



# **WELCOME TO THE PRESENTATION OF BANGLADESH**

**Date: 26 November 2020**

# Outline

- ▶ **General Information of Bangladesh & Potential Growth Areas**
- ▶ **Overview of Current Energy Policy and Measures**
- ▶ **History & Projection of Primary Energy Supply**
- ▶ **Previous and Projected Gas Supply & Demand**
- ▶ **Power Demand & Supply Forecast, Power Infrastructure**
- ▶ **Current and Future Fuel Mix in Power Generation**
- ▶ **LNG Infrastructures & Contracts**
- ▶ **Challenges Ahead & Way Forwards**
- ▶ **Subjects I Would Like to Study**

# General Information of Bangladesh

- ▶ People's Republic of Bangladesh, is a country in South Asia.
- ▶ In terms of landmass, Bangladesh ranks 92nd, spanning 148,460 square kilometers.
- ▶ Population exceeding 162 million.
- ▶ Dhaka, the capital and largest city.
- ▶ GDP (PPP): 2020 estimate
  - ▶ Total: 864.883 billion USD; Per Capita: 5138 USD
- ▶ GDP (Nominal): 2020 estimate
  - ▶ Total: 317.768 billion USD; Per Capita: 1887 USD

# Potential Growth Areas

- ▶ SDG GOAL # 7: Secure access to affordable, reliable, sustainable and modern energy for everyone
- ▶ Govt. is setting up 100 Special Economic Zones
- ▶ Better connectivity after Padma Bridge construction by 2021.
- ▶ Mega projects like Metro rail, Karnaphuly Tunnel, Matarbari area development.
- ▶ Expected GDP growth more than 7%
- ▶ Reformation for ease of doing business.

# Current Energy Policy and Measures

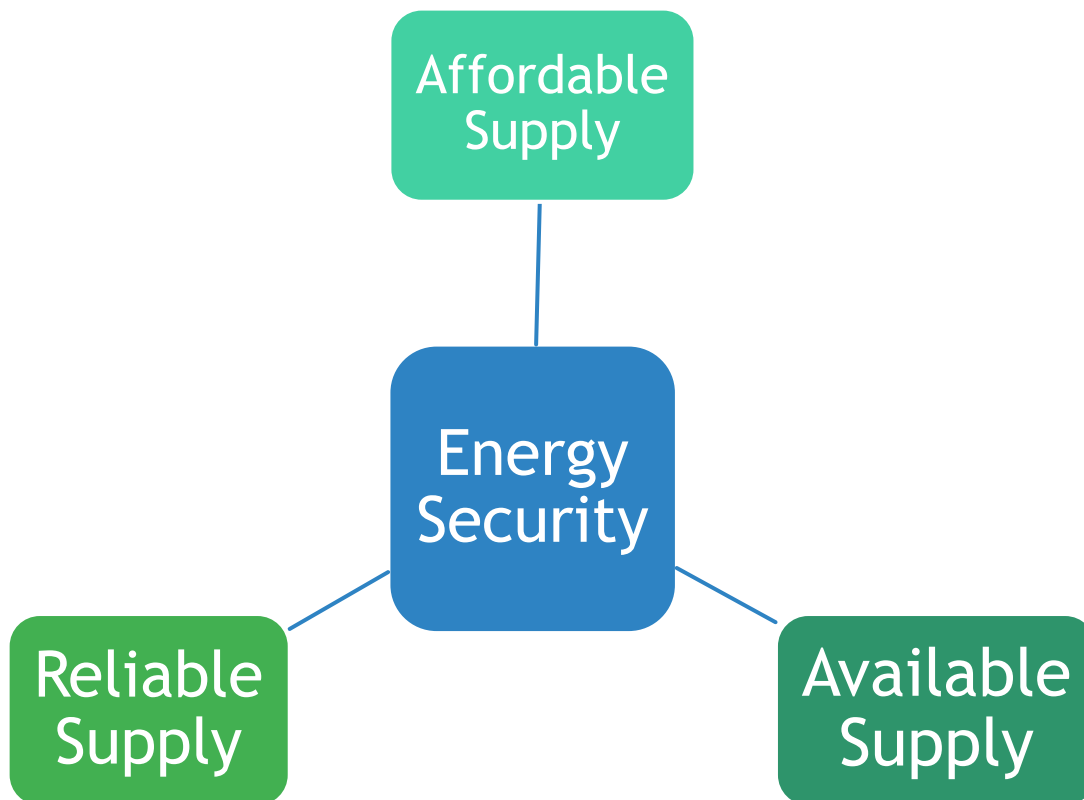
The Government of Bangladesh declared its goal to become one of the advanced countries by 2041. As per that, five viewpoints are as below:

1. Enhancement of energy infrastructure and its flexible operation;
2. Efficient development and utilization of domestic natural resources (gas and coal);
3. Construction of a robust, high-quality power network;
4. Maximization & promotion of green energy
5. Improvement of human resources and mechanisms related to the stable supply of energy.

# Current Energy Policy and Measures

- ▶ Bangladesh is endowed with rich bituminous coal deposit, with the measured and probable coal reserves total of 3,300 million tons.
- ▶ Out of five identified coal fields, only Barapukuria is currently in production (reserve is 390 million tons).
- ▶ Government had a strong intention to diversify its power mix and rapidly develop coal-fired power plants.
- ▶ But recently Government has taken decision to curtail some of coal based power projects for saving the environment.

# Current Energy Policy and Measures

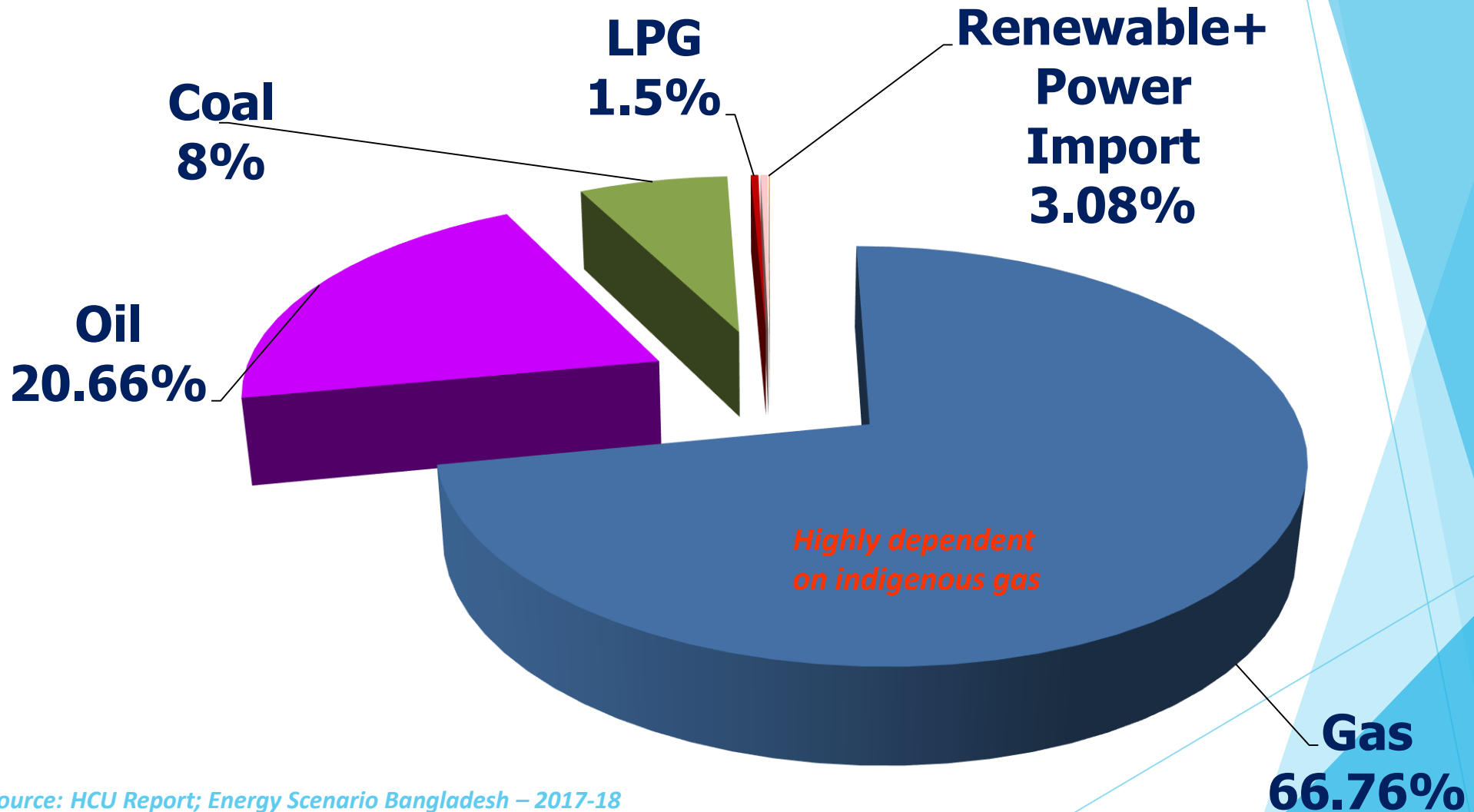


# History & Projection of Total Primary Energy Supply

Primary Energy Sources	2016		2041		Annual growth rate ('14-'41)
	ktoe	(share)	ktoe	(share)	
Natural gas	22,600	49.1%	43,370	30.5%	2.4%
Oil (Crude oil + refined products)	6,300	13.7%	32,163	22.6%	6.2%
Coal	2,900	6.3%	32,934	23.2%	9.4%
Nuclear power	-	-	12,030	8.5%	-
Hydro, solar, wind power and others	500	1.1%	1200	0.8%	3.3%
Biomass	13,300	28.9%	14,500	10.2%	0.3%
Power (Import)	400	0.9%	6,027	4.2%	10.6%
	46,000	100.0%	142,224	100.0%	4.3%

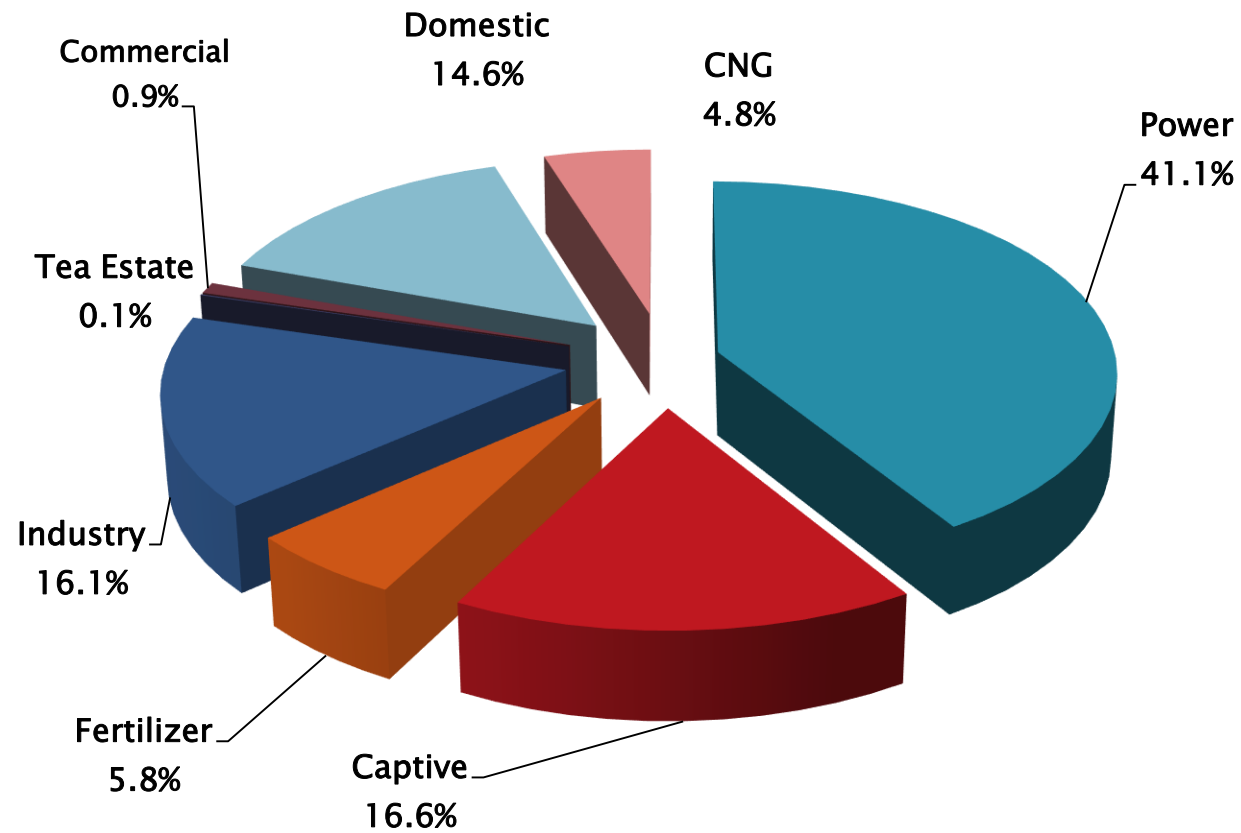


# Primary Commercial Energy Supply of Bangladesh

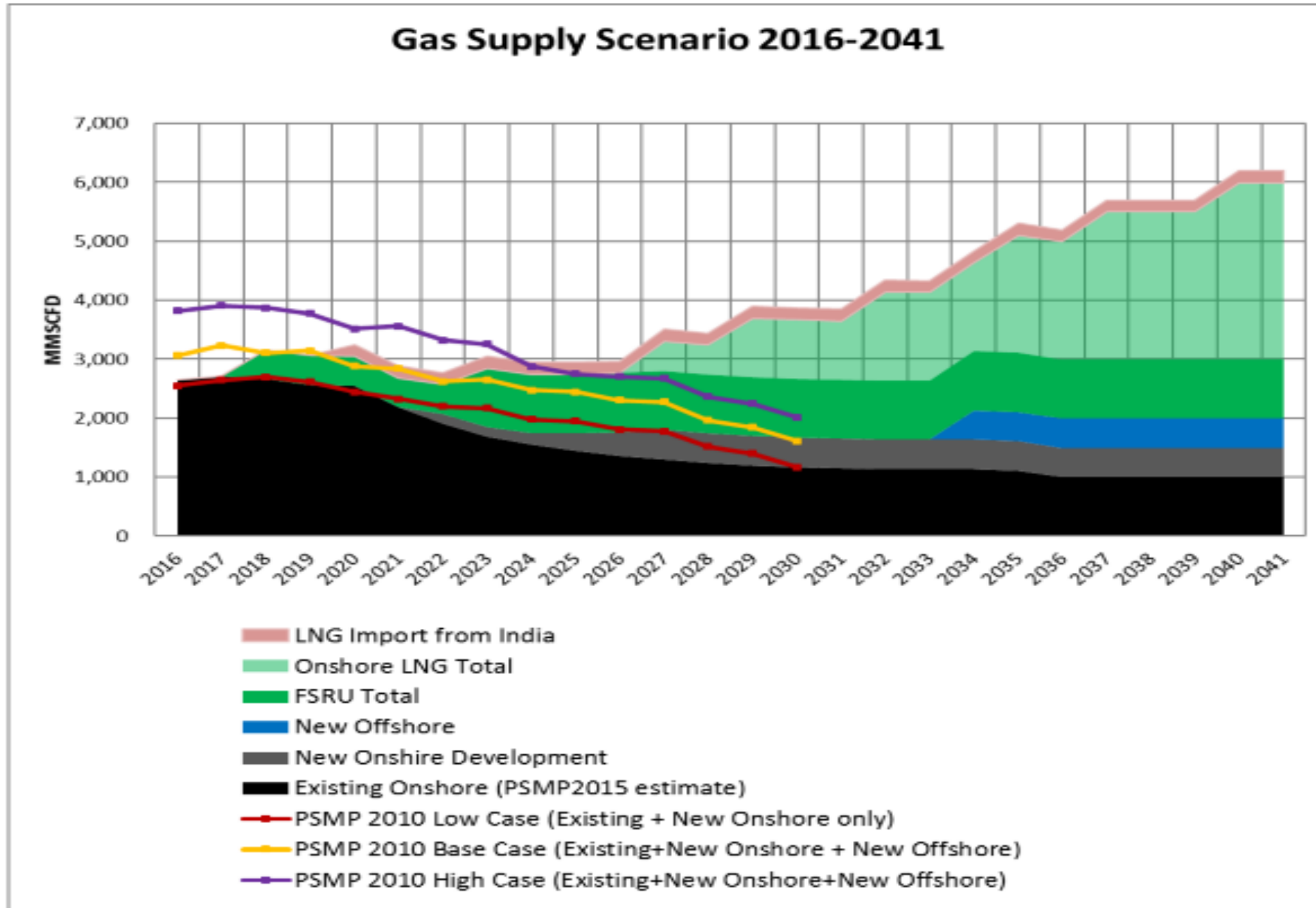


Source: HCU Report; Energy Scenario Bangladesh – 2017-18

# Category wise Use of Gas

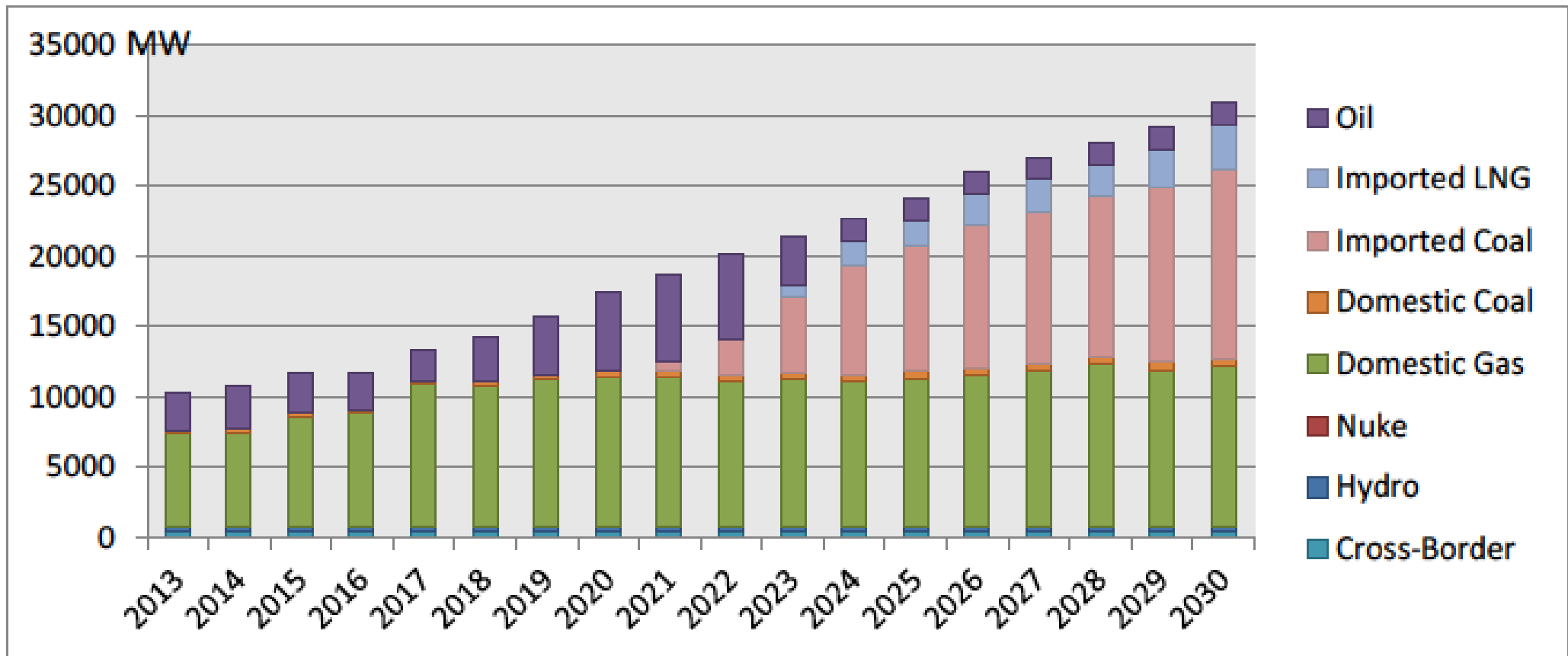


# Previous and Projected Gas Supply & Demand



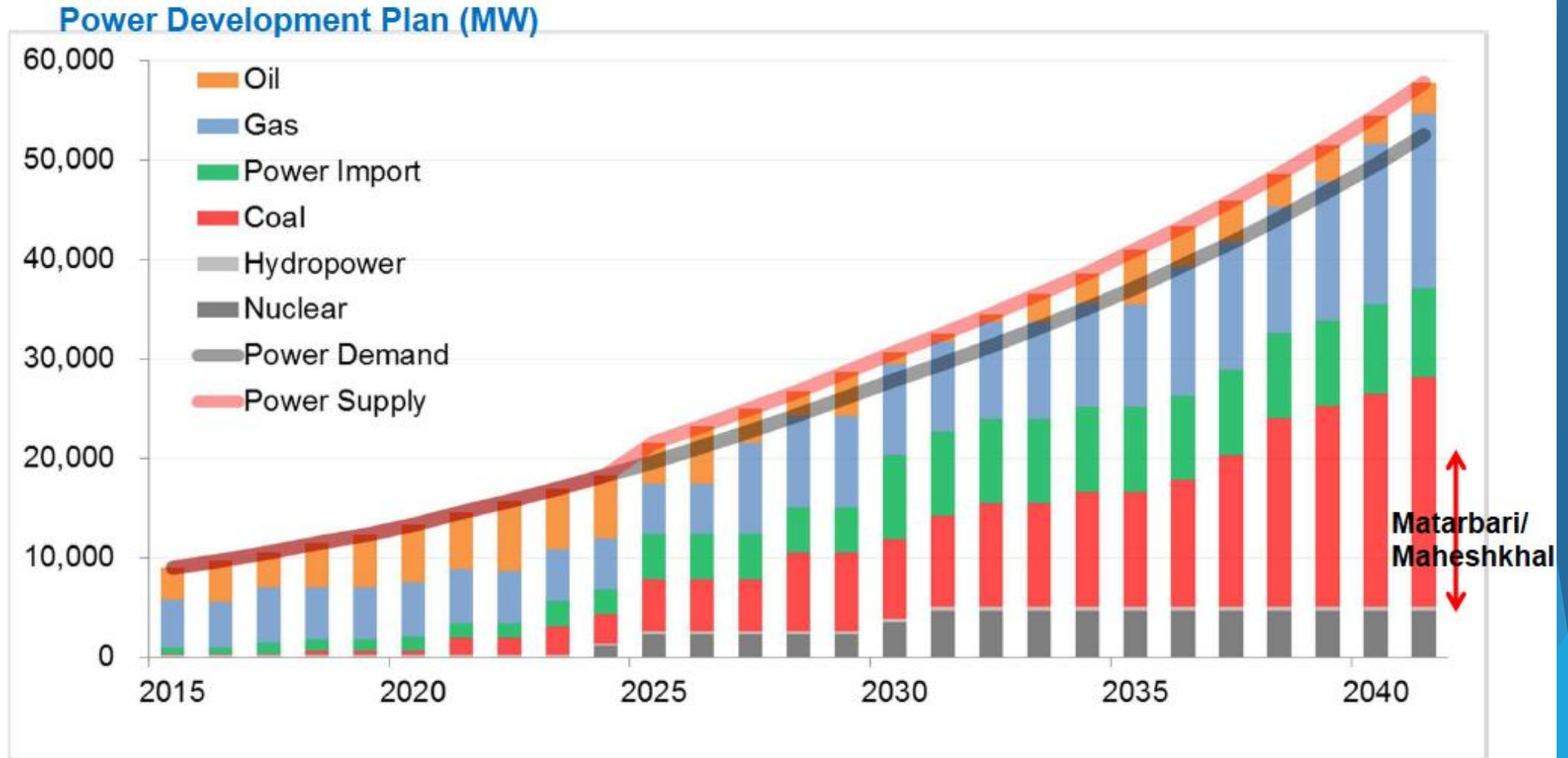
Source: JICA Survey Team, based on Petrobangla data and projection

# Forecast of Transformation of Power Generation Resources



Source: Estimation of JICA expert revising the forecast in JICA Power Supply Master Plan, 2010

# Power Demand & Supply Forecast



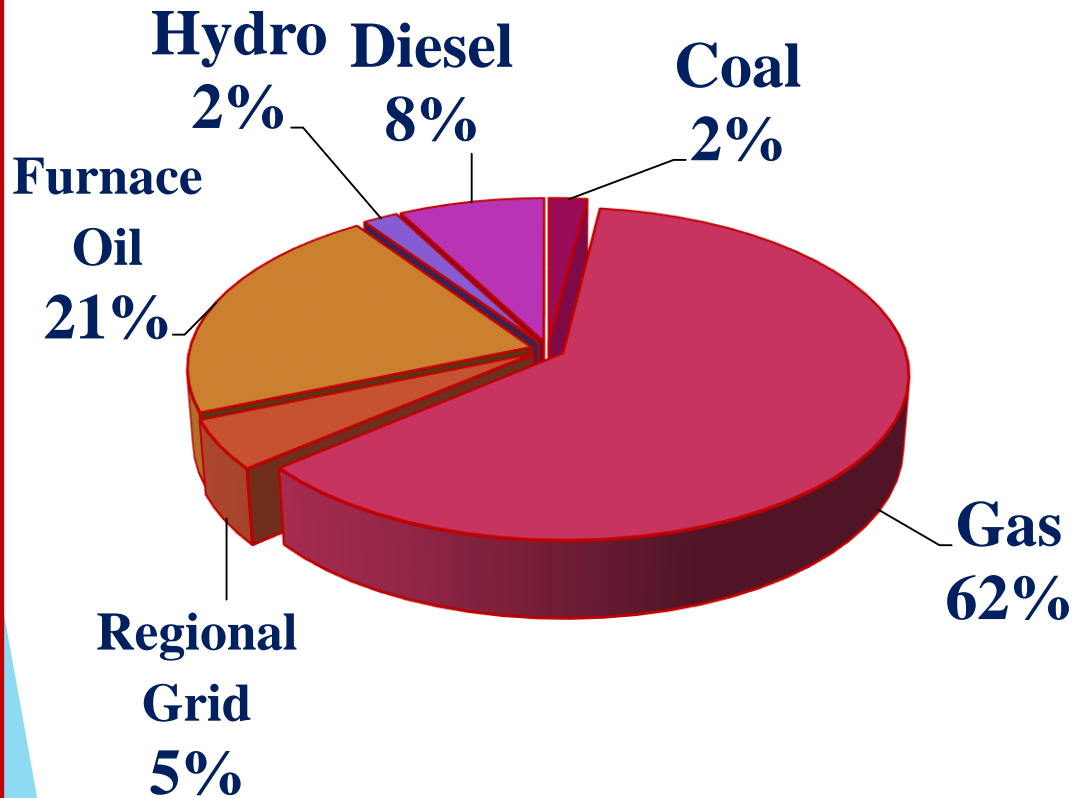
Source: JICA PSMP2015 Team Estimation, reflecting EECMP EE&C Scenario

# Power Infrastructure of Bangladesh

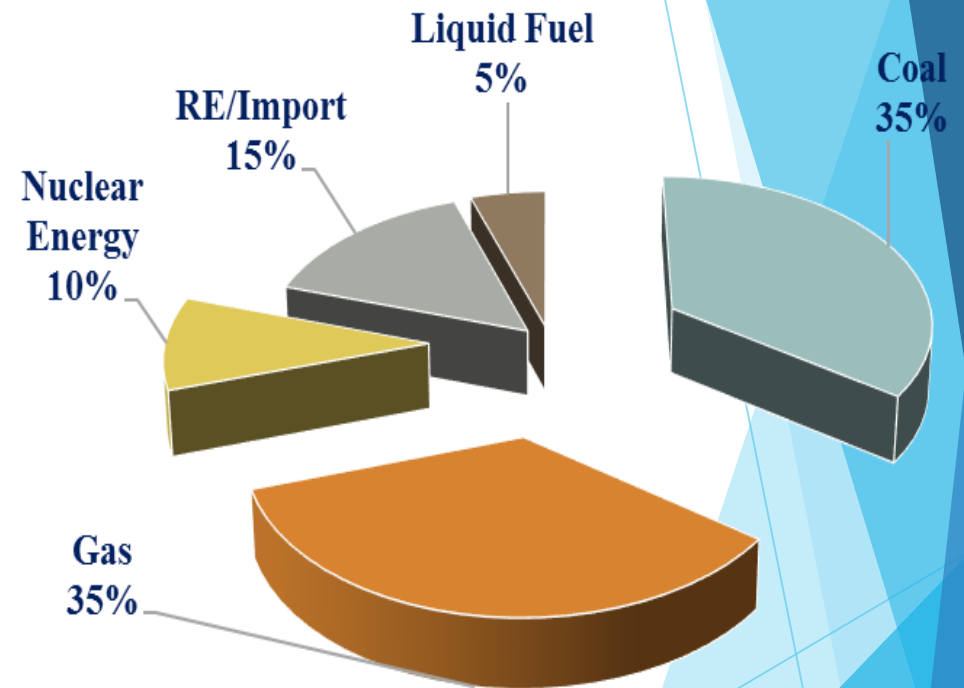
- ▶ Bangladesh had an installed generation capacity of 20 GW in 2018.
- ▶ About 62 percent of the country's commercial energy is generated by natural gas, followed by oil, hydropower and coal.
- ▶ Bangladesh has planned to import hydropower from Bhutan and Nepal.
- ▶ A nuclear power plant is under construction with Russian support in the Ruppur Nuclear Power Plant project.
- ▶ Solar panels are increasingly used to power urban and off-grid rural areas.

# Present & Future Fuel Mix in Power Generation

Total Capacity (Grid) 13,555 MW

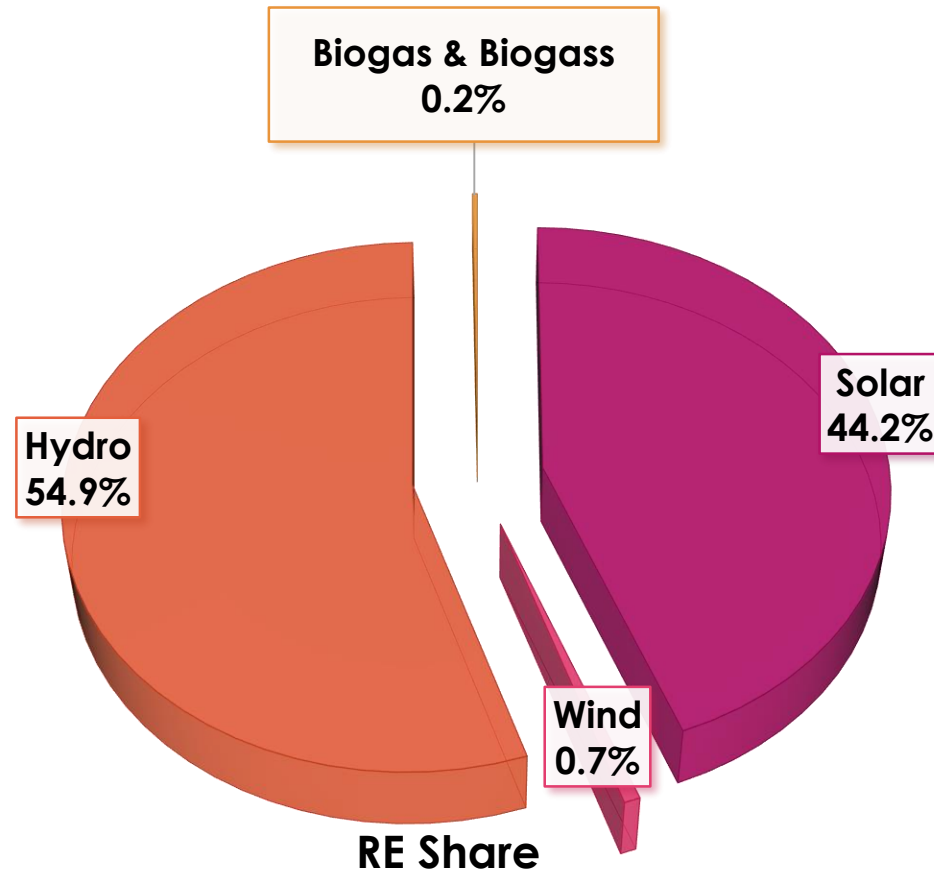


Total Capacity (Grid) 58,555 MW



# Renewable Energy In Bangladesh

- ▶ RE Policy 2009 : 10% from RE (3,100 MW)
- ▶ Wind Resource Assessment at 13 sites





# LNG TERMINAL DEVELOPMENT MOHESHKHALI LNG (MLNG) TERMINAL (EE & SUMMIT)



**EEBL : Capacity - 3.75 Mtpa (@500 mmscfd)  
Contract Signed: 18 July 2016 & COD : 19 August 2018**

**Summit Group : Capacity - 3.75 Mtpa (@500 mmscfd)  
Contract Signed: 20 April 2017 & COD : 30 April, 2019**

# LNG CONTRACTS

## QATARGAS

- ▶ **Contract Signed: 25<sup>th</sup> September 2017**
- ▶ **Duration: 15 Years (2018 - 2032)**
- ▶ **Contract Quantity:**
  - ▶ **Flexible 1.8 ~ 2.5 Mtpa for (2018-2023);**
  - ▶ **Fixed 2.5 Mtpa from 2024**



# LNG CONTRACTS

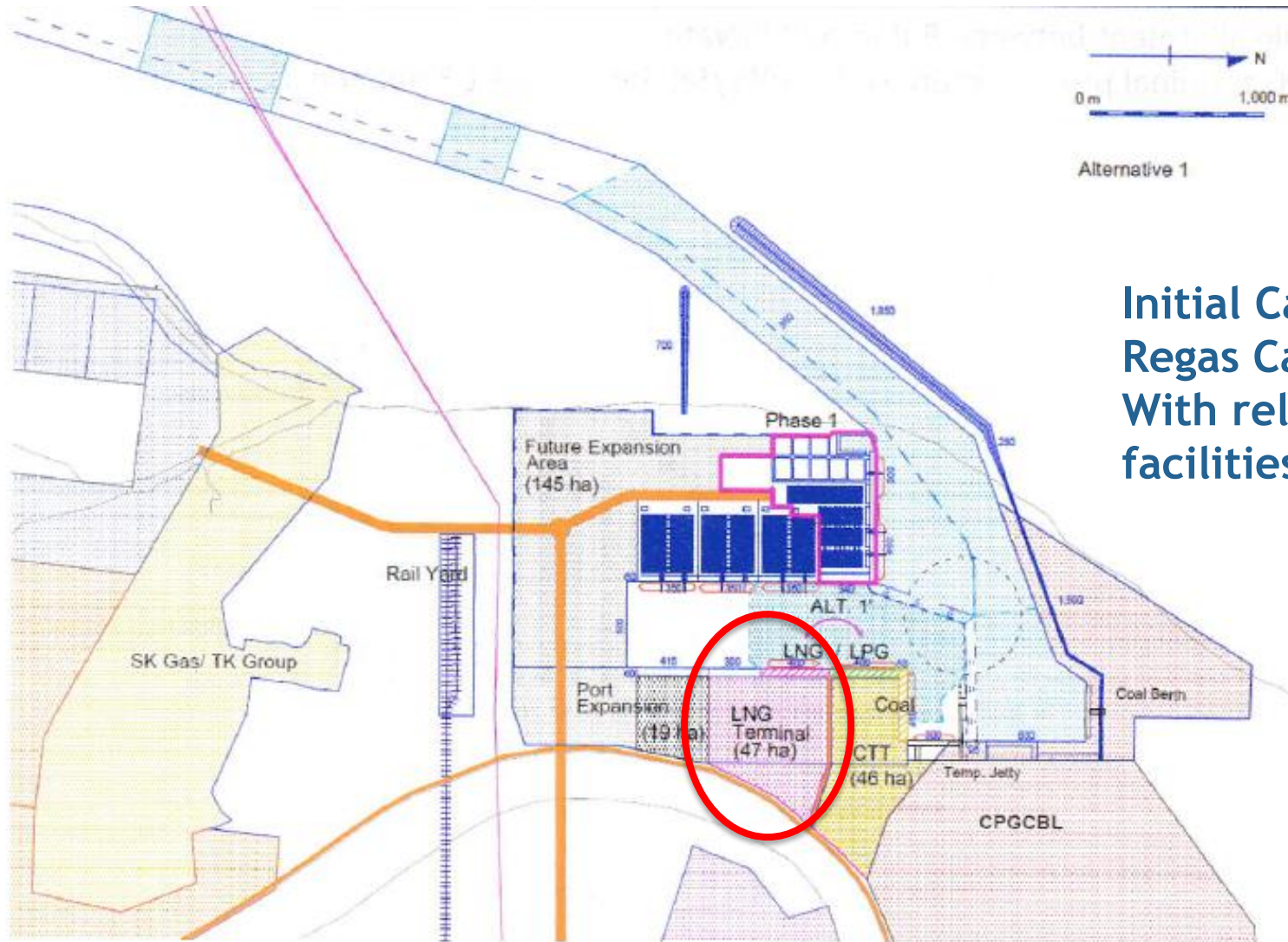
## Oman Trading International (OTI)

- Contract Signed: 6<sup>th</sup> May 2018
- Duration: 10 Years (2019 - 2028)
- Contract Quantity: Flexible 0.5~ 1.0 Mtpa



# MSPA was signed with 14 suppliers for Purchasing LNG from spot market

# MATARBARI SITE: ONSHORE LNG TERMINAL



Initial Capacity: 7.5 mtpa  
Regas Capacity: 1000 MMcfd  
With reloading & truck loading facilities.

# Challenges Ahead

- Narrowing demand supply gap of gas by:
  - Vigorous Exploration Activities
  - Import of more LNG
  - Popularization of LPG for household use
  - Import of RLNG through pipeline
  - Efficient use of gas
- Market price adjustment
- Safe use of Coal and Nuclear Energy as alternate fuel particularly in Power Generation.
- Infrastructure development
- State of the art capacity building

# Way Forward

- ✓ Implementation of PSMP 2016
- ✓ ‘Gas Sector Master Plan’
- ✓ ‘Energy Efficiency & Conservation Master Plan’
- ✓ Power & Gas Sector Digitization
- ✓ Regional Cooperation
- ✓ Implementation of RE Policy

# Subjects I Would Like to Study

- ▶ LNG Trading
- ▶ LNG Terminal Operation & Maintenance
- ▶ LNG related Standards and Safety Regulations
- ▶ Energy Conservation
- ▶ Environmental Policies

**Thank You**  
for your kind attention