



CHALLENGES AND REFORMS IN PAKISTAN'S GAS SECTOR

Afia Malik

While Pakistan was struggling with a power sector deficit (circular debt), a gas sector deficit emerged in 2016. Within a few years, the gas sector arrears have become comparable to the power sector deficit, estimated to be around Rs 1.6 trillion.

The emergence of circular debt (CD) in the gas sector can be attributed to cost and price differential. Since 2015, the government has been importing LNG due to the continuous depletion of indigenous gas resources. It has increased costs. Delays in tariff revision (consumer prices remained almost flat from 2015 to 2018) contributed to the emergence of this debt. High operational losses, mainly from unaccounted-for-gas (UFG) and collection shortfalls, uncovered subsidies for export and zero-rated industries, further worsens the sector's financials.

In response, the government raised tariffs (on average of 75%) in February 2023 and injected money to clear the debt. The government has implemented a new strategy, advised by the World Bank, to distinguish between protected and unprotected consumers. The raise is for unprotected categories. However, the approach has yet to prove effective as the deficit continues to increase, as households with multiple or tampered meters may be classified as protected consumers.

The most critical factor in increasing utility revenues is consistent payment from customers. However, allocating resources wisely when they are scarce is also crucial. In the early years, the authorities became complacent with the sustained growth in gas production and ended up encouraging consumption by providing

connections without assessing its economic viability. Gas consumption increased from 2.6 billion cubic meters (BCM) in 1971 to 45 BCM in 2021. Despite declining indigenous gas production, consumption increased by 94 % in the last two decades.

Over the years, the demand has been artificially inflated because of gas allocation and tariff policies. For instance, in FY2006, despite the projected gap between gas demand and supply, the government incentivised using CNG as a gasoline substitute by keeping its price significantly lower. Additionally, the tariff methodology allowed residential and fertiliser consumers to pay a price much below the actual cost, promoting inefficient use. On the other hand, other consumer categories were charged a price higher than the actual cost.

Pakistan is ranked in the top 10 countries providing subsidies. In 2019, their subsidy was equivalent to gas-exporting countries, totaling around USD 1.75 billion. In contrast, India and Bangladesh provided USD 873 million and USD 824 million in subsidies, respectively.

Sui Northern Gas Pipeline Limited (SNGPL) and Sui Southern Gas Pipeline Limited (SSGCL) dominate the gas sector, but mismanagement and political interference affect their performance. No business model exists for these companies, despite private entities owning 40% or more of their shares. UFGs are seven times higher than the world average due to the lack of regulatory mechanisms to link financial returns with operational efficiency; OGRA failed to ensure efficiency benchmarks.

Indigenous gas resources are decreasing, but the two monopolies are still expanding their networks to boost revenues. By creating new connections, the utilities increase their fixed assets, as the companies are promised a market-based return of 16.60% on their net operating fixed assets. Three decades ago, both the Asian Development Bank and World Bank provided loans to develop their infrastructure, with a condition of a guaranteed return on investment. However, this setup is no longer relevant and results in inefficient investments by gas companies.

In 2015, the government, with the technical advice of the WB, decided to import LNG. It was considered an economically viable source of power generation. However, Pakistan has not participated in the LNG market since June 2022. Rising global LNG prices due to the Ukraine crisis and limited foreign exchange reserves have made it challenging to procure LNG. Last year, two major LNG suppliers, ENI and Gunvor, defaulted on their deliveries, causing Pakistan to rely

more heavily on oil for electricity generation. The LNG supply chain remained state dominated.

As Pakistan's domestic gas production began to decrease, there was an opportunity to shift towards sustainable renewable energy swiftly. However, the decision to commission RLNG plants has partially closed that door and has put added pressure on gas demand. The electricity produced by these RLNG plants is currently the costliest (Rs51.42/KWh).

The share of RLNG in total gas consumption is 33%. The power sector consumes 28% of total gas supplies, followed by households, industry, fertiliser, and transport, with a share of 23%, 20%, 14%, and 4%. Rest is consumed in other sectors. The price of imported LNG is considerably higher than that of locally produced gas. During winter, utilities are forced to provide costly LNG to subsidised domestic consumers, leading to even greater cost differences.

To resolve the gas crisis in Pakistan, simply increasing gas tariffs will not be enough. This approach only treats the symptoms and provides temporary relief. The natural gas sector requires deregulation and the implementation of a transparent pricing system. The government should pass on the costs of LNG to all consumers, including households, to prevent a rise in the circular debt. Market-based pricing can also prevent the misuse of gas. A cost-of-service tariff system must be implemented. Subsidies and cross-subsidies must be eliminated to attain financial viability.

Incentivising third-party access for LNG imports and increasing the private sector's involvement in the LNG supply chain can be helpful in smoother procurement and reducing costs through competition, as seen in mature LNG markets like Japan, South Korea, and India. The private sector should be allowed to import from the spot market. Zero-rated industries may be more advantageous to import independently rather than receiving a subsidised tariff. The virtual pipeline is now a tangible option for Pakistan, and if implemented correctly, it could increase competition in the LNG market and decrease dependence on gas companies.

To improve the gas allocation policy, it is essential to eliminate political bias and allocate gas based on economic factors. Despite an increase of 122% in the last two decades, about 78% of households are still not connected to pipeline gas. Instead of supplying gas to the remaining households, providing them with affordable electricity is preferable.

The gas supply cost to households is much higher than the supply cost to the industry or power sector. Therefore, a complete moratorium on further gas expansion

to this sector is required. Most countries provide a single energy source at the domestic and commercial levels. Providing two types of infrastructure is costly and encourages inefficiencies in the supply chain.

In households, gas is mainly used for heating and cooking purposes. In peak winters, 60% of gas is used for space and water heating and 40% for cooking. Gas-based appliances are highly energy intensive. Efficiency level of gas-based geysers is less than 30%. Additionally, only 22% of households pay the actual cost, as most slabs are cross-subsidised.

Both cooking and heating can be done using energy-efficient electric appliances. Pakistan has enough electricity capacity. According to the NEPRA tariff determinations, the capacity payments burden has risen from Rs 1.25 trillion to Rs 1.95 trillion in one year because of its limited use. In FY2022, 54% of the capacity remained unutilised due to the non-availability of LNG and other reasons.

Additionally, there is a difference of 8000MW to 13000MW between summer and winter electricity demand. The demand for gas also varies by about 1000 MMCFD in the opposite direction during these seasons. Switching from gas to electricity for heating and cooking can significantly reduce natural gas usage. The spare indigenous gas resources can be used for electricity generation, utilising up to 7294 MW of RLNG and gas-based plants.

According to an estimate by the Ministry of Planning, Development and Special Initiatives report, the substitution of only heating demand can generate 5,042 GWh of power, providing consumers with cost-effective electricity. Using local gas in an efficient gas/RLNG power plant can generate power for as low as Rs. 13.02/kWh. This will decrease the overall cost of electricity generation, notably for everyone, including households, and can also reduce the subsidy burden. RLNG plants in FY2024 currently require capacity payments of Rs. 185 billion, regardless of electricity production. Utilising energy from these plants can mitigate capacity payment effects.

Pakistan's dependence on imported fuels stems from supporting the costly LNG policy. Our gas prioritisation policies failed to reflect this cost, leading to a subsidy burden and circular debt. Transitioning to renewable energy sources such as solar, wind, and biogas can ensure sustainable and affordable supplies for consumers, especially those disconnected from the national grid.

Restructuring of gas utilities is required to improve their operational and managerial efficiency. For successful reform, gas companies need commercially oriented operations, professional expertise, political will not interference, and accountability. Privatisation is not, in fact, necessary.

The author is a Senior Research Economist at the Pakistan Institute of Development Economics (PIDE), Islamabad.