RENEWABLES FIRST

PAKISTAN ENERGY MARKET REVIEW 2025

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Acknowledgement:

We would like to thank Hydrocarbon Development Institute of Pakistan (HDIP), for their valuable time and knowledge.
We would also like to acknowledge Herald Analytics for their valuable time and contribution to the review.

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Disclaimer:

All the information and analysis provided in this document are accurate and to the best of our knowledge and understanding, in case you identify any error, feel free to reach out to us at: info@renewablesfirst.org

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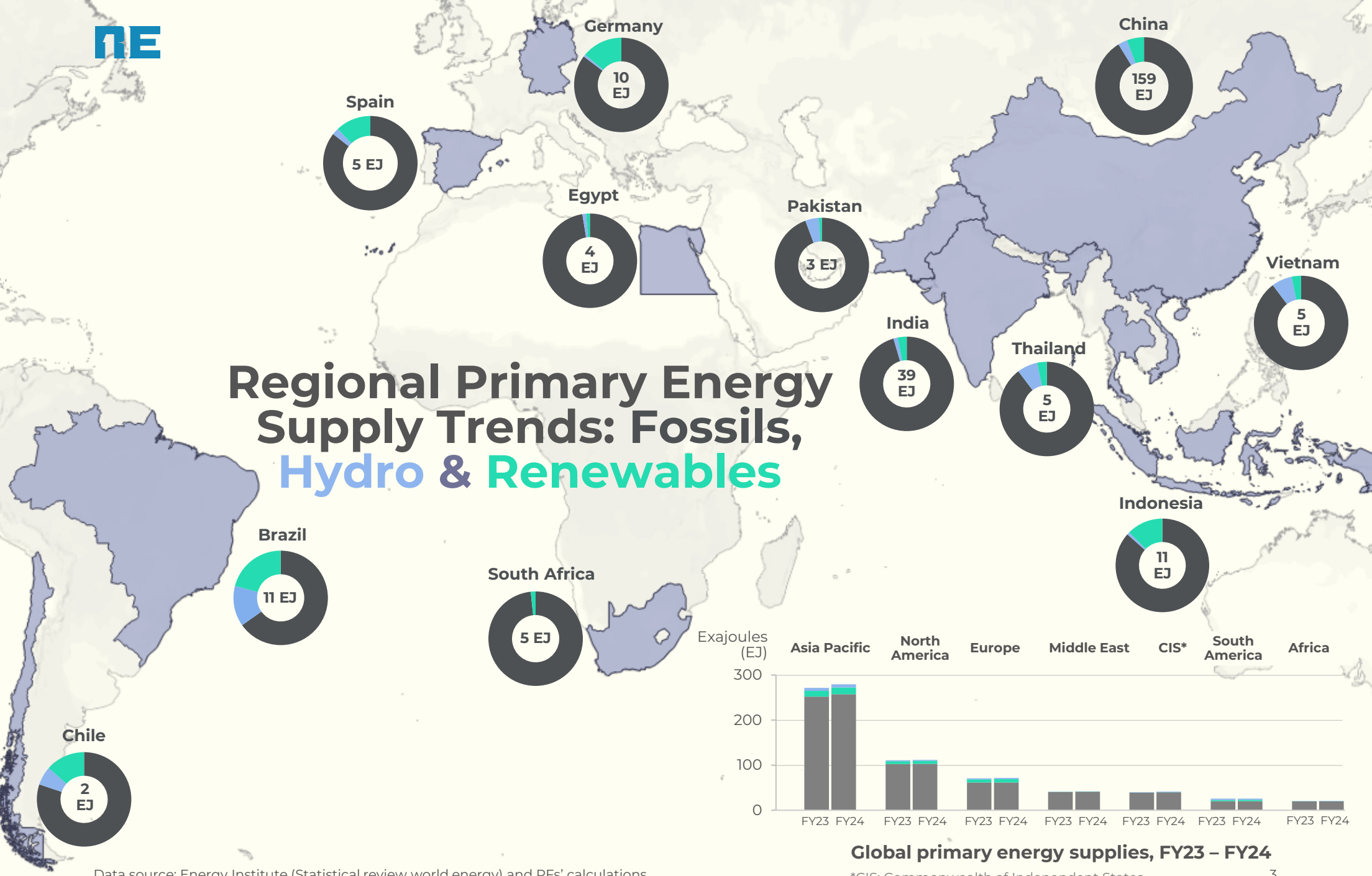
Regional Primary Energy Supply Trends: Fossils, Hydro & Renewables



Global primary energy supplies, FY23 – FY24

Data source: Energy Institute (Statistical review world energy) and RFs' calculations

*CIS: Commonwealth of Independent States

Key highlights of Pakistan's energy market FY24

Pakistan's energy market saw muted activity in FY24 as macroeconomic pressures and higher tariffs curtailed energy use across sectors. Ongoing demand contraction, especially in industrial and agricultural sectors, highlights the accelerating shift toward distributed solar adoption across the country.

Primary energy supply
fell **2%** YoY to **81** Mtoe

Final energy consumption
dropped **7%** YoY to **43** Mtoe

Crude oil production
recorded a modest **2%** YoY increase, yet output has fallen **25%** over the past decade

Indigenous natural gas
supply continued to contract with **4%** YoY decline

Increased reliance on LNG
with a **13%** YoY rise in imports to balance demand amid affordability constraints due to declining natural gas reserves

Domestic coal production
rose **28%** YoY, cutting imports' share to 39%, yet imported coal still pressures foreign exchange reserves

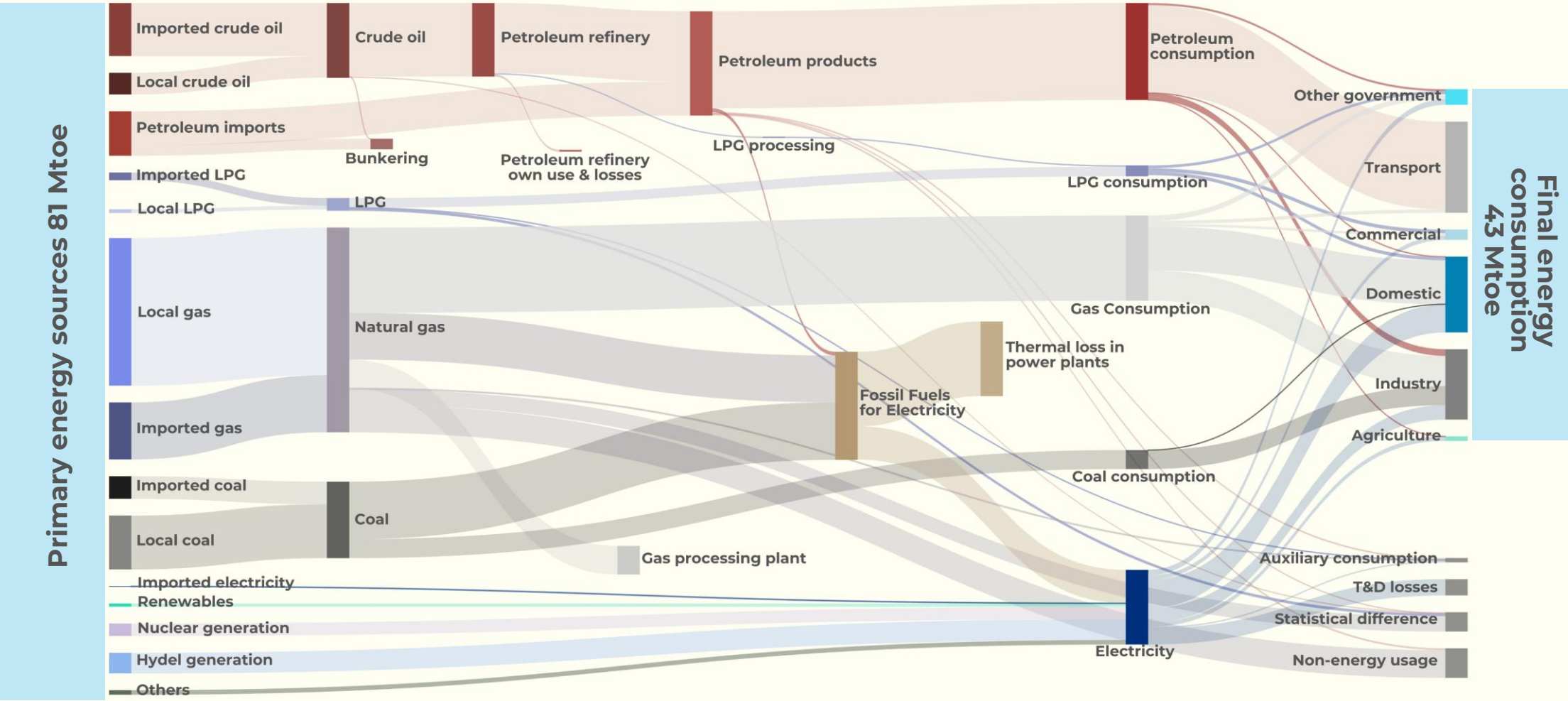
Gas sector circular debt
reached PKR **3.2** trillion by Mar 2025, driven by delayed tariff adjustments and system inefficiencies

Note: FY24 refers to the period from July 2023 to June 2024. YoY reflects a comparison between FY23 and FY24.

A snapshot of Pakistan’s energy sector

In FY24, fuel transformations and diversion processes consumed 48% of primary supply, leaving only 52% for final sectoral consumption

To view the interactive version, please visit the following link: https://peci.renewablesfirst.org

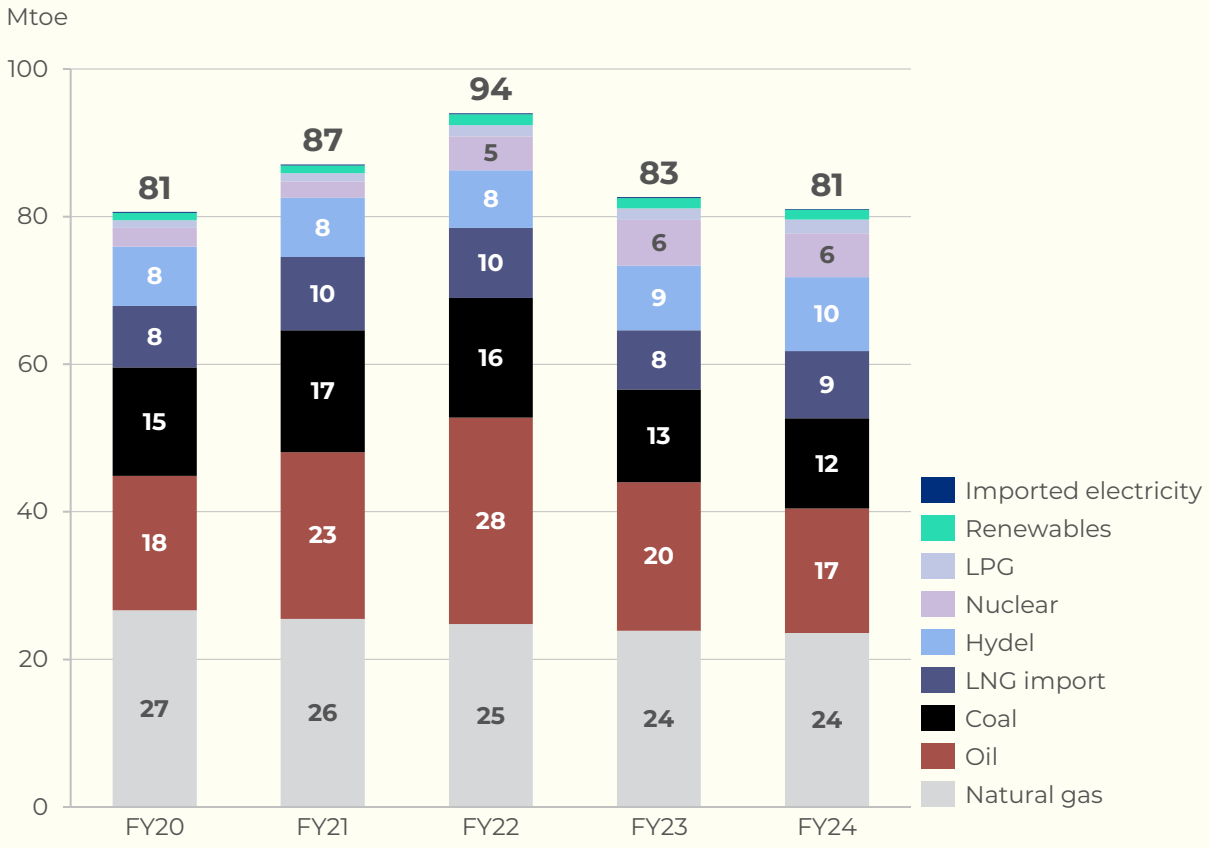


Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Energy Flow Diagram FY24

Subdued demand pulled primary energy supplies down to 81 Mtoe in FY24, extending a two-year decline

Energy supplies mirrored Pakistan's economic swings, rising with the post-COVID recovery before falling amid high fuel costs, global tensions, and currency depreciation. In FY24, fuel supplies declined for a second consecutive year due to persistent cost pressures and constrained demand.



Pakistan's energy source-wise supplies, FY20 – FY24

Long-term contractual obligations primarily drove a 13% YoY rise in **LNG** imports to 9.1 Mtoe (million tonnes of oil equivalent) in FY24.

Coal supplies gradually declined from 19% in FY21 to 15% in FY24, reflecting Pakistan's shift toward cleaner and non-fossil energy sources.

Reduced refinery demand drove a 16% YoY decline in **oil** supplies to 17 Mtoe in FY24 from 20 Mtoe in FY23.

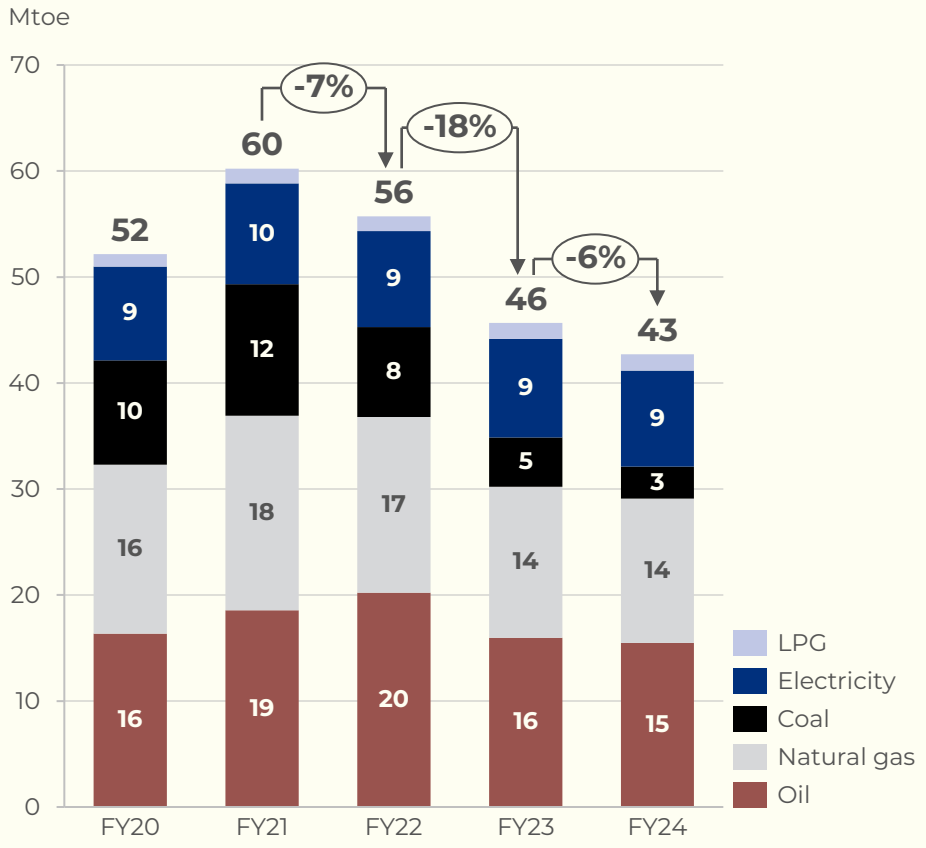
Natural gas supplies fell 13% from FY20 to FY24, reducing its share in the energy mix and leading a supply shortages.

Non-fossil energy sources (including hydel, nuclear, and renewables) supply rose from 11 Mtoe in FY21 to 17 Mtoe in FY24, an increase of 49%, reflecting a steadily expanding role in the energy mix.

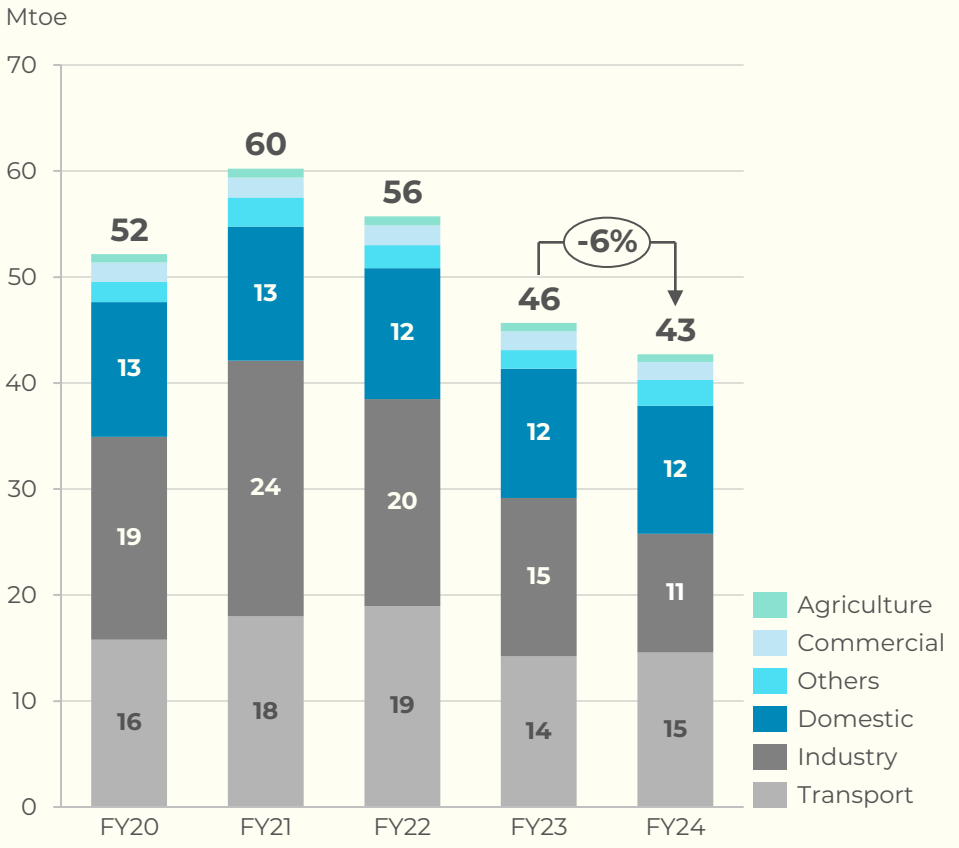
Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Energy consumption declined 6% YoY in FY24 to 43 Mtoe, the third straight annual drop

Macroeconomic constraints, high tariffs, fuel supply disruptions, and import restrictions led to a cumulative 29% decline in energy consumption over the last three years.



Pakistan's energy source-wise consumption, FY20 – FY24



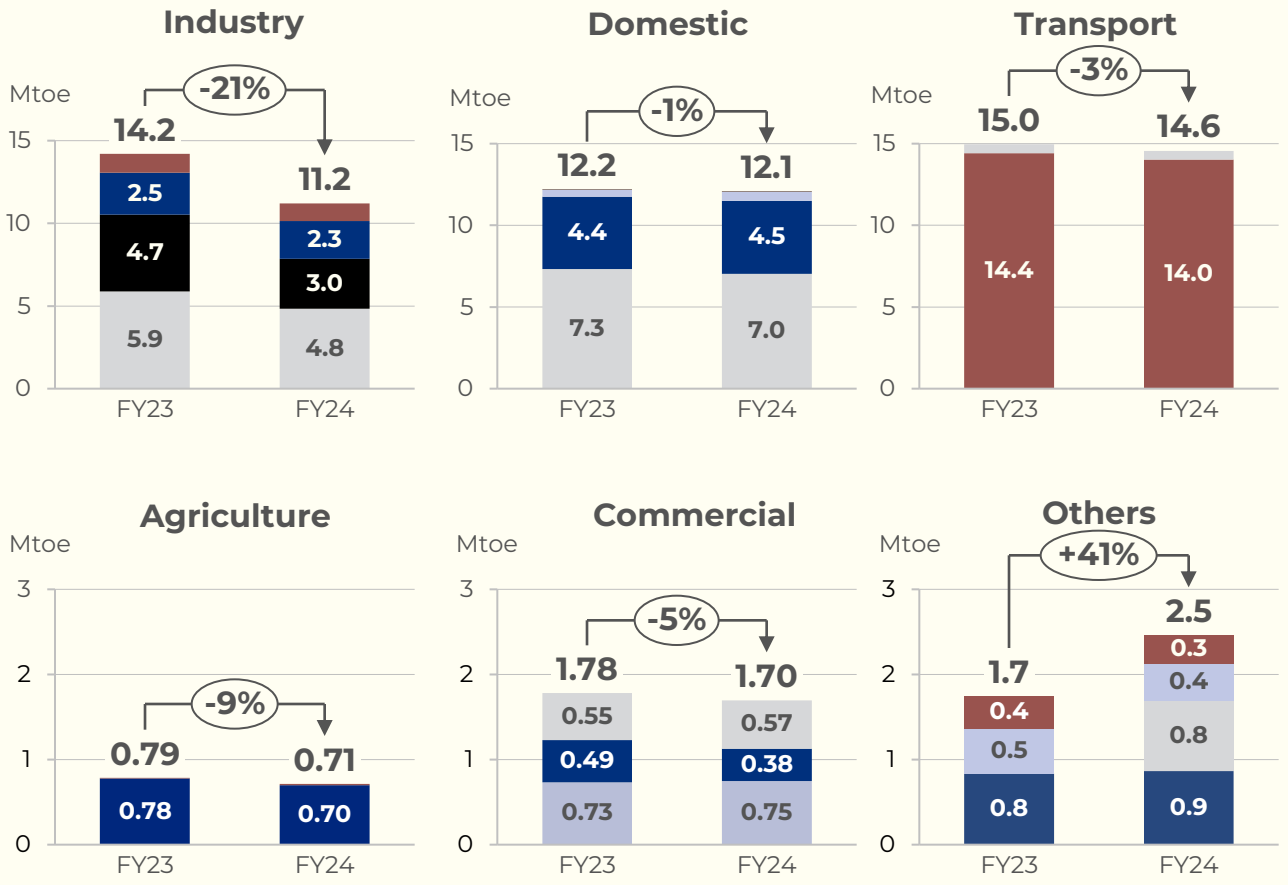
Sector-wise consumption of energy supplies, FY20 - FY24

Note: Power sector consumption for oil, coal, and gas is not reflected in the above graph, as these fuels are used to generate electricity.

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Rising solar adoption impacted fossil fuel consumption and drove sharp decline in industrial and agriculture sectors

In FY24, consumers shifted towards alternative competitive energy sources like solar, driving a broad decline in primary energy consumption across all sectors.[1]



Sector-wise energy consumption, FY23 vs FY24

The **industrial** sector saw the highest decline in fossil fuel consumption due to subdued manufacturing activity (LSM up 1% YoY). Grid electricity consumption fell 11% YoY, signaling a shift towards more competitive clean energy sources such as solar.

Agriculture consumers reduced their grid electricity reliance by 10% YoY as they increasingly adopted solar energy solutions in response to rising electricity tariffs.

Electricity use in the **commercial** sector fell sharply by 23% YoY as businesses increasingly adopted cost-effective solar and other alternative energy sources.

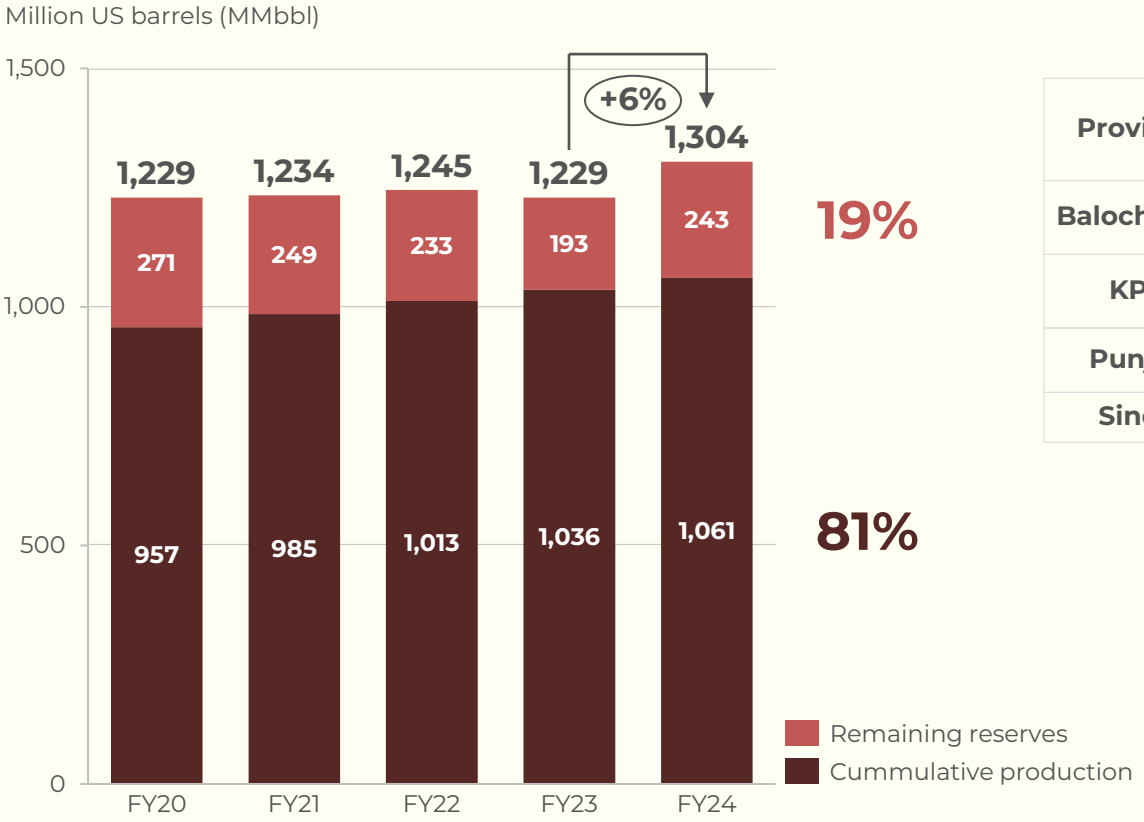
[1] For further details on the growth of solar in Pakistan, see our study "The Great Solar Rush in Pakistan"

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Crude oil decline

Exploration added new reserves, modestly lifting Pakistan's crude oil base by 6% YoY in FY24

By FY24, Pakistan cumulative crude oil production reached 81% of its proved and probable (2P) reserves, while exploration activity during the year increased remaining reserves by 26% YoY, with Sindh's oil fields holding the largest share at 44%.



Pakistan's crude oil 2P reserves, FY20 - FY24

Province	Cumulative production (MMbbl)	Remaining reserves (MMbbl)	Total
Balochistan	1	6	7
KPK	203	61	264
Punjab	395	68	463
Sindh	462	108	570
	1,061	243	1,304

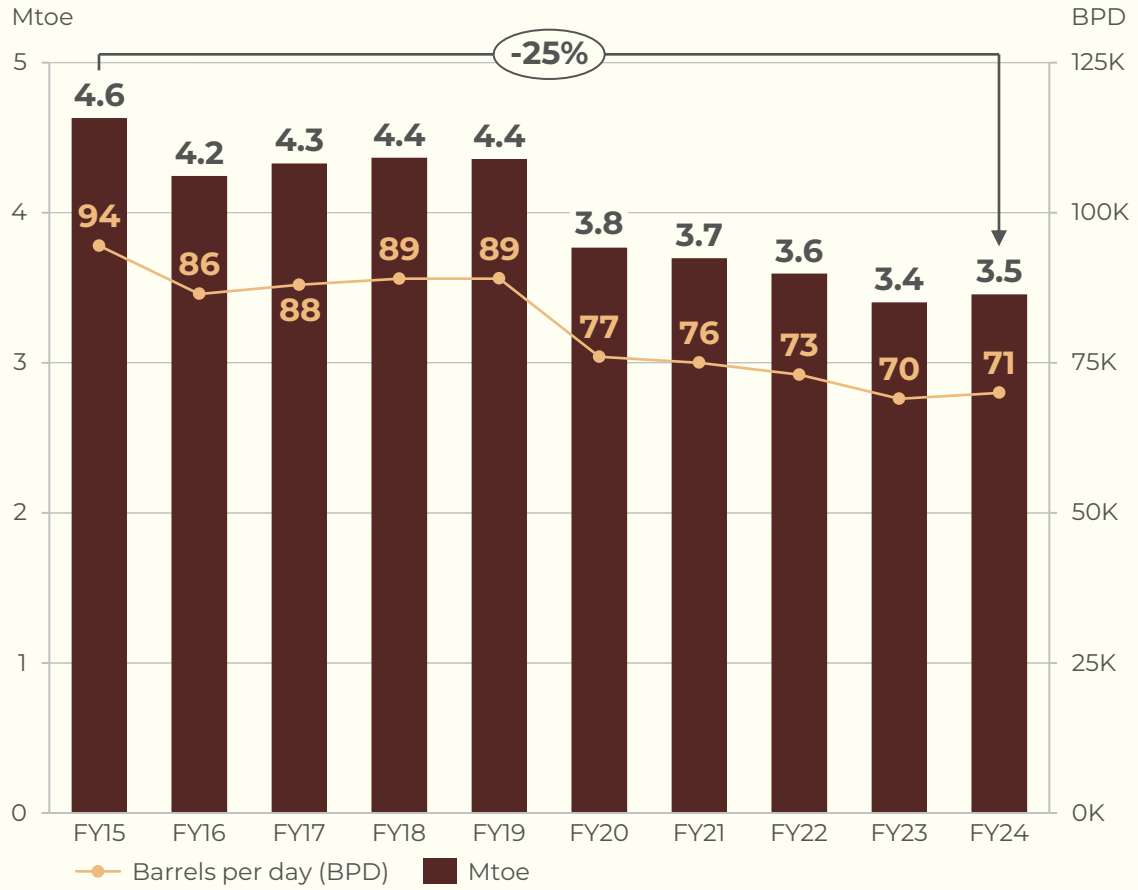
***2P (Proved + Probable):** Represents the combined estimate of proved and probable reserves, indicating at least a 50% probability that the actual recoverable crude oil will equal or exceed this volume.

Province-wise crude oil 2P reserves, FY24

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Crude production fell 25% in a decade while remaining reserves cover less than ten years of supply

Crude oil production declined over the past decade, primarily due to the depletion of mature fields and limited investment. In FY24, production edged up 2% YoY, by small new discoveries and efficiency gains in existing fields but remain constrained relative to demand.



Pakistan's crude oil production, FY15 - FY24

	FY20	FY21	FY22	FY23	FY24
Remaining reserves (MMbbl)	271	249	233	193	243
Production (MMbbl)	28	27.6	26.8	25.4	25.8
Reserves to production ratio (years)	**9.7**	**9.0**	**8.7**	**7.6**	**9.4**

Conversion factor: 1 barrel crude oil = 0.134 tonne crude oil. For FY24, 25.8 MMbbl = 3.5 Mtoe

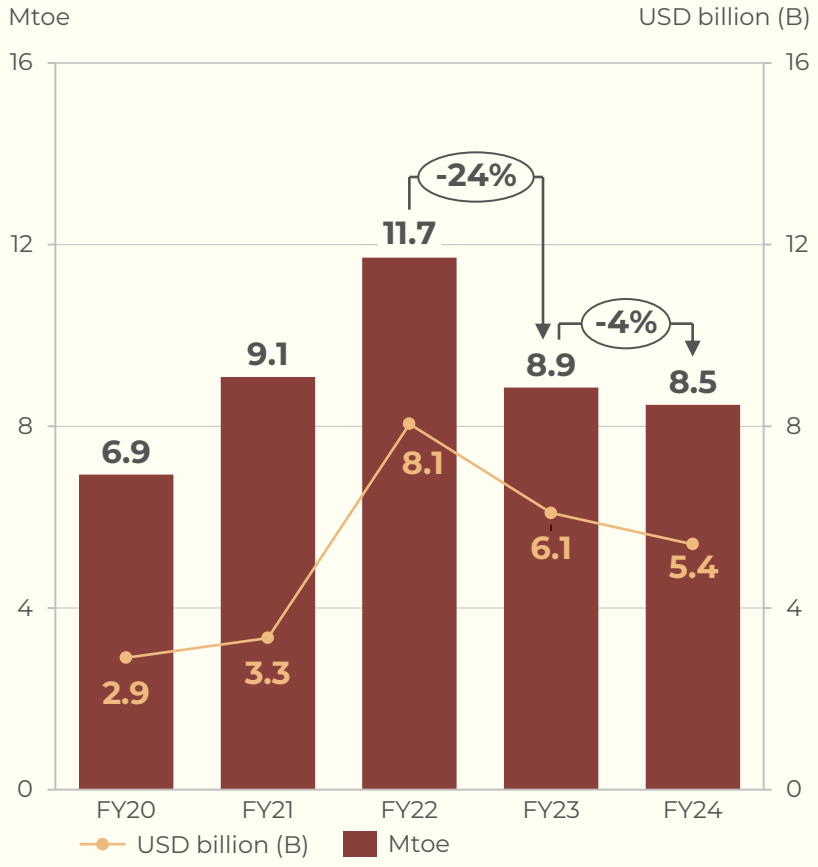
Months=Decimal part of year×12

Reserves to production ratio, FY20 - FY24

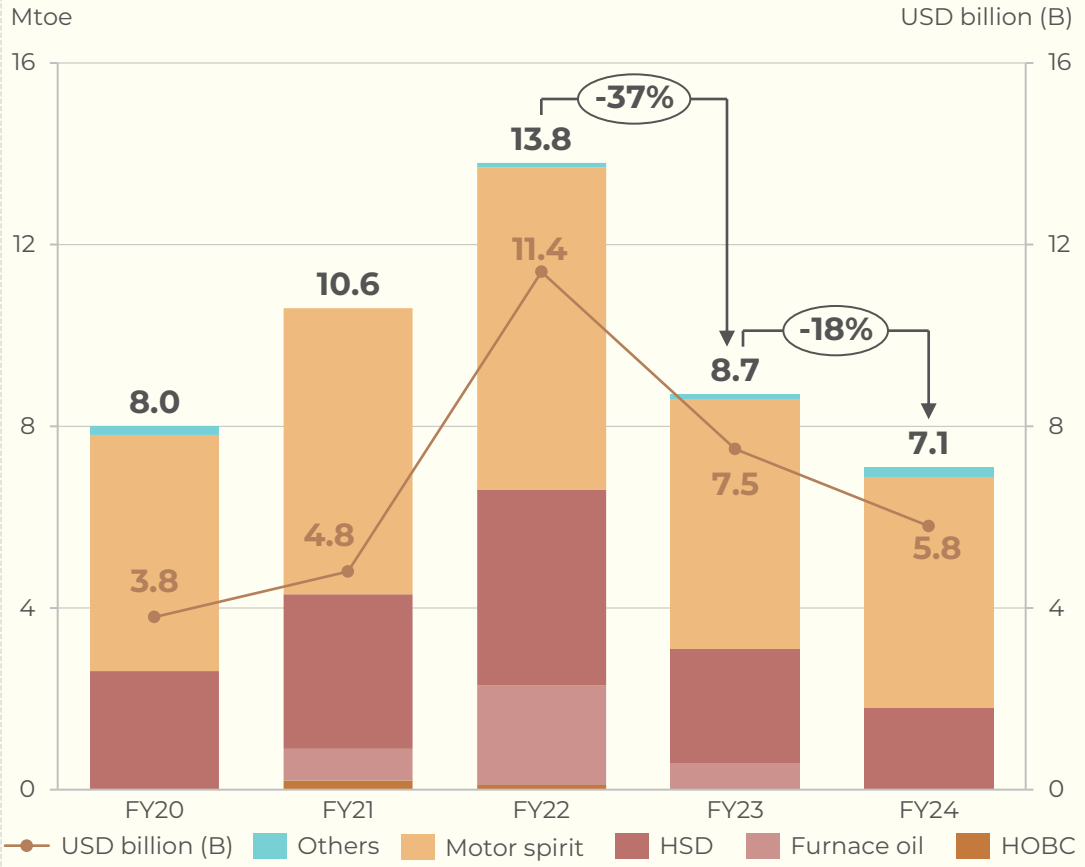
Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Crude oil and petroleum product imports fell in FY24, marking the second consecutive year of decline

Lower demand and reduced refinery intake drove the decline in crude oil imports. Similarly, imports of petroleum products also fell, with motor spirit remaining dominant and furnace oil fully phased out.



Pakistan's crude oil imports, FY20 - FY24

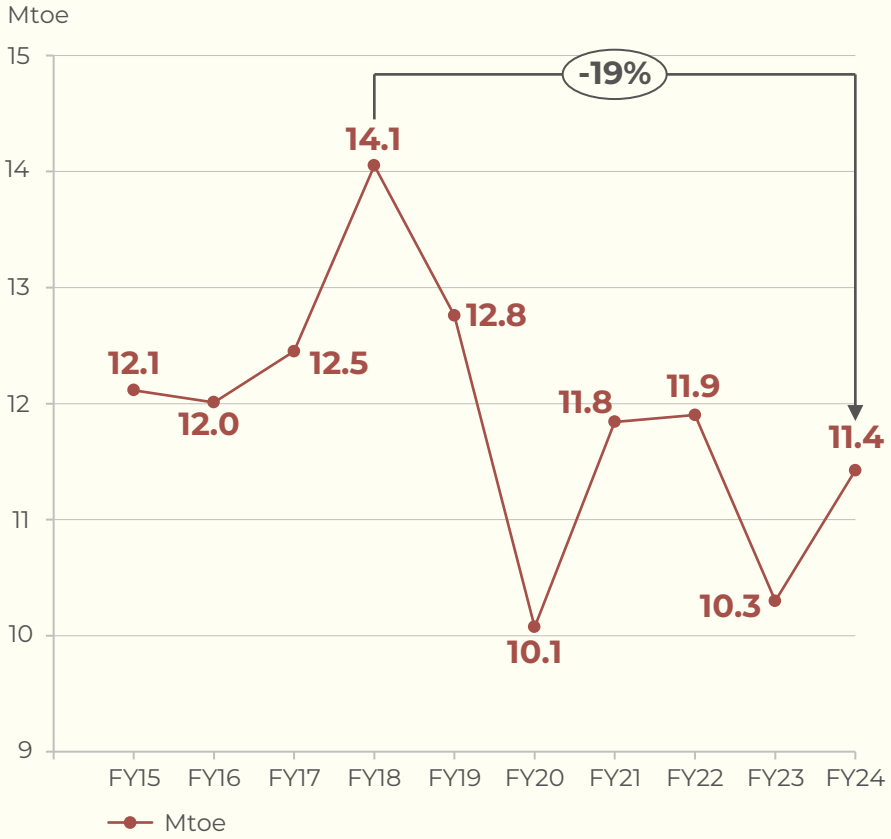


Pakistan's petroleum products imports, FY20 - FY24

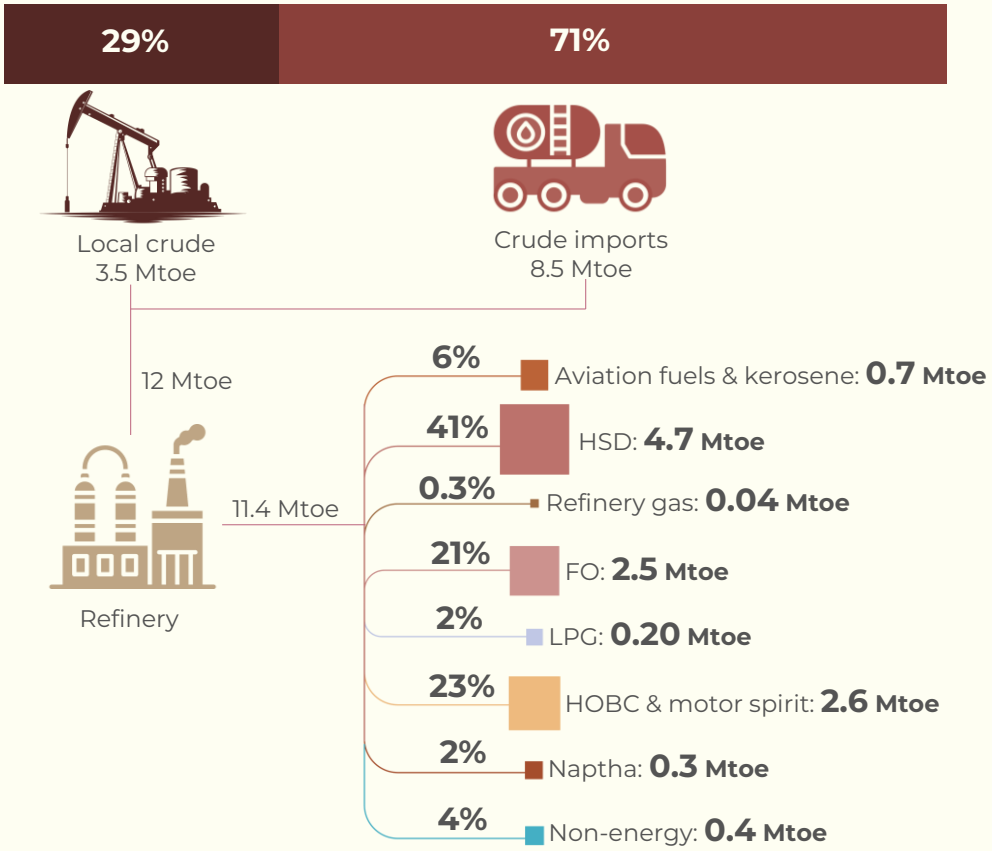
Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Crude processing grew 11% YoY in FY24, highlighting short-term gains amid persistent structural inefficiencies

Refinery output was dominated by high-speed diesel (HSD), furnace oil (FO), and motor spirit, which together accounted for 85% of production, reflecting transport-driven demand and limited diversification into value-added products such as lubricants, greases, petroleum jelly, and waxes.



Petroleum product production by refineries, FY15 - FY24

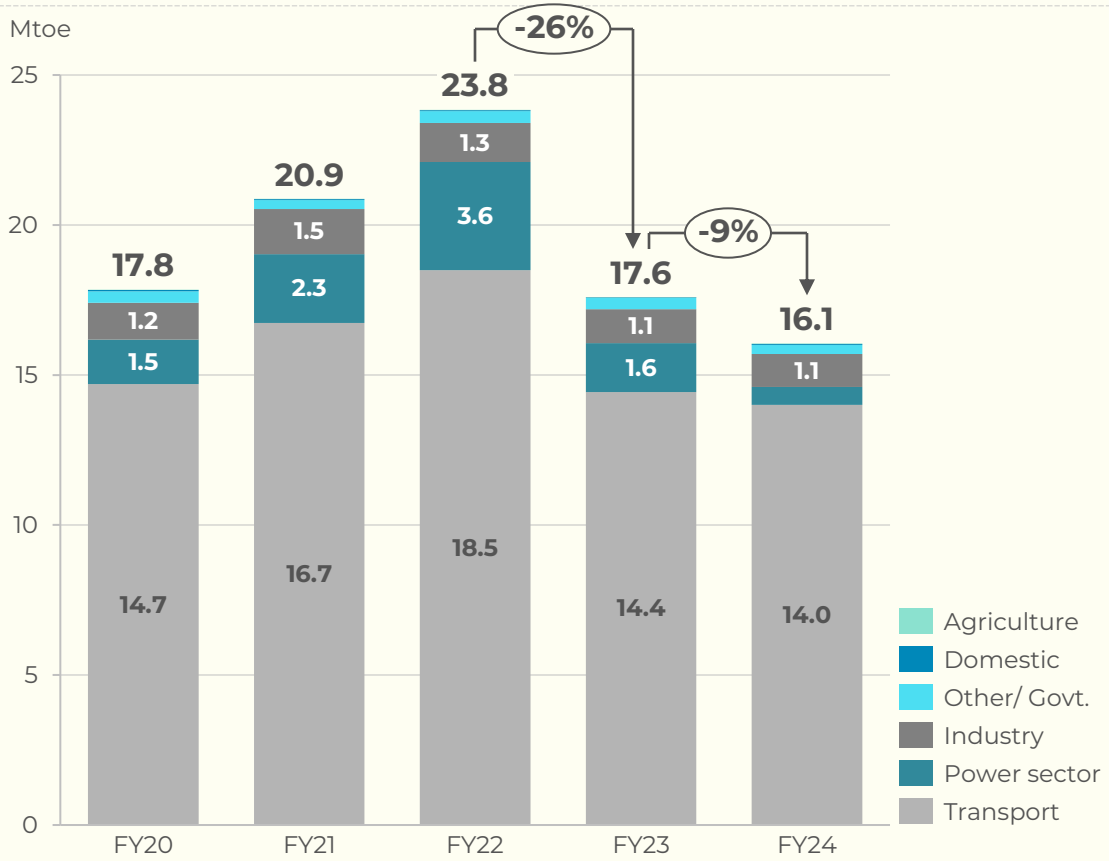


Crude oil distillation flow – FY24: energy and non-energy products

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Declining petroleum use led to a 9% YoY drop in FY24, marking the second consecutive year of contraction

Petroleum consumption declined 33% from FY22 to FY24, driven by weaker economic activity, higher fuel prices, reduced affordability, and a gradual shift towards competitive energy sources, such as rapid solar adoption in the country.



Sector-wise consumption of petroleum products, FY20 - FY24

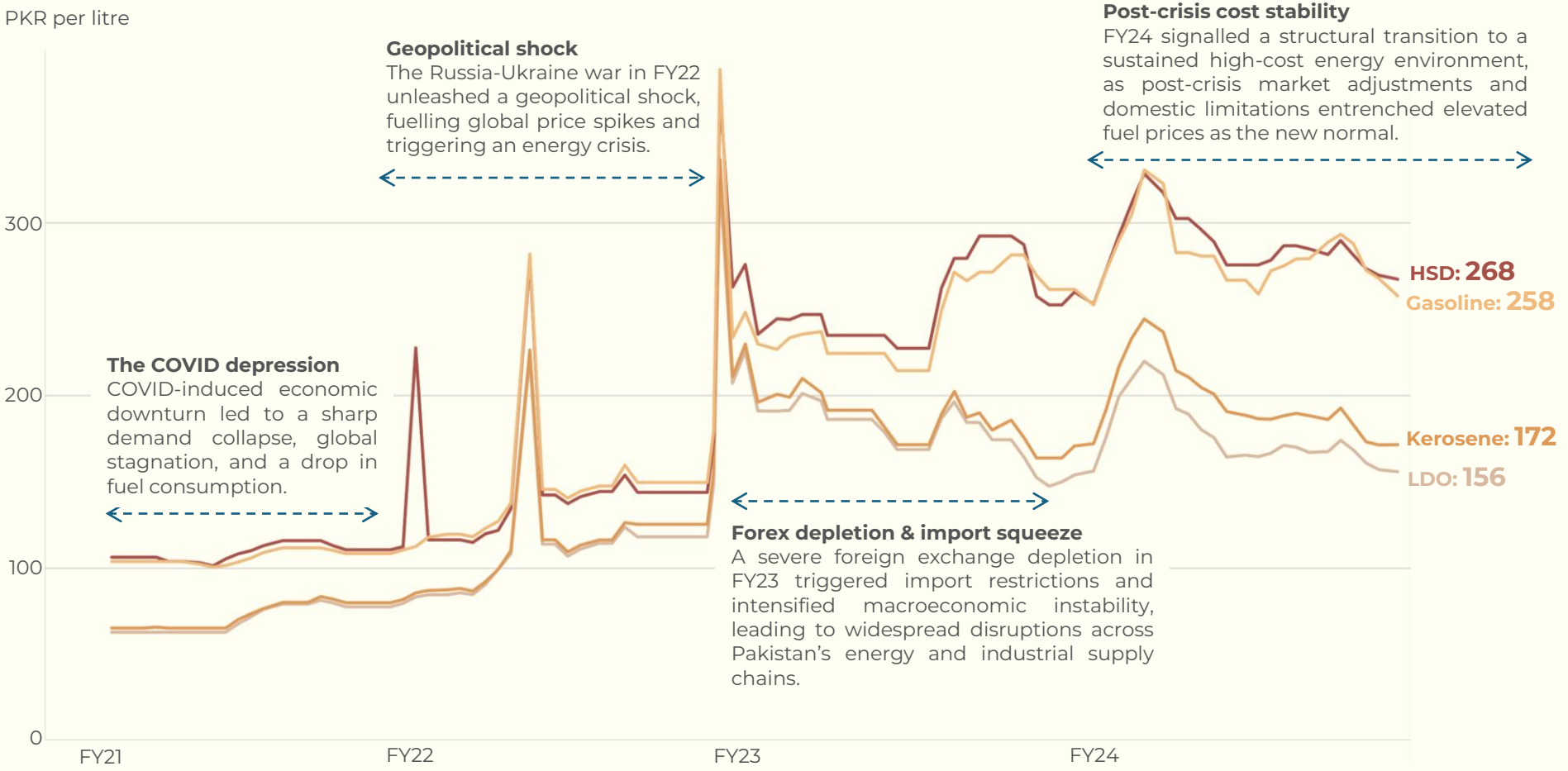
Petroleum consumption in **industry** stood at 1.1 Mtoe in FY24, reflecting weak manufacturing activity and gradual fuel substitution highlighting a structural shift towards renewables over the time.

The **transport sector**, contracted for the consecutive second year, down 22% YoY in FY23 and 3% YoY in FY24, driven by reduced construction logistics.

Petroleum usage in the **power sector** dropped 64% YoY to 0.6 Mtoe in FY24 as oil-fired generation reduced significantly and cheaper fuels gained priority.

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

From global conflicts to domestic crises, Pakistan's fossil fuel market remained exposed to persistent instability



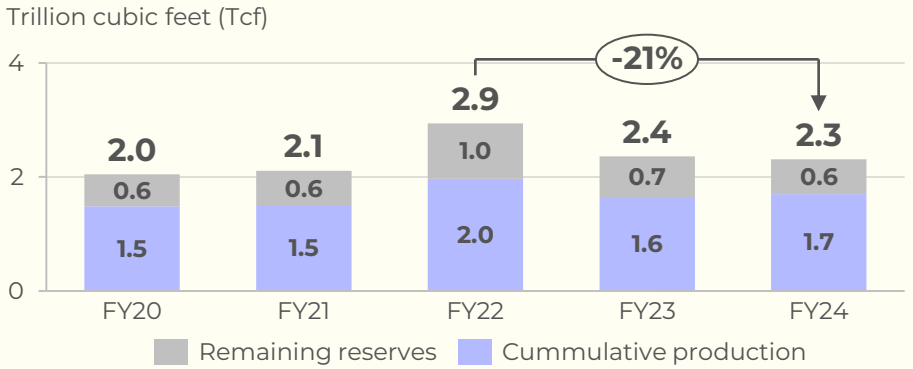
Sale price of different fuels, FY21 - FY24

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Natural gas strain

A mere 2% YoY rise in natural gas reserves in FY24 is prompting Pakistan to fast-track its transition toward cleaner, sustainable energy

Associated gas reserves are depleting as oil fields mature, with cumulative production reaching 74% of the 2P base in FY24. Remaining reserves have declined over the past two years, increasing reliance on imports due to limited new discoveries.

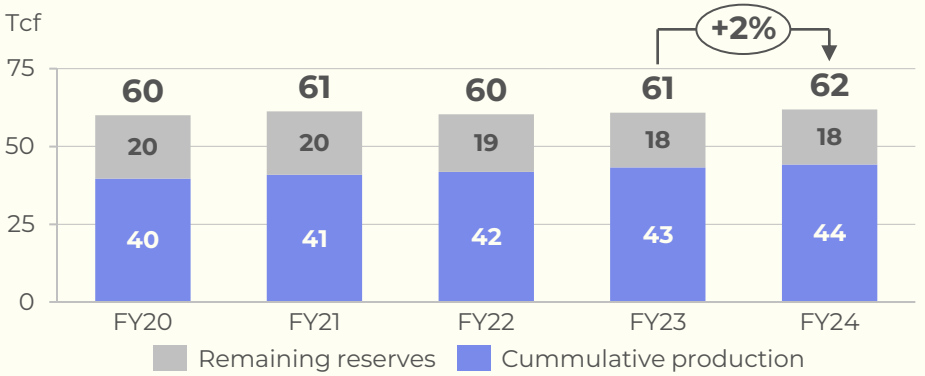


Pakistan's associated gas 2P reserves, FY20 - FY24

Province	Cumulative production (Tcf)	Remaining reserves (Tcf)	Total
Balochistan	0	0	0
KPK	0.4	0.5	0.9
Punjab	0.9	0.1	1.0
Sindh	0.4	0.1	0.5
	1.7	0.6	2.3

Province-wise associated gas 2P reserves , FY24

Cumulative production rose 6% from FY22 to FY24, driven by steady flows from non-associated gas fields, while remaining reserves grew marginally in FY24, exposing the widening gap between extraction and replenishment.



Pakistan's non-associated gas 2P reserves, FY20 - FY24

Province	Cumulative production (Tcf)	Remaining reserves (Tcf)	Total
Balochistan	16	5	21
KPK	2	1	3
Punjab	2	1	3
Sindh	25	11	36
	44	18	62

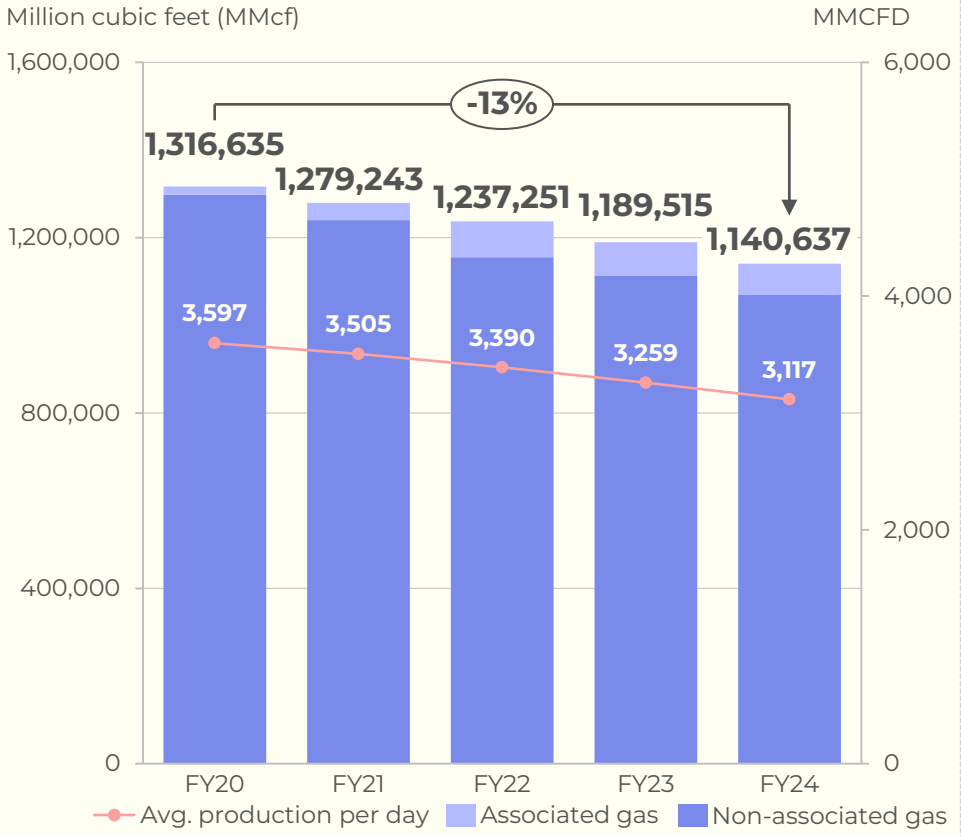
Province-wise non-associated gas 2P reserves, FY24

Associated gas: Natural gas produced together with crude oil. **Non-associated gas:** Natural gas found in reservoirs without crude oil.

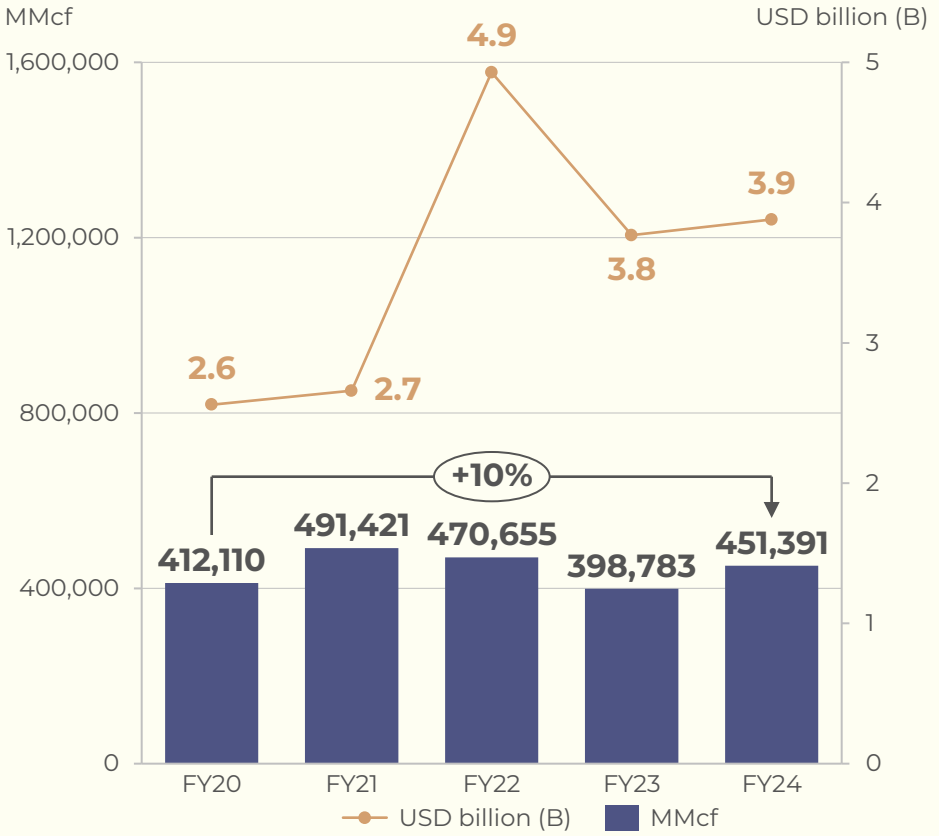
Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

As domestic gas production declines, Pakistan faces greater exposure to costly LNG imports

Pakistan's indigenous gas production averaged 3,117 million cubic feet per day (MMCFD) in FY24, marking a 4% YoY decline. Meanwhile, increased LNG imports under binding contracts increased the import bill and strained the economy. The continued decline in indigenous gas underscores the urgency for strategic planning to manage future supply gaps and ensure energy security.



Pakistan's associated and non-associated gas production, FY20 – FY24



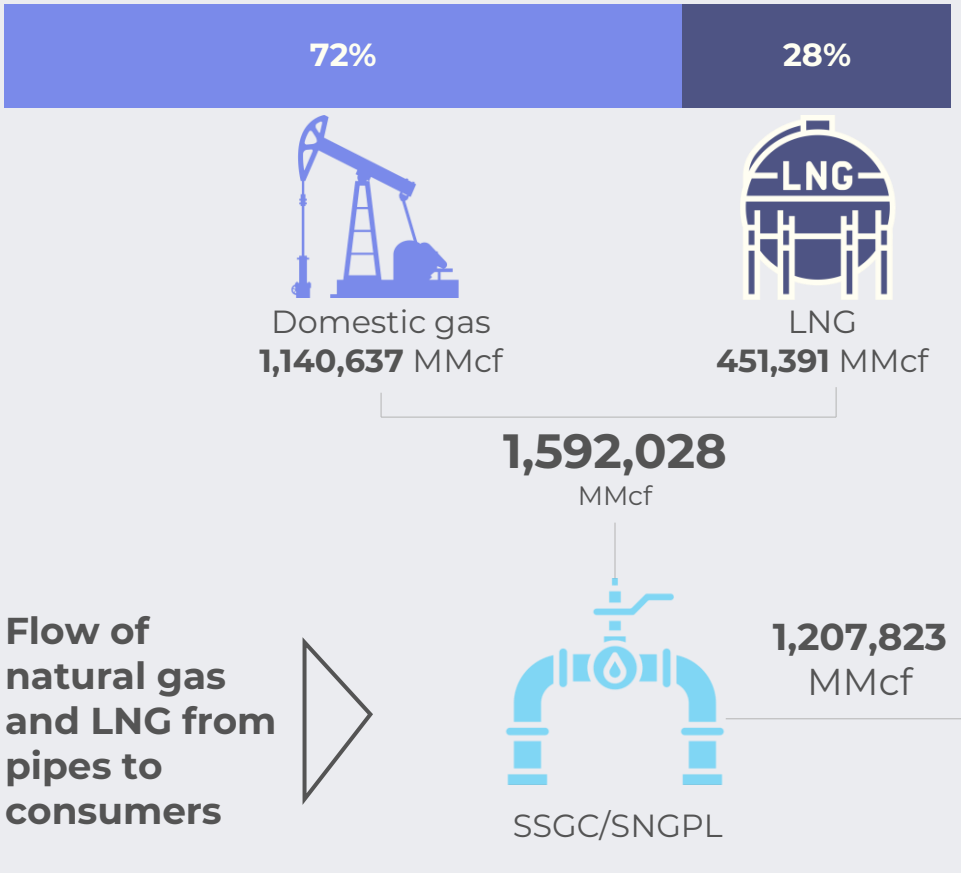
LNG imports in Pakistan, FY20 – FY24

Conversion factor: 1 MMcf = 20.19 Mtoe

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

In FY24, Pakistan held 18.5 Tcf of remaining gas reserves, sustaining production for only 16 years at the current rate

LNG and natural gas merge within the SSGC and SNGPL networks before being routed to their designated consumers.



	FY20	FY21	FY22	FY23	FY24
Remaining reserves Tcf	20.9	20.9	19.5	18.3	18.5
Production Tcf	1.3	1.3	1.2	1.2	1.1
Reserves to production ratio (years)	**16**	**16**	**16**	**15**	**16**

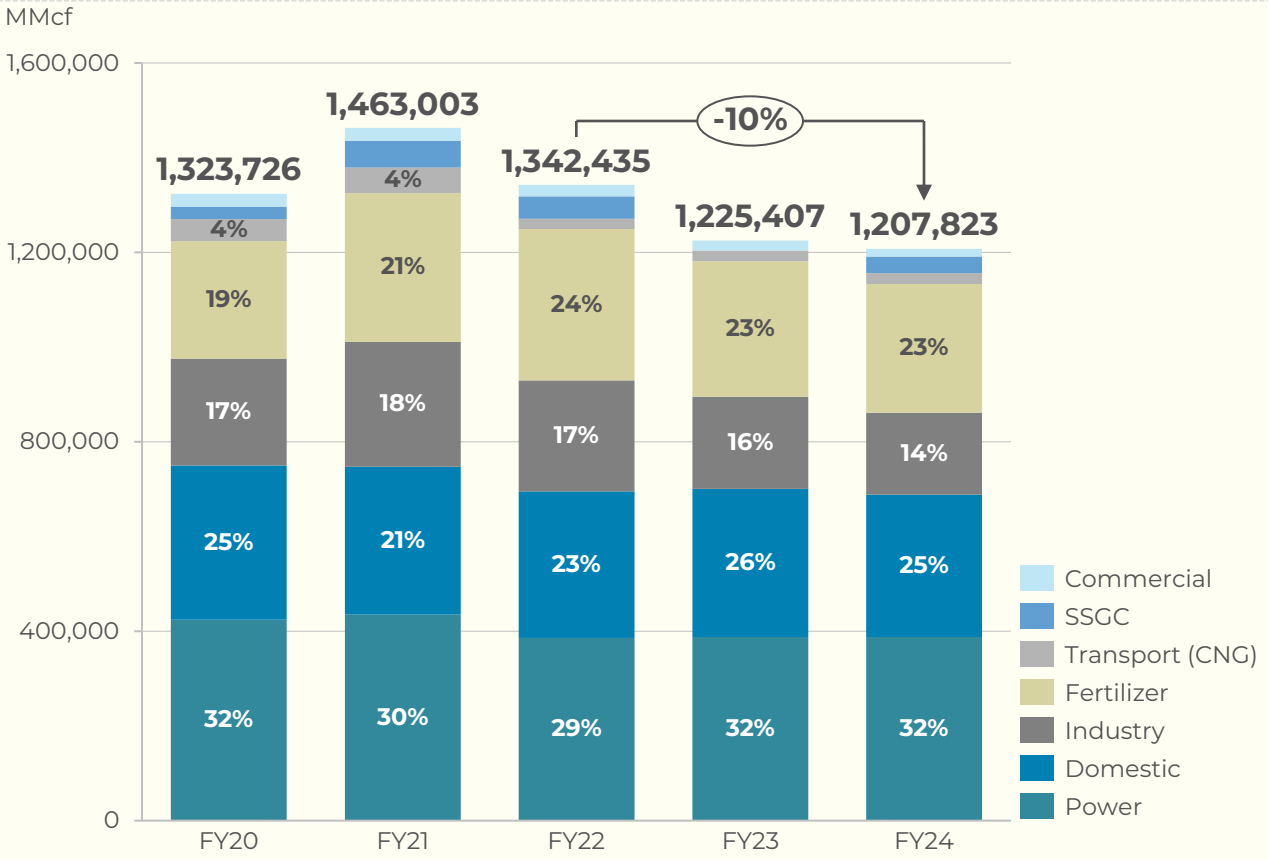
Reserves to production ratio, FY20 - FY24

Note: Reserves numbers include only non-associated gas, while production numbers include both associated gas and non-associated gas.

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Amid constrained supply and elevated prices, natural gas consumption has fallen for three straight years

Pakistan's natural gas consumption has been steadily declining since FY22, highlighting the urgent need to strengthen domestic supply, pursue active exploration, and expand cleaner energy options such as solar.



Sector-wise natural gas consumption, FY20 – FY24

Indigenous natural gas consumption by **domestic** consumers fell 4% YoY in FY24, constrained by limited availability and persistent supply shortages.

In FY24, natural gas-fired plants consumption fell 22% YoY amid supply constraints, while LNG use rose 23% YoY to sustain electricity generation in the **power sector.**[2]

Industrial gas consumption declined for the third consecutive year as manufacturers adapted to gas shortages by optimizing operations and shifting to alternatives such as solar energy.

In the **fertilizer sector**, feedstock natural gas usage rose 7% YoY to sustain urea production while fuel use dropped 42% YoY amid cut in non-essential energy consumption.

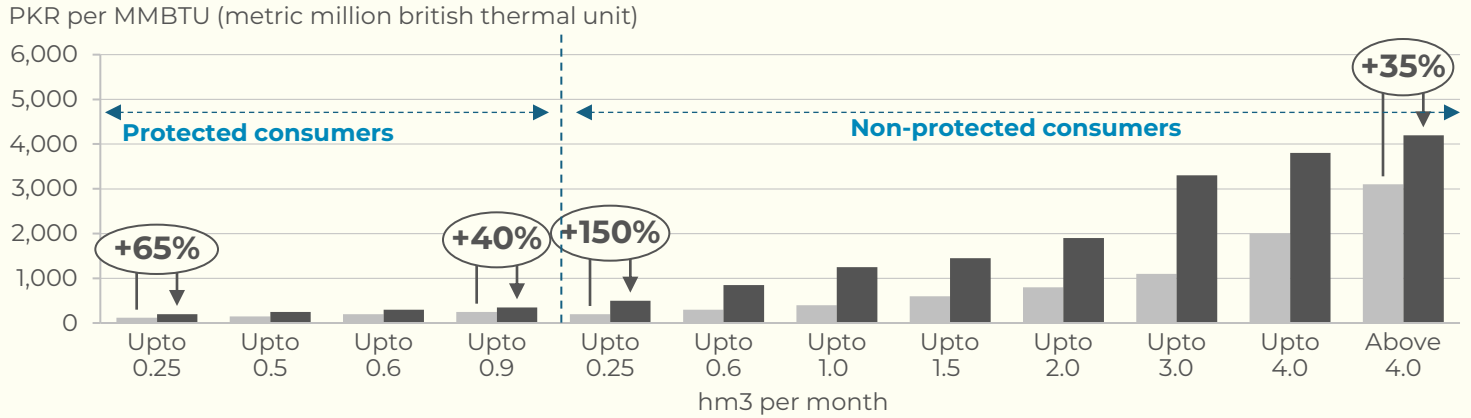
*[2]For further details on the growth of solar in Pakistan, see our study Pakistan Electricity Review 2025 and Pakistan Energy and Climate insights dashboard

Note: These figures include both indigenous natural gas and LNG consumption reported by SSGC and SNGPL

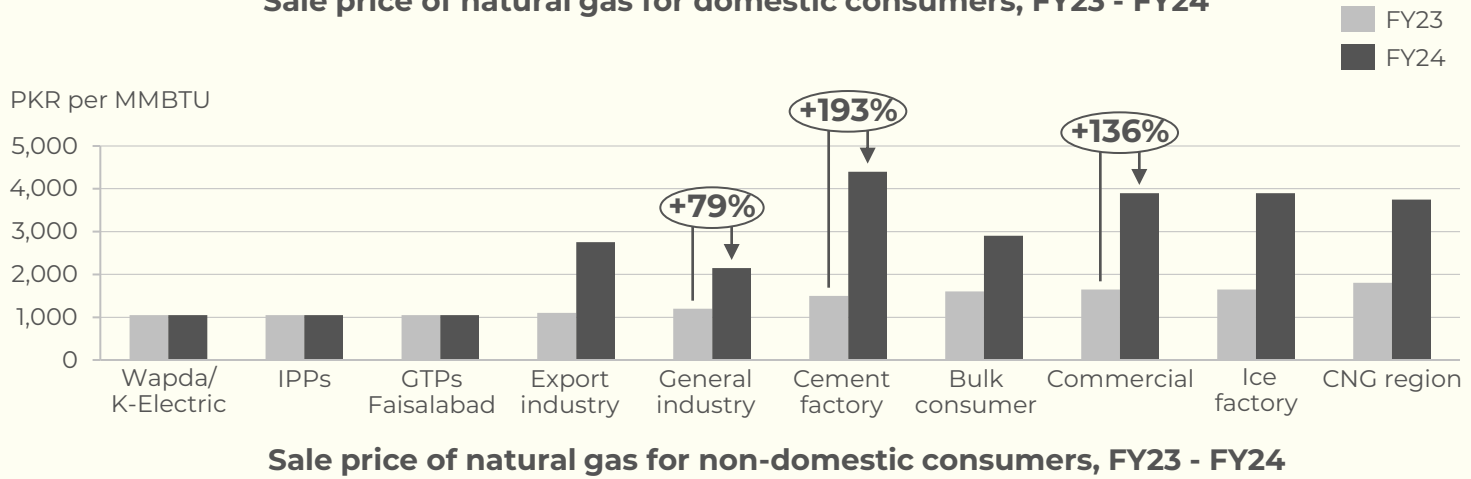
Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

In FY24, soaring natural gas tariffs drive a nationwide shift towards solar-powered electric solutions

Between Jan 23 and Feb 24 under IMF program for Pakistan, natural gas tariffs rose sharply across all consumer categories as part of reforms to cut gas sector circular debt and boost the financial sustainability of Pakistan's energy sector.



Sale price of natural gas for domestic consumers, FY23 - FY24



Sale price of natural gas for non-domestic consumers, FY23 - FY24

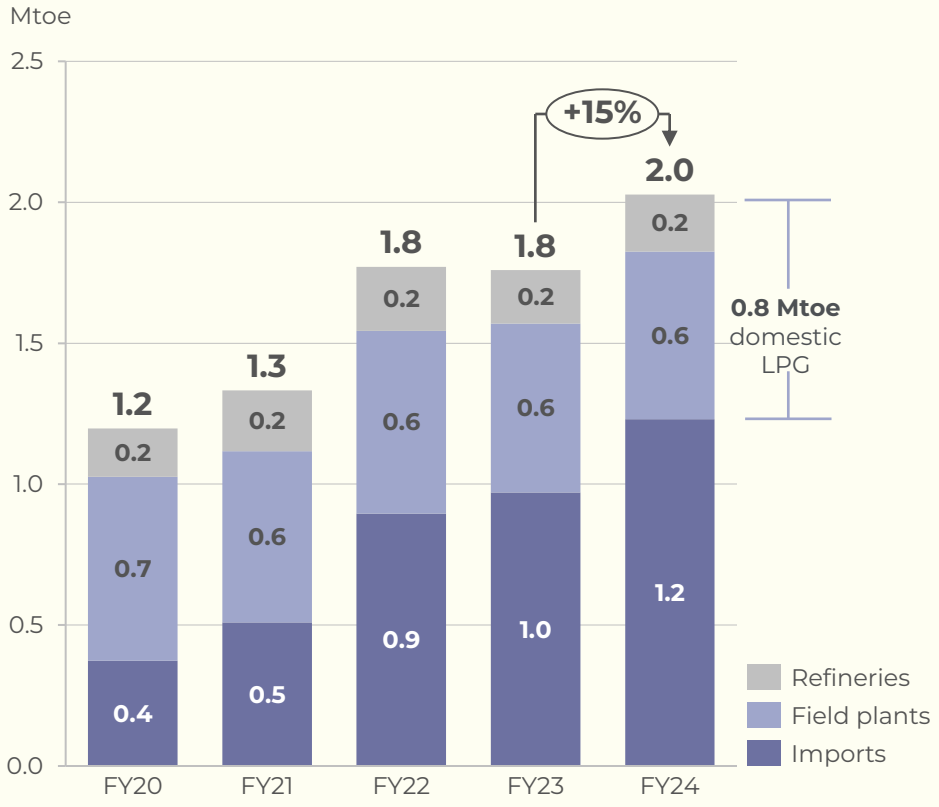
Successive hikes during FY23 and FY24 have raised gas bills, straining urban household budgets where gas remains the main fuel for cooking and heating. The higher tariffs curbed the non-essential use of natural gas and are driving a shift towards solar-powered electric solutions.

For industrial and commercial users, steep tariff hikes raised costs, eroded competitiveness, and reduced capacity utilization. Higher expenses are passed on to consumers, adding to inflationary pressures. Businesses and industries are increasingly turning to solar energy to reduce their business costs and remain competitive in the market.

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

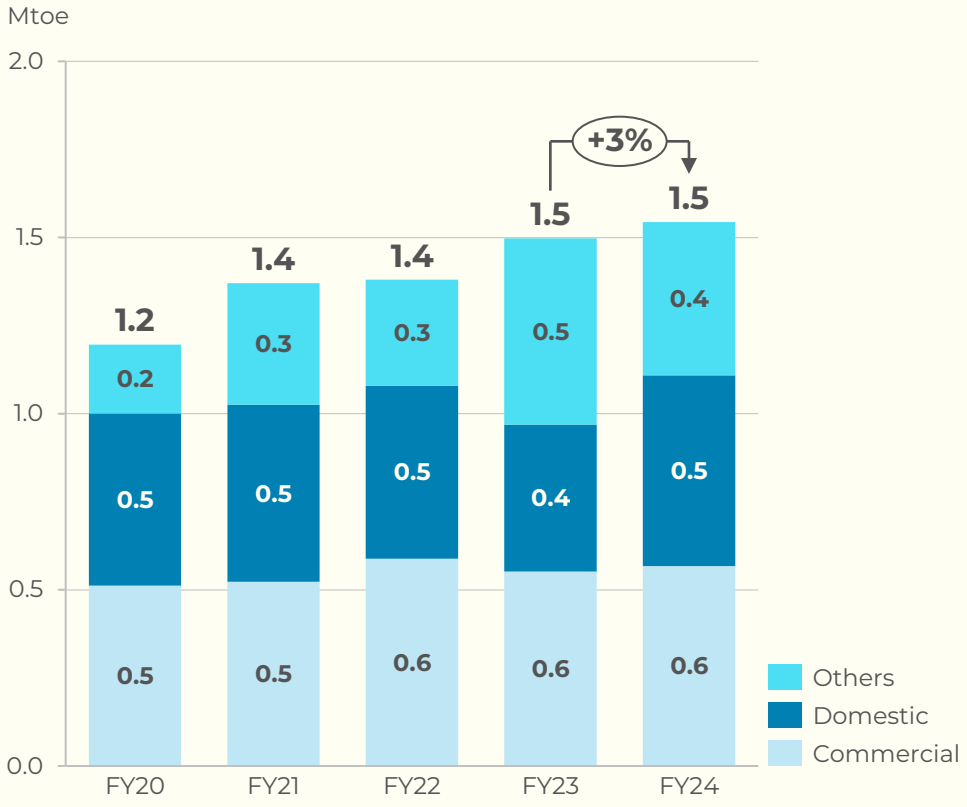
LPG supplies grew 15% YoY in FY24, as shifting demand patterns increased consumption

In FY24, domestic LPG accounted for 39% of supply (0.8 Mtoe), constrained by depleting gas fields and weak refinery output. Imported LPG surged 27% YoY in FY24 driven by lower global prices, higher road inflows, and reduced oil reliance.



Source-wise LPG supplies, FY20 – FY24

In FY24, industrial LPG usage fell 18% YoY due to slower economic activity. On other end, domestic demand rose 30% YoY stemming from local gas shortages. Commercial consumption held steady despite economic pressures.



Sector-wise LPG consumption, FY20 – FY24

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

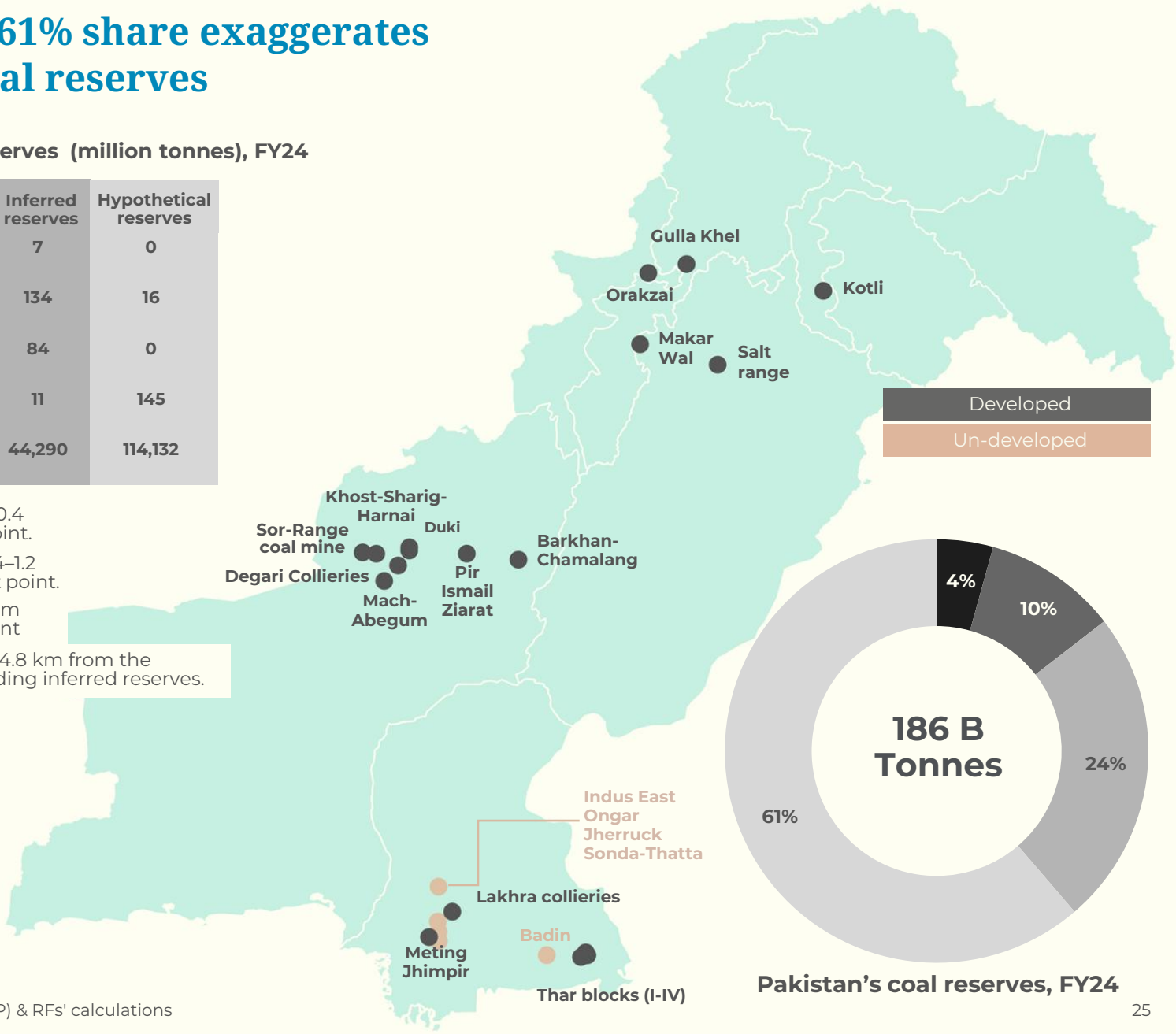
Coal downshift

Thar's unverified 61% share exaggerates Pakistan's total coal reserves

Province-wise type of coal reserves (million tonnes), FY24

	Measured reserves	Indicated reserves	Inferred reserves	Hypothetical reserves
Azad Jummu & Kashmir	1	1	7	0
Balochistan	54	13	134	16
KPK	2	5	84	0
Punjab	55	24	11	145
Sindh	7,664	19,370	44,290	114,132

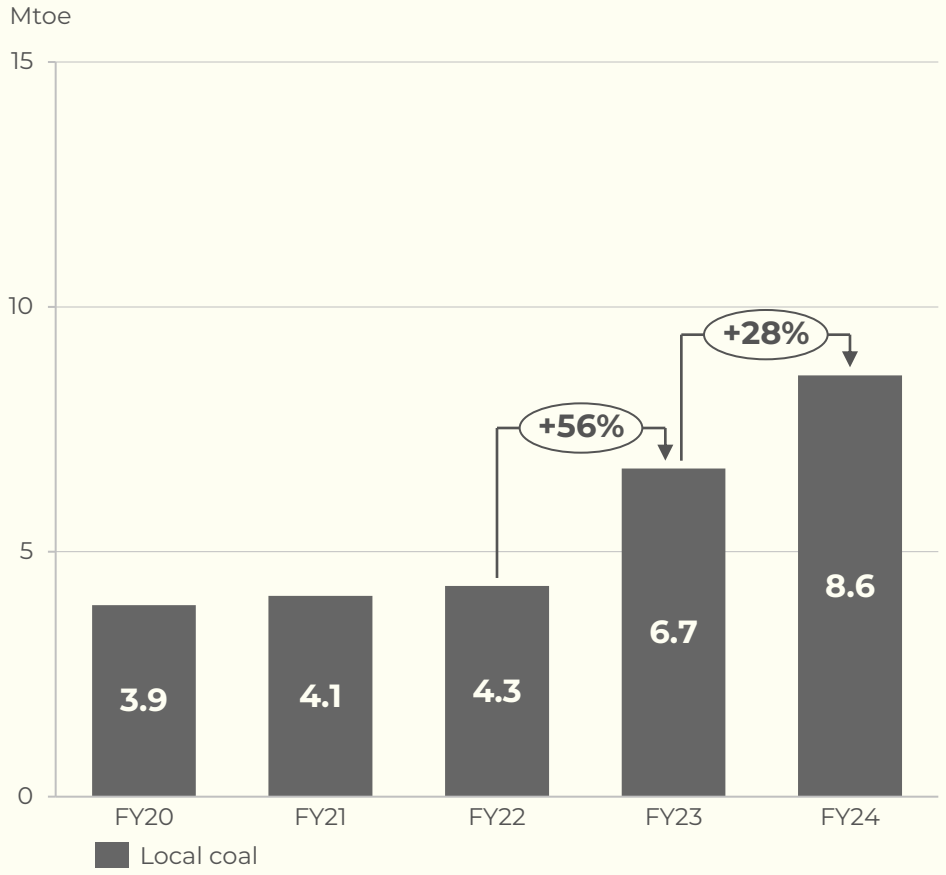
- High certainty, coal within 0.4 km of the measurement point.
- Moderate certainty, coal 0.4–1.2 km from the measurement point.
- Low certainty, coal 1.2–4.8 km from the measurement point
- Undiscovered coal beyond 4.8 km from the measurement point, extending inferred reserves.



Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

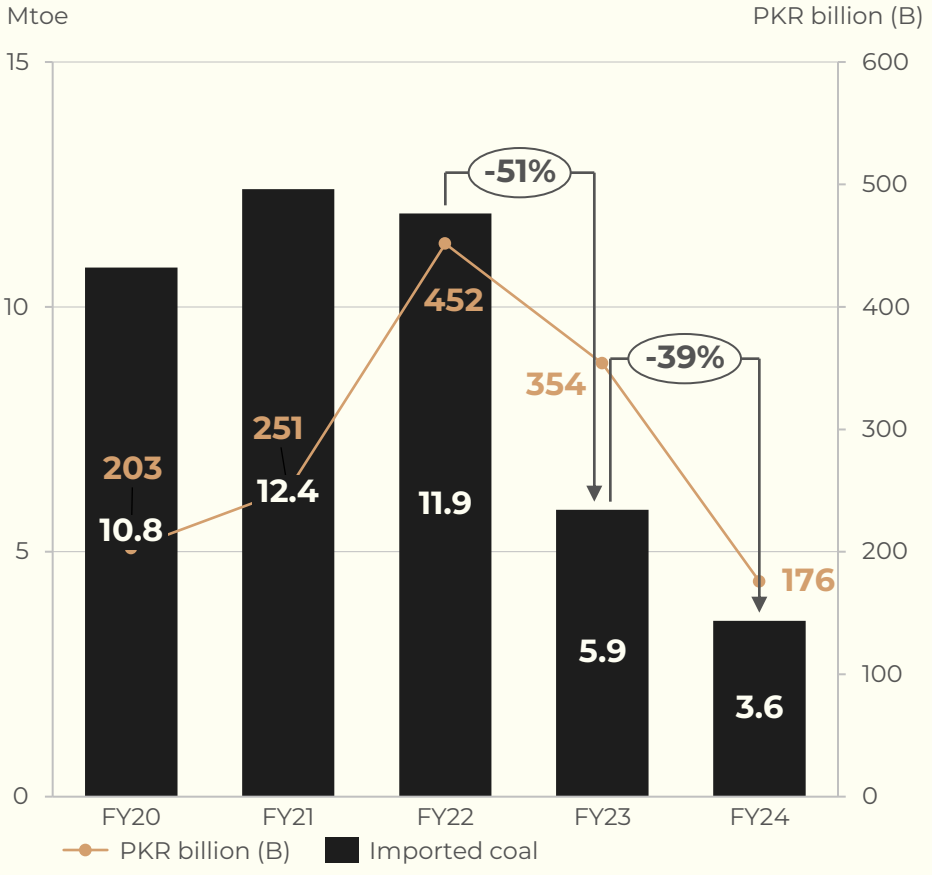
Domestic coal replaced imported coal in FY24 with coal imports down 39% YoY

Domestic coal production rose in FY23, driven by the commissioning of three new thar based coal power plants [Thar Block-1 (1,320 MW), Thar Energy (330 MW) and Thal Nova power plant(330 MW)] and stayed elevated to meet their full year demand in FY24.



Pakistan's local coal production, FY20 - FY24

Coal imports fell significantly from FY22 to FY24 due to surging global prices, a shift to Thar-based supply, and weaker demand from imported coal-fired plants. Despite reduced volumes, rupee depreciation kept the import bill high, highlighting the sector's forex exposure.

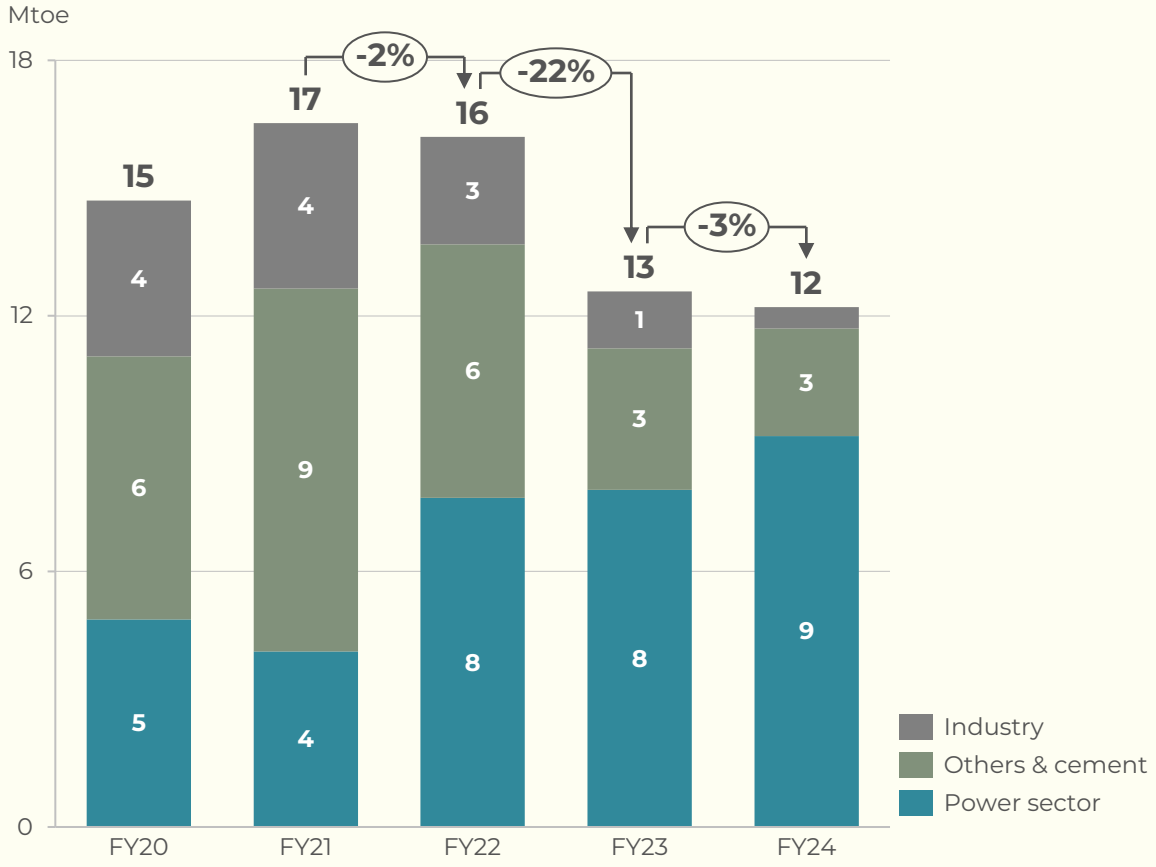


Pakistan's coal imports, FY20 - FY24

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Coal consumption continues to contract for three consecutive years, down 3% YoY in FY24

Over the years, coal consumption has declined due to reduced reliance on costly imports and a shift towards alternative energy sources.



Sector-wise coal consumption, FY20 - FY24

In FY24, **industrial** coal consumption fell 64% YoY, driven by lower production, high imported coal prices, limited use of local coal due to quality and supply issues, and a significant shift toward more cost-competitive and cleaner energy sources such as solar.

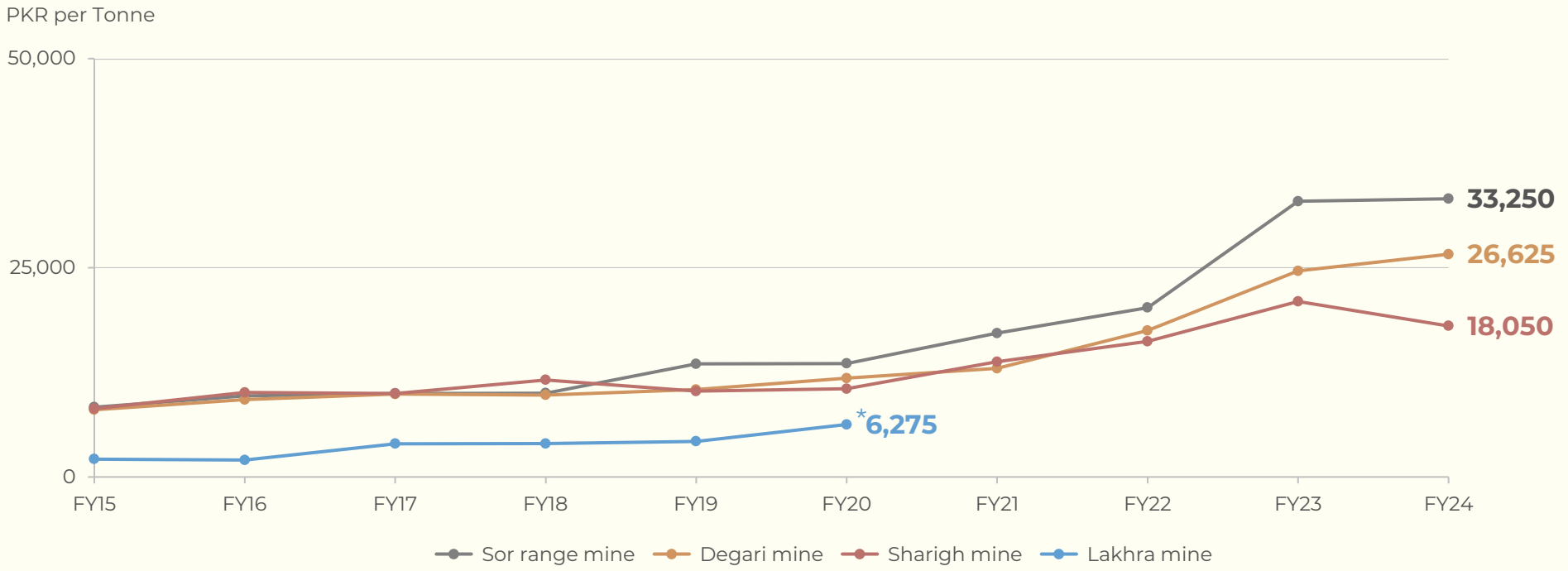
Coal consumption in the **cement sector** has declined for the three consecutive years, falling from 58% in FY22 to FY24, driven by solar adoption across the sector.

In FY24, the **power sector** accounted for 75% of total the coal consumption, driven by higher dispatch from domestic coal-based plants.

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations

Coal prices in the local market are driven by coal metallurgical properties and grade variations

Sore Range and Degari mines produce hvBb-grade coking coal with high carbon, low sulfur and ash, and lower emissions, making it ideal for steel making and heavy industry thus keeping prices high. In contrast, Sharigh's lower-grade SubB–hvAb coal has lower carbon but have higher sulfur, ash, moisture, and associated emissions, limiting its use to power generation and low-temperature processes and resulting in a lower market value.



Coal ranks:

hvAb: High volatile A bituminous coal. **hvBb**: High volatile B bituminous coal. **hvCb**: High volatile C bituminous coal.

Mine-wise sale price of local coal, FY15 - FY24

*Note: The Lakhra coal mining lease held by Pakistan Mineral Development Corporation (PMDC) wasn't renewed in 2017, and the Sindh High Court later upheld this decision in 2019

Data source: Energy yearbook 2024 (HDIP) & RFs' calculations


Key
Insights

From port to pipeline: Inside Pakistan’s LNG supply chain

A glance at Pakistan's LNG import chain from importers to distributors

The country's LNG supply chain begins at Port Qasim, where two terminals, Engro Elengy and Pakistan GasPort, handle imported LNG volumes. Pakistan State Oil (PSO) manages procurement under long term contracts, while Pakistan LNG Limited (PLL) secures supplies through spot purchases. After arrival, the LNG is regasified and fed into the national gas transmission network, operated by SSGC and SNGPL. This system enables distribution to key sectors, including power generation, fertilizer production, and industrial consumers.

1 LNG importers

Importer	Supply type
PSO	Long-term, G2G
PLL	Short-term & spot purchases

2 Pakistan LNG regassification terminals

Terminal	Location	License date	Status	Processing capacity (MMCFD)	Terminal Tariff (USD per MMBTU)	Project type	FSRU storage capacity
Engro Elengy Terminal Limited (EETL)	Port Qasim, Karachi	Mar-16	Operational	690	0.479	Unbundled	150,900 m^3
Pakistan GasPort Consortium Limiited (PGPCL)	Port Qasim, Karachi	Apr-18	Operational	750	0.4117	Unbundled	170,000 m^3

3

Unbundled LNG contracts are agreements in which the supply, shipping, and regasification components of LNG procurement are separated and contracted independently, allowing greater flexibility and cost optimization compared to traditional bundled arrangements.

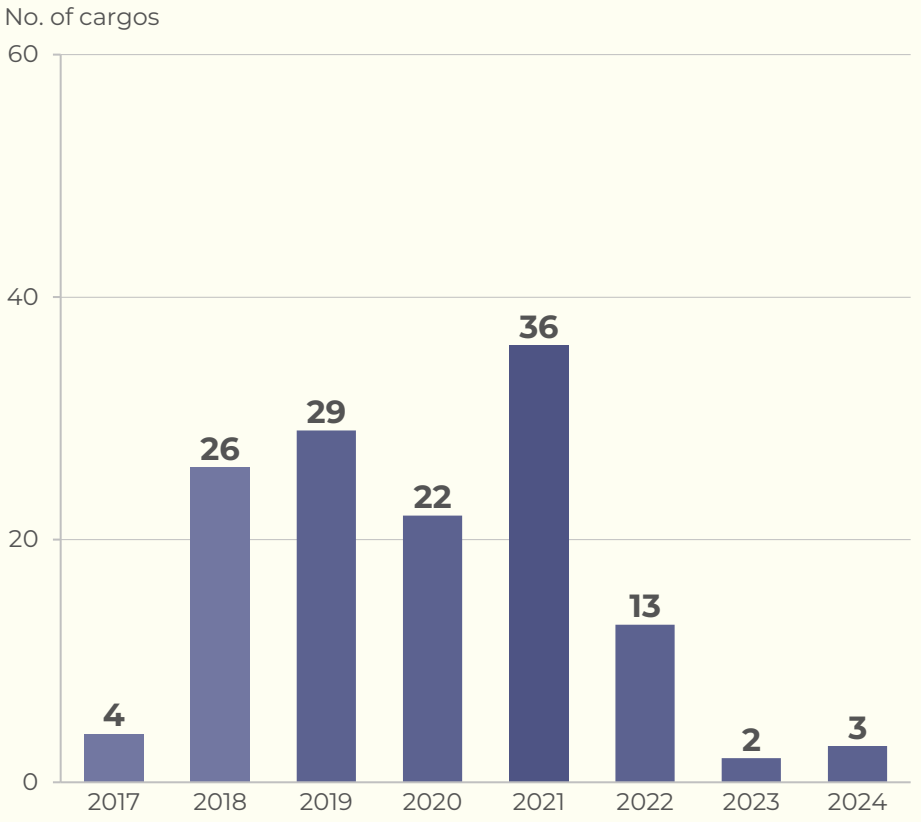
Data source: OGRA's annual reports & RFs' calculations

Pakistan adopted long-term LNG contracts in 2015 to address fuel shortages and recurring supply gaps amid rising energy demand

During 2015–2016, rising energy demand, electricity shortages, and a rapidly expanding economy prompted Pakistan to secure long-term RLNG contracts as an immediate solution. To meet urgent short-term needs, the country also relied on spot purchases from the open market, but these deals exposed Pakistan to high-cost, dollar-pegged energy, driving up the overall expense of the energy mix.

	Contract Name	Duration	Volume (MTPA)	Cargoes per month	Pricing (Brent %)	Contract Type	Status
Long term contracts	PSO-QatarGas / Qatar Energy(SPA-1)	15 Years (2016-2031)	3.75	5	13.37%	G2G, Take-or-pay	**Active**
	PLL-ENI (ITALY)	15 Years (2017-2032)	0.75	1	12.05%	Competitive bid, Take-or-pay	**Active**
	PSO-Qatar (SPA-2)	10 Years (2022-2031)	3	Jul22-Dec23: 3 | Jan24+: 4	10.20%	G2G, Take-or-pay	**Active**
Medium term contracts	PSO-Gunvor Switzerland	5 Years (2015-2020)	0.75	1	13.75%	Take or pay	**Expired**
	PLL-Gunvor Switzerland	5 years (2017-2022)	0.75	1	11.62%	Take or pay	**Expired**
Short-term / Flexible Contracts	PLL-SOCAR (Azerbaijan)	5 years (2023-2028)	upto 0.75	upto 12	Spot based discount	G2G framework, No Take-or-pay	**Active**

Pakistan LNG supply contracts, 2016 - 2023

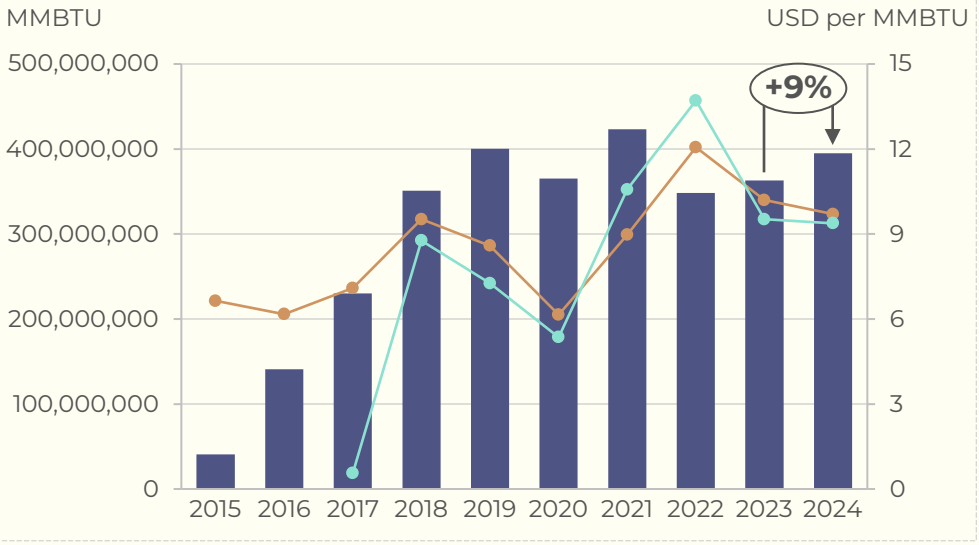


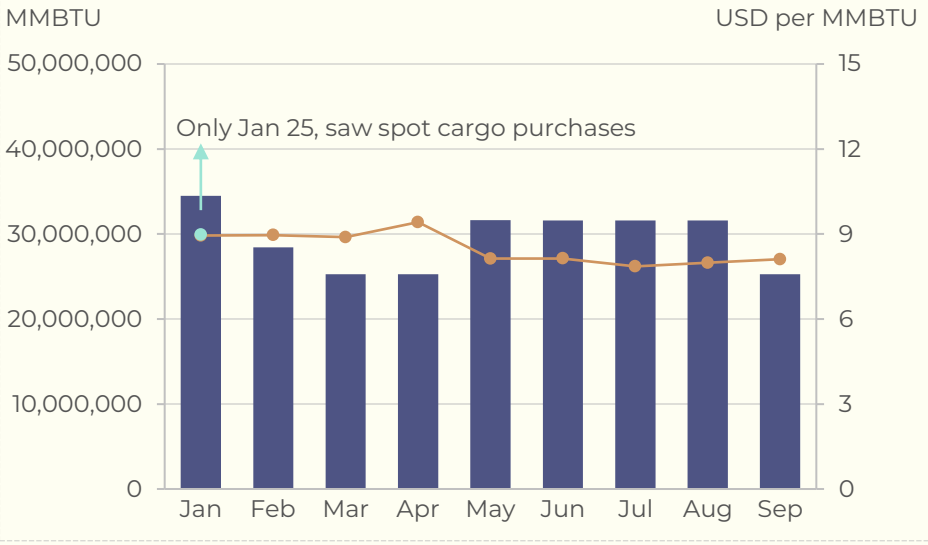
Spot purchases by PLL, 2017 - 2024

Data source: OGRA's annual reports, PLL & RFs' calculations

Pakistan's Brent-indexed LNG contracts have made the country's energy imports increasingly vulnerable to global price shocks

Pakistan's reliance on Brent-indexed LNG contracts has amplified its exposure to global oil price swings. The resulting spikes in delivered ex-ship (DES) prices, which represent the cost of LNG upon arrival at port including freight have intensified fiscal pressures and inflated overall energy import costs.





Avg. DES rate PSO | Avg. DES rate PLL | Import volume

Avg brent rate USD per barrel	52	44	54	71	64	42	71	101	82	81
No of cargos	10	44	73	121	122	120	121	117	113	125

LNG import volumes and brent-indexed DES rates, 2015 – 2024

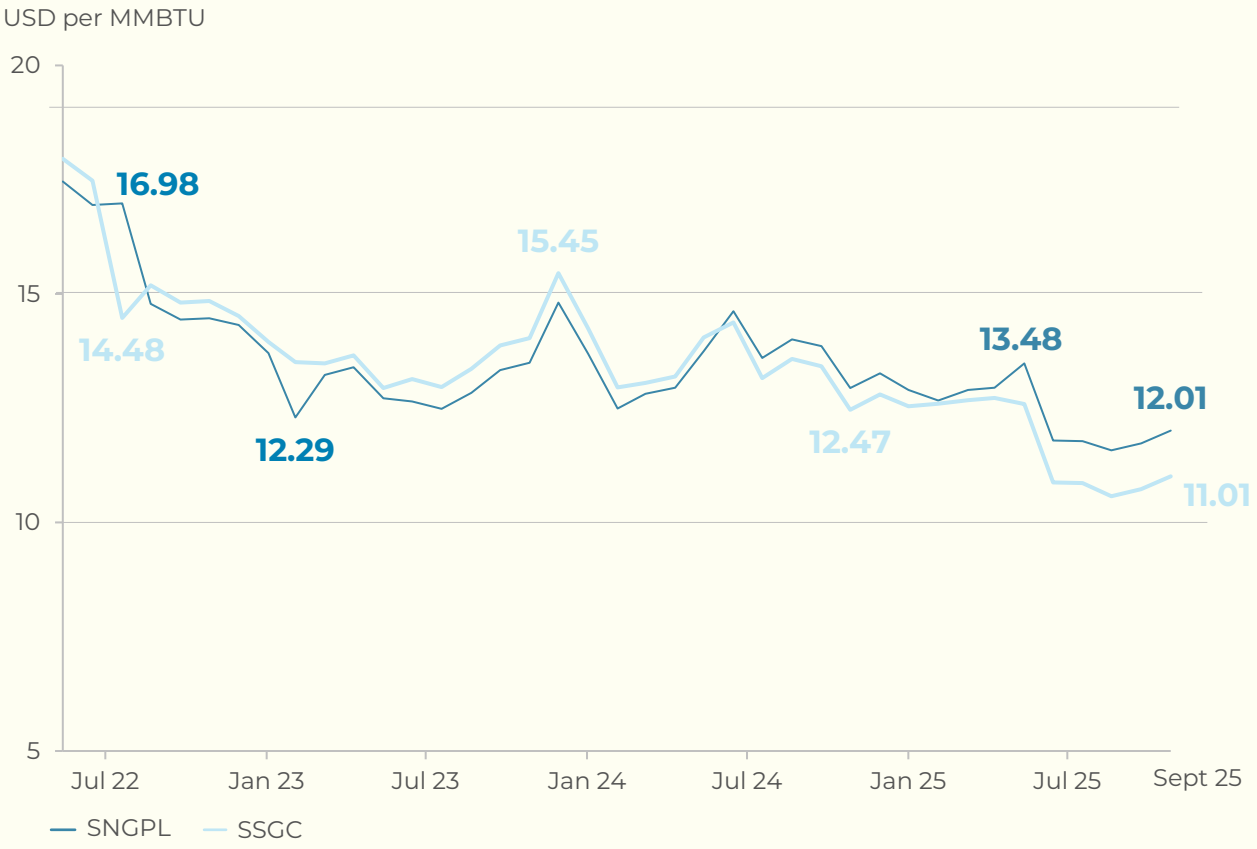
79	75	73	68	64	71	71	68	68
11	9	8	8	10	10	10	10	8

Monthly LNG import volume and brent-indexed DES rates : 2025 (Jan-Sept)

Data source: OGRA's RLNG price notifications & RFs' calculations

To avert contractual defaults, Pakistan diverts imported LNG to households amid mounting surpluses

Pakistan's rigid LNG import obligations have outpaced shrinking demand, leaving about 28 Qatar cargoes unused each year, a surplus projected to reach 177 cargoes by 2030. This growing imbalance is straining the gas system and forcing difficult allocation choices.



LNG average distribution rate, Jul 22 - Sept 25

Data source: OGRA's RLNG price notifications & RFs' calculations

Pakistan is bound to import 120 LNG cargoes annually, 108 from Qatar and 12 from Italy's ENI, under take-or-pay contracts originally designed for the power, fertilizer, and industrial sectors. As RLNG demand in these segments' weaken, excess volumes have built up, pushing line-pack pressure above 5.1 bcf and threatening transmission network.

Meanwhile, declining indigenous gas production has tightened supply for domestic consumers. To maintain household supply and manage surplus RLNG, the gas is now being routed to domestic users via SNGPL and SSGC at OGRA-notified distribution rates of $12.01 and $11.01 per MMBTU for Sept 2025 (approx. PKR 3,300 per MMBTU).

RLNG is billed under a uniform tariff structure, applying a single rate instead of the tiered slabs used for conventional domestic gas consumers. This approach often results in higher costs and reduced affordability for low-consumption users.

Compared to indigenous gas, RLNG remains significantly more expensive. The resulting price disparity not only inflates household energy bills but also deepens the subsidy burden on an already strained energy economy, adding fiscal pressures that undermine the sustainability of the sector's pricing framework.

Gas circular debt in Pakistan

Subsidized natural gas prices have driven Pakistan's gas sector circular debt

1
Domestic gas companies face late payments (OGDCL, PPL etc.)
Declining domestic gas production
LNG importers face revenue shortfalls (PSO, PLL)
Take-or-pay obligations under LNG contracts
Rising LNG imports
Global LNG market volatility

2
The revenue shortfall begins at SNGPL & SSGC
By Mar 25 circular debt breakdown: SNGPL : **PKR 1.8 T** SSGC : **PKR 1.3 T**
Gas theft
System inefficiencies
Unaccounted-for gas (UFG) losses

3
Why gas consumers pay subsidized rates
10.85 million natural gas consumers in the country
Political pressures Domestic gas consumers can't bear high charges

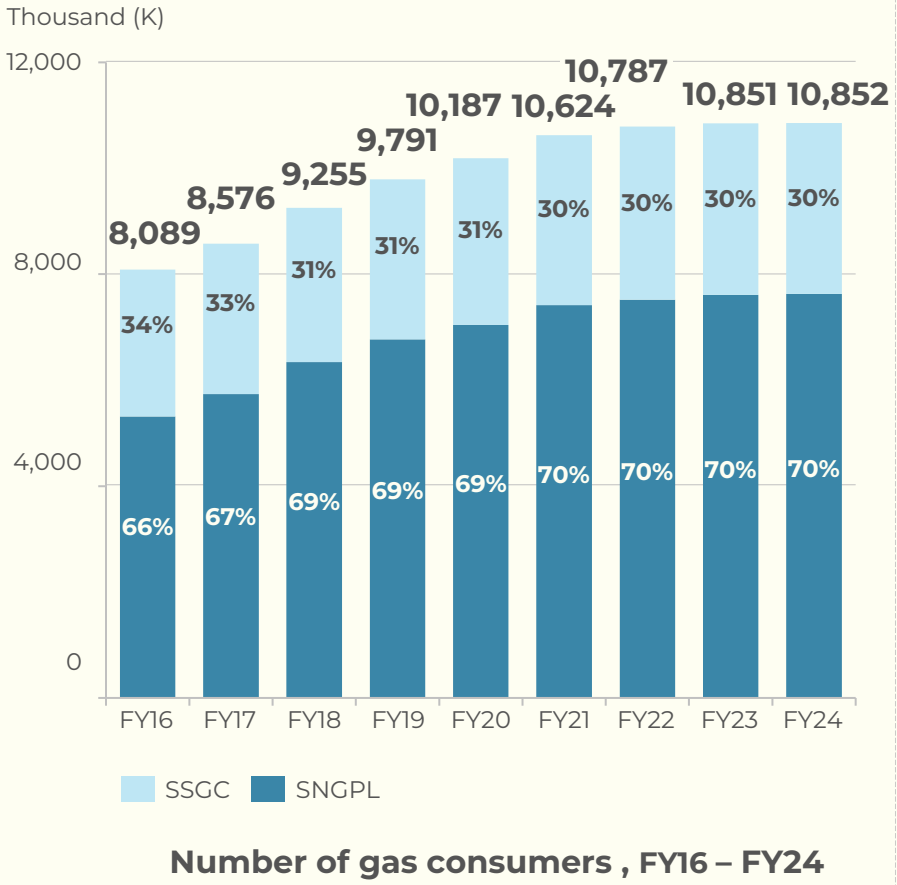
4
Unrealistic gas tariffs amid political pressures and delayed subsidies
Years of unadjusted natural gas tariffs
Cross-subsidies
WACOG (Weighted Average Cost of Gas)
Absence of automatic price adjustment mechanisms

5
Debt accumulates across the chain
By Mar 25 circular debt stood at **PKR 3.2 B**
Foreign exchange shortages
Exchange rate depreciation
Inflation

Data source: OGRA's annual reports & RFs' calculations

SNGPL serves 70% of Pakistan's natural gas consumers and bears 60% of sector debt, totalling PKR 1.8T by Mar25

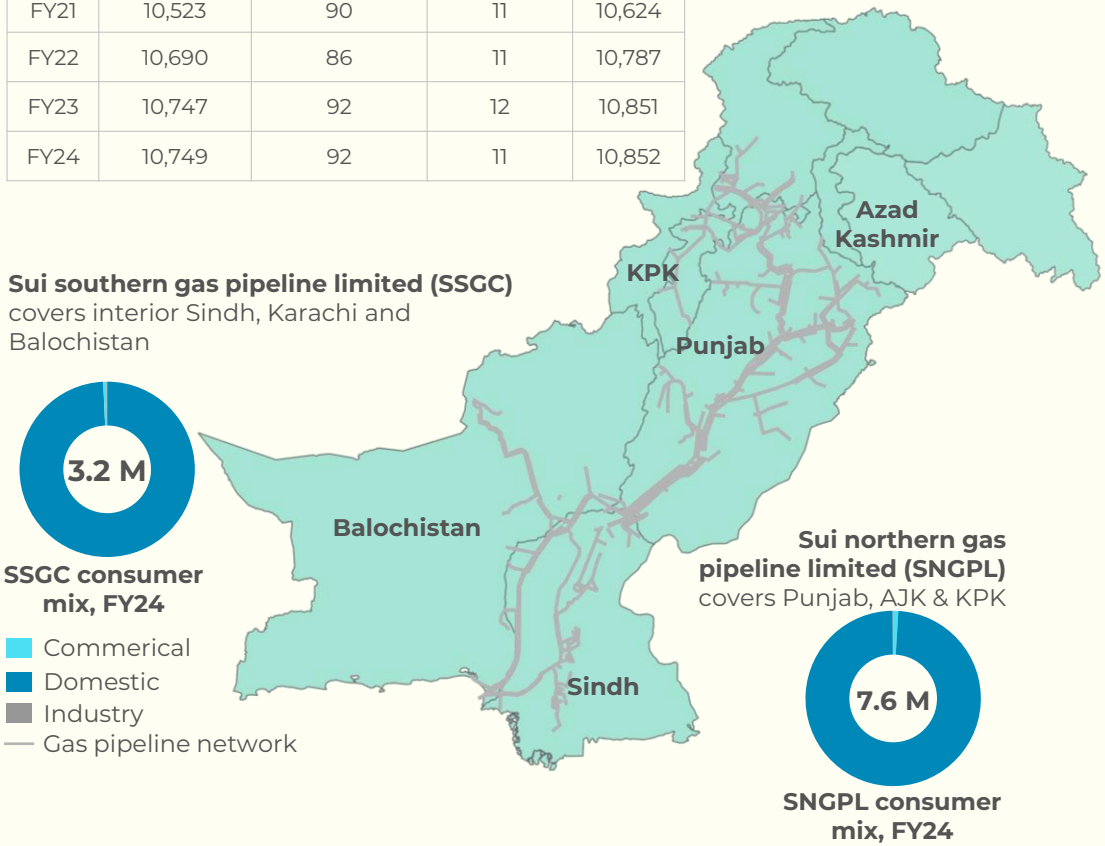
In FY24, domestic consumers dominated SNGPL's portfolio, accounting for 99% of its 7.6 M customers, reinforcing the utility's heavy dependence on household demand. SSGC's domestic base declined by 1.3% between FY22 and FY24, signalling stagnation in the southern region's connections. Overall, industrial consumers dropped to 11,000 in FY24, a 4% YoY drop that highlights weakening industrial gas uptake.



Number of gas consumers , FY16 – FY24

Sector-wise number of gas consumers, FY21 - FY24

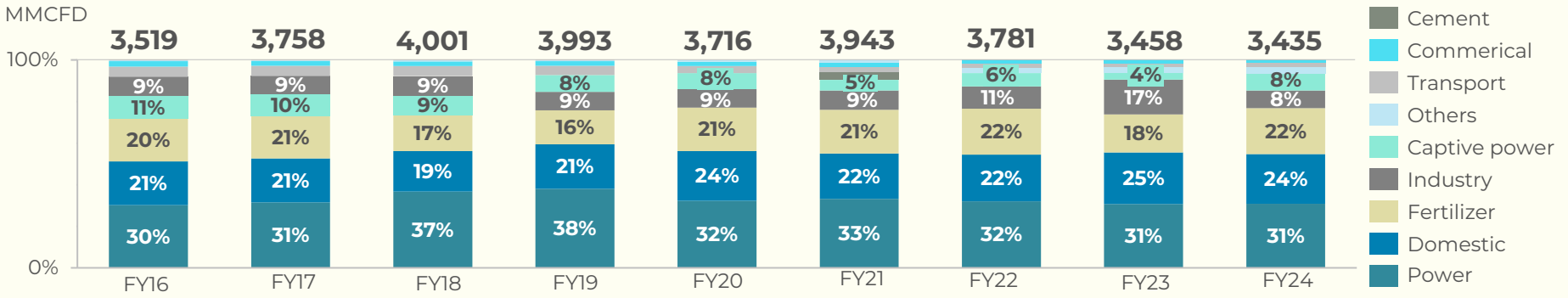
	Domestic	Commercial	Industrial	Total
FY21	10,523	90	11	10,624
FY22	10,690	86	11	10,787
FY23	10,747	92	12	10,851
FY24	10,749	92	11	10,852



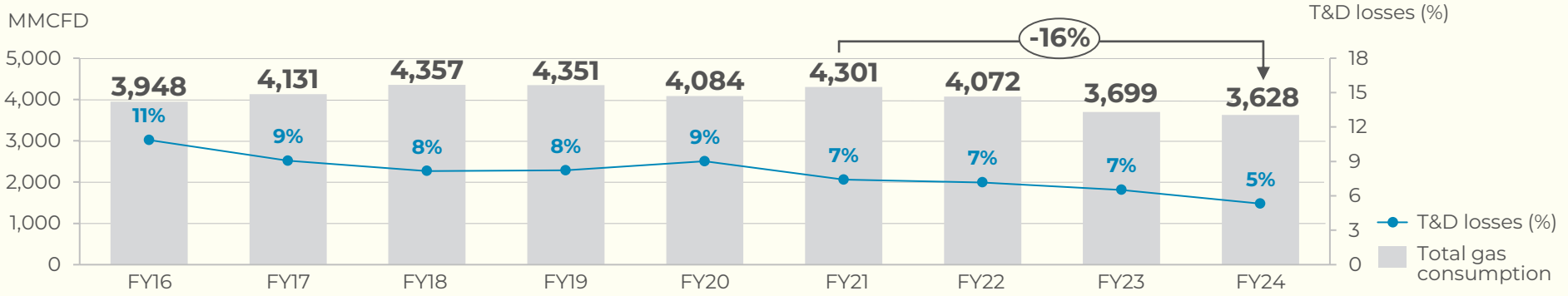
Data source: OGRA's annual reports & RFs' calculations

Industrial and captive users cut collective natural gas consumption by 18% in FY24, reflecting a slowing economy and a shift towards cleaner sources

Power, domestic, and fertilizer sectors-maintained consumption in FY24, while industrial and captive users cut collective natural gas use due to higher fuel costs and a gradual shift toward alternative energy. Meanwhile, T&D losses fell to 5%, supported by network efficiency measures, advanced metering, and stricter loss-control initiatives.



Sector-wise natural gas consumption, FY16 – FY24



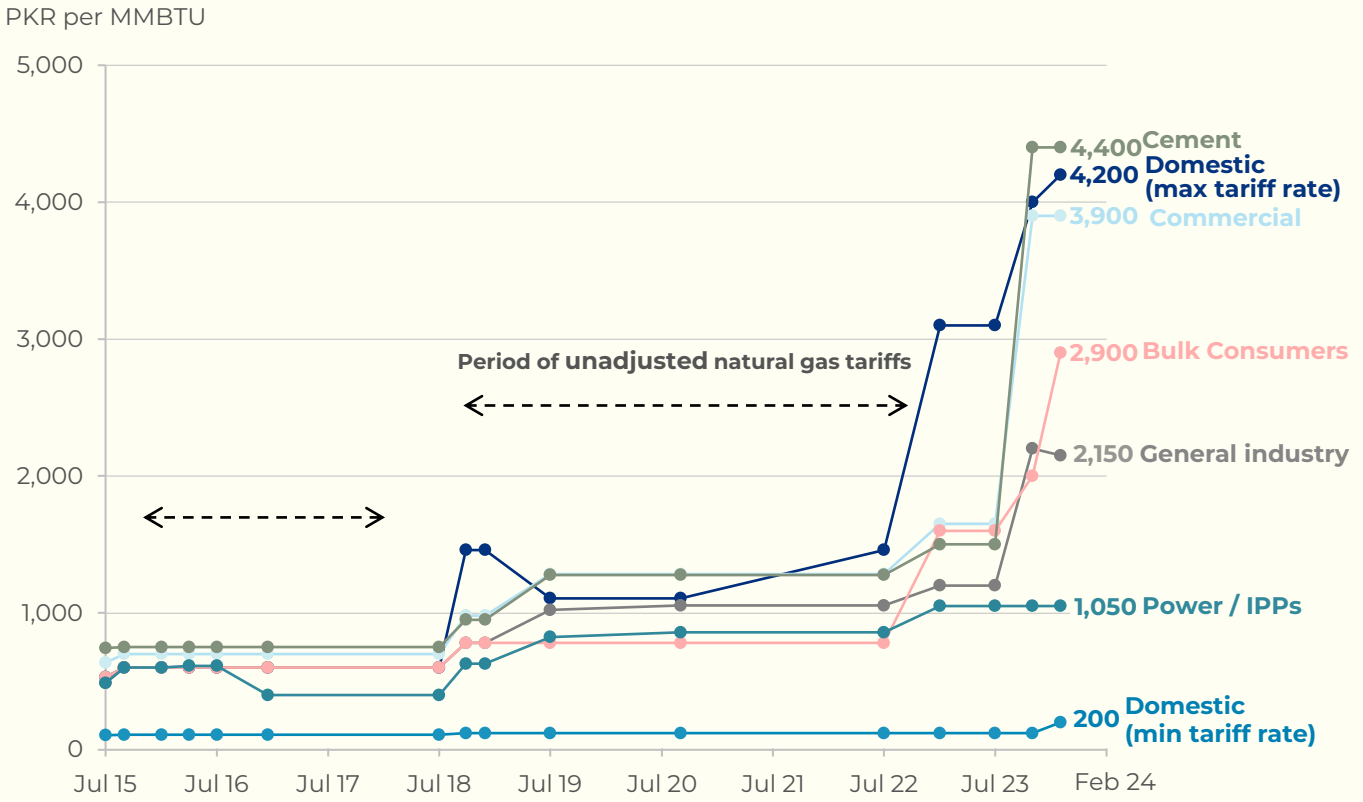
Nationwide natural gas consumption and T&D losses, FY16 – FY24

Note: Consumption include SNGPL, SSGC, captive power and independent system numbers.

Data source: OGRA's annual reports & RFs' calculations

Years of unadjusted natural gas tariffs left the sector burdened with persistent revenue losses and rising circular debt pressures

Gas prices have remained artificially low for years to keep energy affordable, even as production, supply, and import costs have risen steadily. This imbalance has widened revenue gaps and burdened gas utilities with persistent losses, adding to the circular debt cycle.



Monthly gas charges across different consumer categories, Jul 15 – Feb 24

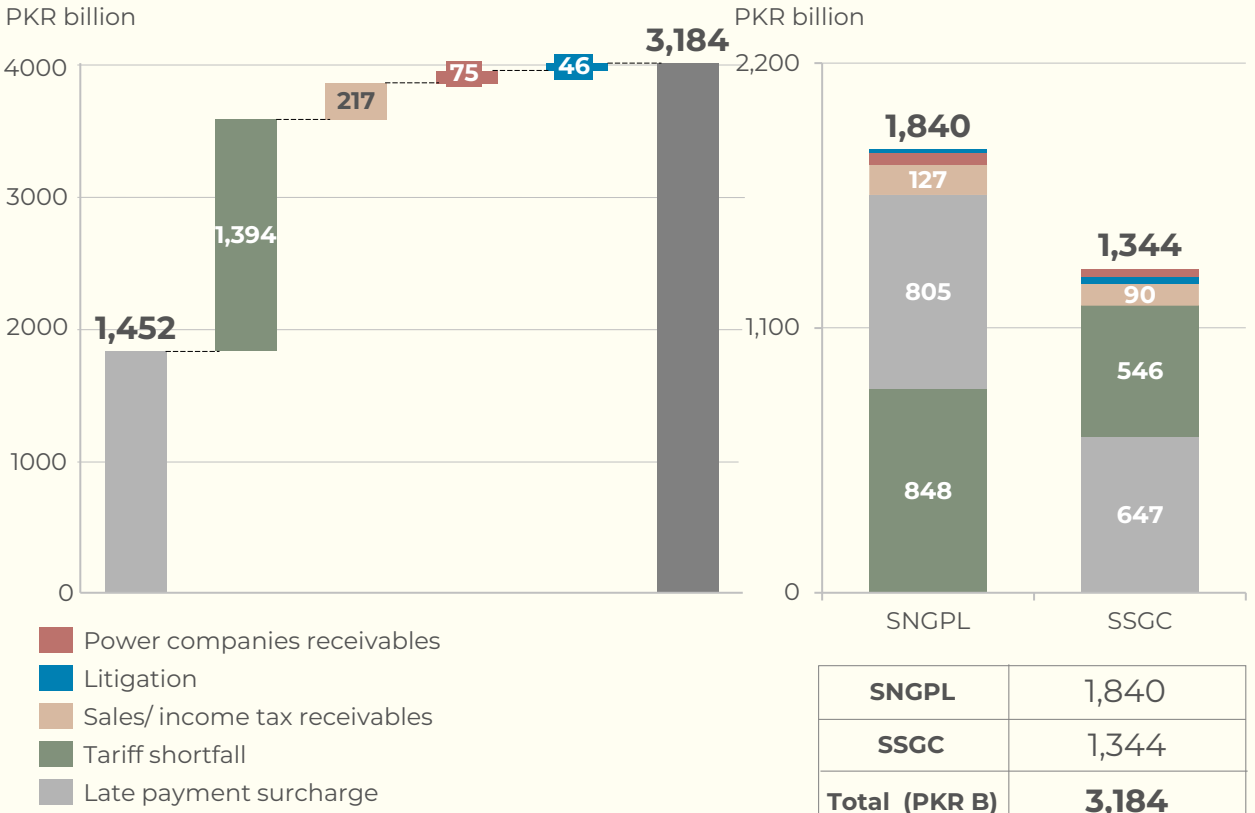
Domestic consumers, the largest consumer base, benefited from frozen tariffs for extended periods, creating substantial underpricing. Although recent tariff reforms have raised rates, but they remain far below actual supply costs, requiring cross-subsidization. Combined with delayed government subsidy reimbursements, these structural pricing gaps force gas utilities to absorb substantial losses, fueling Pakistan's escalating gas sector circular debt.

The power sector contributes to gas circular debt significantly due to delayed or insufficient payments for gas and LNG suppliers Industrial consumers sometimes benefit from subsidized rates or deferred payments.

Data source: OGRA's annual reports & RFs' calculations

Pakistan gas circular debt surges to PKR 3.2 T by Mar 25, fueled by tariff deficits and payment delays

Structural imbalances in Pakistan's gas sector, including cost-revenue misalignments and delayed financial settlements, have allowed circular debt to build steadily. Rising LNG import costs and operational inefficiencies intensified these pressures, leading to substantial liabilities.



SNGPL	1,840
SSGC	1,344
Total (PKR B)	**3,184**

Breakdown of gas circular debt components, Mar 25

Gas tariffs remain below supply costs, preventing SNGPL and SSGC from fully recovering expenses and widening the revenue–cost gap across the gas value chain. By Mar 25, the cumulative shortfall reached PKR 3,184 billion, driven by under-recovery and delayed subsidies, straining cash flows, generating unpaid dues, and perpetuating circular debt in the sector.

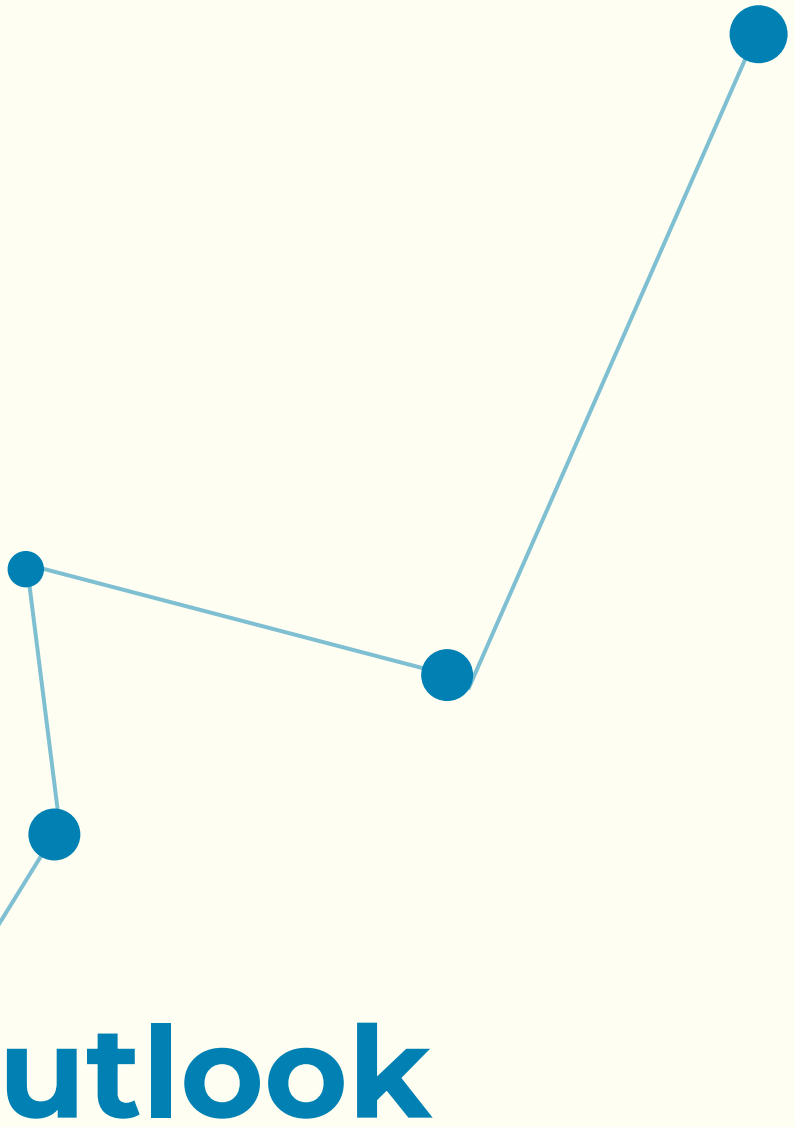
Delayed payments from power sector entities, especially for expensive RLNG supplies, exacerbate cash shortfalls for SNGPL and SSGC.

Late payment surcharges are intended to cover additional costs, but delays in their notification and collection create further cash-flow pressures. Administrative delays and billing inefficiencies limit SNGPL's and SSGC's ability to pay upstream suppliers and LNG importers, thereby exacerbating circular debt.

SNGPL and SSGC collect sales tax and other levies from consumers, which must be paid to the government. Delays in collection and payment further contribute to the growing circular debt.

Data source: OGRA's annual reports & RFs' calculations

Outlook



Expanding **RLNG** access to households will raise costs for consumers and strain utility cashflows.

Persistent **circular debt** continues to constrain liquidity across gas and power. Short-term measures offer relief, but structural reforms are essential for financial sustainability.

Declining **crude oil** and natural gas reserves reinforce import dependence and price vulnerability,

Deferred **LNG** cargoes offer temporary demand alignment, although long-term contractual obligations are a huge drag on our scarce forex reserves.

Primary energy consumption remains subdued due to affordability challenges in FY24, particularly in industry and agriculture sectors.

Growing rooftop and **distributed solar** capacity is steadily offsetting grid demand. Scaling up distributed solar can significantly increase the share of clean energy in Pakistan's power mix in the years ahead.

2P	Proved and probable
AJK	Azad Jammu and Kashmir
Avg	Average
B	Billion
Bcf	Billion cubic feet
BPD	Barrels per day
BTU	British thermal unit
CNG	Compressed natural gas
COD	Commercial operation date
COVID	Coronavirus disease 2019
DES	Delivered ex-ship
EETL	Engro Elengy terminal limited
EJ	Exajoules
ENI	Ente Nazionale Idrocarburi (Italian multinational oil and gas company)
FO	Furnace oil
FSRU	Floating storage regasification Unit
FY	Fiscal year
Govt.	Government
G2G	Government-to-government
GTPs	Gas turbine power stations
Hm^3	Hundred million cubic meters
HOBC	High octane blending component
HSD	High speed diesel
IPPs	Independent power producers
K	Thousand
KPK	Khyber Pakhtunkhwa
LDO	Light diesel oil
LSM	Large scale manufacturing
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
M	Million
M^3	Cubic meters
MMbbl	Million US barrels
MMBTU	Metric million British thermal units
MMcf	Million cubic feet
MMCFD	Million cubic feet per day
MT	Metric ton
Mtoe	Million tonnes of oil equivalent
MW	Megawatt
PGPCL	Pakistan GasPort consortium limited
PKR	Pakistani rupee
PLL	Pakistan LNG limited
PSO	Pakistan state oil
QIT link	Qasim international terminal link (Gas pipeline interconnection between SSGC and SNGPL)
RF	Renewables First
RLNG	Regasified liquefied natural gas
SNGPL	Sui northern gas pipelines limited
SOCAR	State oil company of the Azerbaijan Republic
SPA	Sales and purchase agreement
SSGC	Sui southern gas company limited
T&D	Transmission and distribution
Tcf	Trillion cubic feet
UFG	Unaccounted for gas
USD	United States dollar
WACOG	Weighted average cost of gas
WAPDA	Water and power development authority
YoY	Year-on-year

Abbreviations

Renewables First (RF) is a think and do tank for energy and environment. Our work addresses critical energy and natural resource issues with the aim to make energy and climate transitions fair and inclusive.

Disclaimer:
All the information and analysis provided in this document are accurate and to the best of our knowledge and understanding. In case you identify any errors, please email:
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