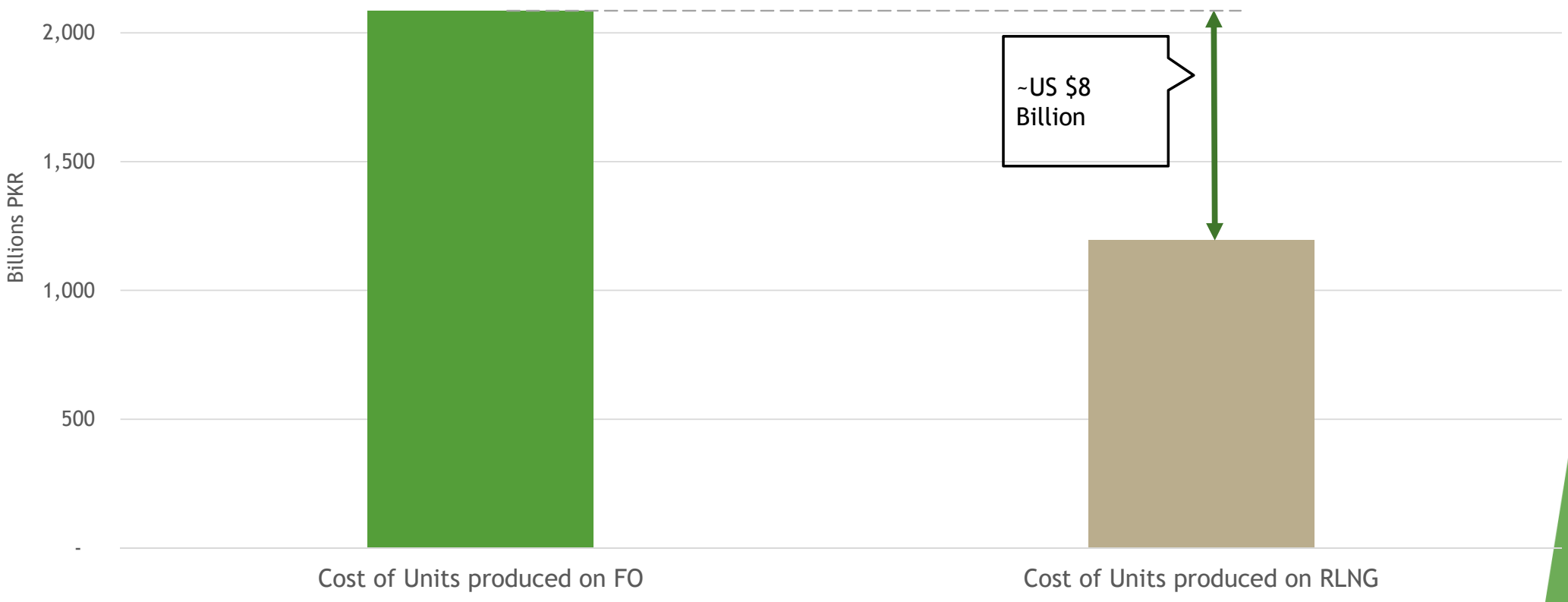

PAKISTAN LNG Ltd.

# Pakistan's Pre-2015 Scenario

- Demand-supply gap in electricity of over 12,000 MW
  - Pakistan vs India kWh per capita (440 vs 1100)
  - In 2005 kWh per capita was equal
- Demand-supply gap in gas of over 4bcfd
- 50% of Pakistan's energy mix is gas-based
- Due to the gas crisis
  - Gas powered generation not being utilized at capacity (minimum 3000 MW)
  - Excess use of furnace oil generation (extra cost of $1-2B per year)
  - No supply to fertilizer ($1.5B needed to be imported)
  - Shut down & higher cost for the textile sector (4 hrs of gas supply, 50-60 % units not operating, alternative fuel generation 2-3X more expensive)
  - CNG sector collapse

# Power Generation (2013-16)
# Furnace Oil v RLNG

**Pakistan could have saved US $ 8 Billion in 4 Years in Fuel Savings by operating RLNG Plants instead of FO Plants**



# Pakistan's Plan

- All in all, in the last decade:
  - Over 2 percentage points off GDP growth rate
  - Opportunity cost of 1-2 million new jobs per year
  - For an emerging market like Pakistan with such a young population
  - Not creating 10-15 million jobs is a travesty
  - 40% of textile manufacturing and related jobs moved overseas, for example, Bangladesh (Pakistan Textile Journal)
- Two-phased approach:
  - Solve the energy crisis
  - Solve the gas crisis
- Within 3-5 years imported gases as % of total gas in the system will go from 15% to over 60%
- Gas based electricity generation will increase >40% & will be primarily supplied by LNG

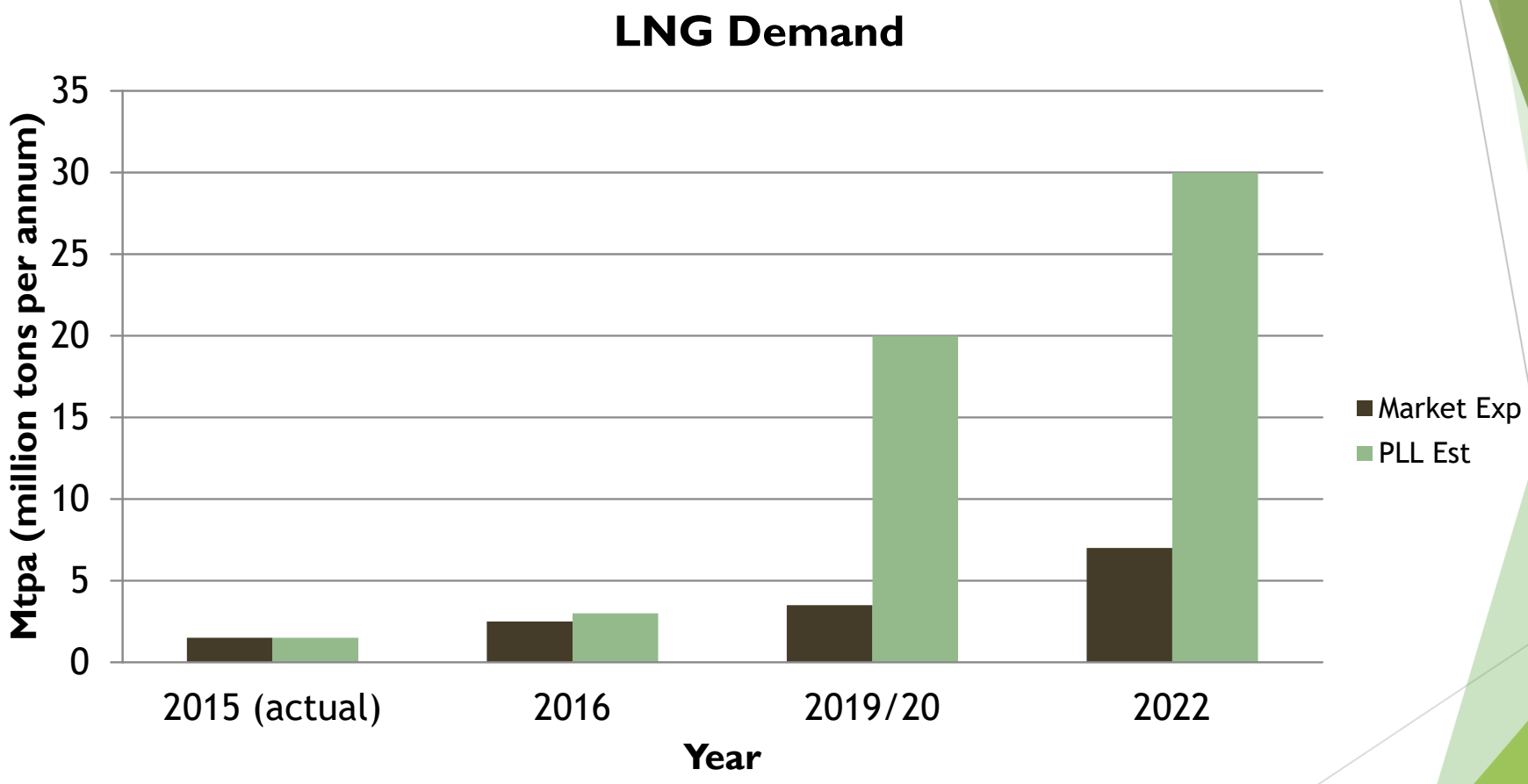
# Pakistan's Opportunity

- Why now?
  - Demand was there
  - Infrastructure and culture of gas use there
- Two bottlenecks
  - Receiving Terminals and Pipelines
- Current infrastructure catered to delivery system from local gas sources to population centers
- In our history, never been able to move a molecule south to north
- Why south to north
  - 70% of the population and ¾ of the industrial base is in the north

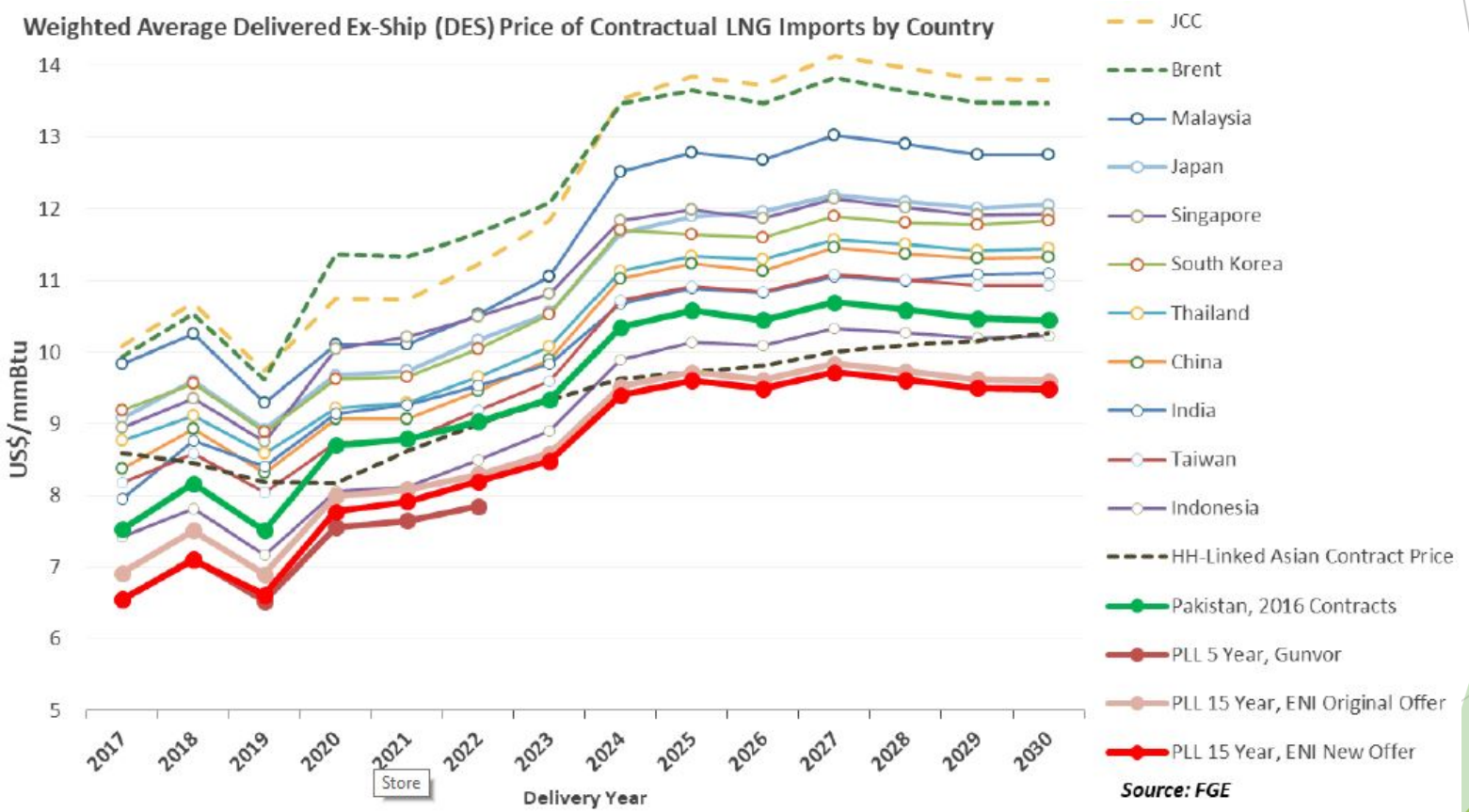
# Pakistan's Commitment

- First time in Pakistan's history, south to the north
  - Pipelines
    - 1st operational Q3 2017 – $1.5b – 1.2bcfd
    - 2nd 2020– $1.5-2b – 1.2bcfd
    - 3rd Q4 2020-22 – International – $2B – 1.2-1.5bcfd
  - Terminals
    - 1st operational March 2015 – Port Qasim - 600mmcfd
    - 2nd Q4 2017 – Port Qasim - 600-700mmcfd
    - 3rd & 4th Q3/4 2018 – Port Qasim– Private – 1.5bcfd combined
  - Power Plants
    - Three 1200 MW plants started in 2017
    - Another 1200 MW plant in 2019
    - FO to gas replacement strategy by 2019
  - Between pipelines/terminals/power plants >$8B

# PAKISTAN'S EXPECTED LNG REQUIREMENTS



# TRANSPARENCY, COMPETITION, RESULTS




***Source: FGE***