain high despite climate commitments and Norway Article 6.2 (2026)