



Government of Pakistan

Ministry of Petroleum and Natural Resources

Liquefied Natural Gas (LNG)
Myth vs Reality

LNG - Why?

LNG is a game-changer and the viability of Pakistan's energy future is directly linked to LNG

If Pakistan had committed to LNG 10 years back, we would not have any energy crisis today

FACT 1 Natural Gas - 50% of Pakistan's primary energy mix

Natural Gas Production - Stagnant at 4,000 Million Cubic Feet per Day (MMCFD) for 10 years

Constrained Demand - 6,000 MMCFD

Unconstrained Demand - 8,000 MMCFD

FACT 2 Pakistan needs to IMPORT Natural Gas - Pipelines or LNG

Iran-Pakistan (IP) Pipeline - 750 MMCFD 42-inch

Delayed due to international sanctions

First gas not available before end 2017

Turkmenistan-Afghanistan-Pakistan-India (TAPI) Pipeline - 1,325 MMCFD 56-inch

Delayed due to Afghanistan instability and structural issues with the project transaction

First gas not available before end 2019

LNG is today the ONLY cost-effective solution for Pakistan's energy problems

LNG - Infrastructure

FACT 3 3 Governments FAILED in 5 Attempts over 10 Years to import LNG

Integrated Approach - LNG Terminal developer was also LNG supplier

PML N Government provided Pakistan with its first LNG based gas within 20 months

Unbundled Approach - LNG Terminal development separated from LNG procurement

The 400 MMCFD LNG Terminal will add 5% to Pakistan's primary energy mix

FACT 4 Engro Elengy built the SSGC LNG Regasification Terminal in record time

Contract Signing - April 30, 2014

First Gas Flow - March 26, 2015

BOOT Model

No Public Funds

No Sovereign Guarantee

Year 1 1.5 Million Tonnes 200 MMCFD \$ 1.43/MMBTU

Year 2-15 3.0 Million Tonnes 400 MMCFD \$ 0.63/MMBTU

Average LNG regasification tolling fee of \$0.66/MMBTU

LNG - Price Dynamics

FACT 5 **There are 2 fundamental differences between the Oil market and the LNG market**

Oil is produced first and then sold

LNG is sold first and then produced

Unlike Oil, there is no international price benchmark for LNG

Supply-Demand factors like any other commodity

Geographical pricing based on alternate fuel

FACT 6 **Most LNG contracts in the world are priced at a Direct linkage to Oil**

Pakistan LNG imports will also be linked to Oil as we are displacing Oil products

LNG price at 15% of a Brent index of \$50 would be \$7.5 per MMBTU

LNG - Demand

FACT 7 **Pakistan is expected to be a 15 MTPA (2 BCFD) LNG market within 3 years**

One of top 6 LNG importers in the world

LNG Procurement

Critical Supply Chain

Reliability

Flexibility

LNG Basket - Long Term Contracts, Medium Term Contracts, Spot Purchases

FACT 8 **LNG Supply Contract (SPA) between Pakistan State Oil (PSO) and Qatar Gas finalized**

Government to Government PPRA Compliant 18 Month Process

15 Year Term **Year 1-3 1.5 MTPA** **Year 4-15 3 MTPA**

20% of Pakistan's LNG needs

LNG - Cost

FACT 9 RLNG has several cost elements

DES price of LNG incl Port charges
Marketing company margin
Regasification charges incl system losses
SSGC and SNGPL system usage charges
Transmission and distribution losses

Cost calculations prove that RLNG is cheaper than ALL imported fuels on an annual MMBTU delivered basis

OGRA has determined RLNG price of \$ 8.64/MMBTU based on LNG DES cost of \$ 7.8

FACT 10 14 LNG Cargoes have been regasified at the LNG Terminal

Year 1 Contractual Commitment is 24 Cargoes
Expected Regasification in Year 1 is 26 Cargoes

6 Cargoes were procured on spot basis from Qatar Gas on FOB basis
8 Cargoes procured through competitive bid process

Average price of LNG Cargoes procured is less than 14% of Brent

LNG - Power Generation

FACT 11 Regasified LNG (RLNG) is the most cost-effective fuel for Power Generation

Greater Efficiency
Lower Maintenance costs
No Storage costs
Ease of Transportation
No pilferage or adulteration
Minimal environmental impact

FACT 12 Power Generation based on 400 MMCFD of Regasified LNG (RLNG)

Supplied to 9 IPP's with 45% + efficiency 2000 MW with Diesel as alternate fuel
KAPCO, Fauji Kabirwala, Rouche, Hallmore, Orient, Saif, Sapphire, Altern, and Davis
Additional annual generation of 9 Billion KWh with no new generation capacity
Equivalent to 10% of total current annual power generation
Sustained Annual SAVINGS of \$ 600 Million to \$ 1 Billion

Under-construction 3600 MW RLNG based Powerplants with 62% + efficiency

Annual generation of 30 Billion KWh
Equivalent to 35% of total current annual power generation
Equal to ALL oil-based power generation in Pakistan
Annual Fuel SAVINGS will exceed \$2 Billion