



Industry Outlook

9th CGD Bidding Round

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working world

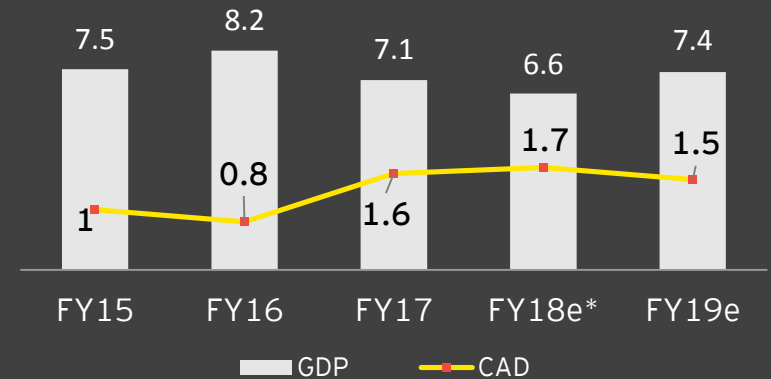
India – Economic Indicators



- ▶ \$ 2.5 trillion economy – fastest growing
- ▶ Structural Reforms driving growth
 - ▶ Goods and Services Tax (GST)
 - ▶ Infrastructure Thrust
 - ▶ Smart Cities Development
- ▶ Increase share of manufacturing in GDP to 25% by 2025



GDP Growth & CAD (as a % of GDP)



*As of Jan'18



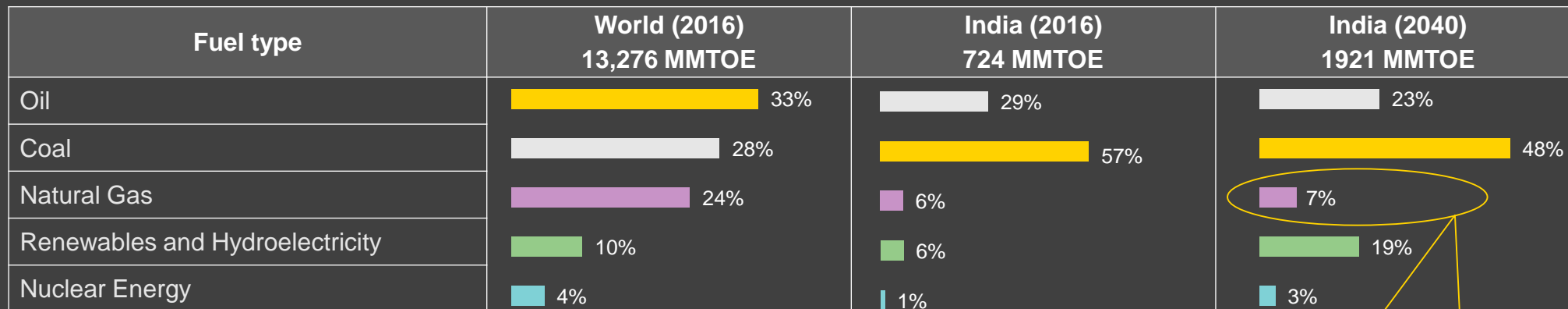
Inflation (CPI, annual avg. (%))



*As of Jan'18

High GDP growth trajectory, driven by a thrust on manufacturing will lead to rising energy demand

Energy Sector Mix



Source: BP Statistical Review of World Energy June 2016, BP Energy Outlook 2018

Target for increasing gas share to 15%

- ▶ India's energy consumption expected to grow by c.4.2% p.a and gas consumption by c.5% till 2040 – to account for 11% world's energy consumption
- ▶ Target to increase share of gas to 15% by creating a “Gas Based Economy” – challenging but achievable

Increase in gas consumption can potentially further reduce the share of coal and oil in India's energy mix...

INDC Commitments and Gas Usage



- ▶ Reduce the emissions intensity of its GDP by 33%–35% by 2030
- ▶ Generate 40% of electricity from non-fossil fuel sources
- ▶ Create an additional carbon sink of 2.5-3 billion tons of CO₂ through new forest cover
- ▶ Reduce urban pollution

Gas is Cleaner than Other Fuels

Fuel Emissions	LPG	Diesel	Gas
CO ₂ (Kg/ MMBTU)	61.71	70.22	53.07
N ₂ O (g/ MMBTU)	0.60	0.60	0.10
Methane (g/ MMBTU)	3	3	1



Government Initiatives

- ▶ Policies to increase gas usage
- ▶ Replacing diesel with CNG in public transport / LNG in M&HCV

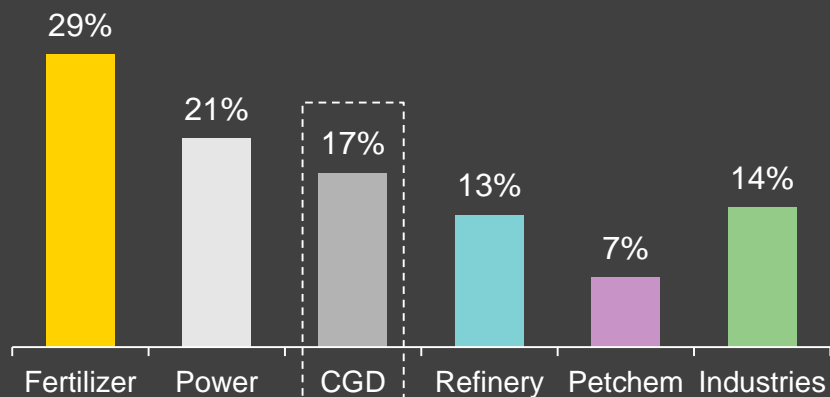
9th CGD Bidding round is a significant initiative to leapfrog to higher gas usage and address urban pollution across the country ...

Source: First Biennial Update Report to the United Nations Framework Convention on Climate Change, Government of India, USEPA

Gas Sales in India

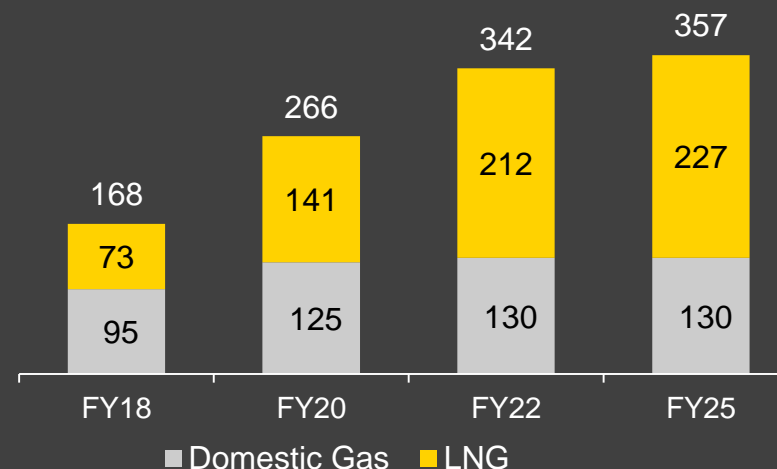


Gas Sales (145 MMSCMD)



Source: PPAC, Feb 2018 figures, EY Estimates

Gas Supply Projections (MMSCMD)



Source: EY Estimates

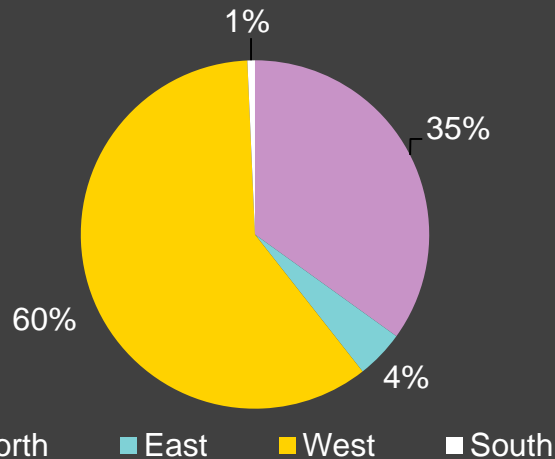
- ▶ LNG comprises 50% of current sales gas - up from 19% share in 2011
- ▶ Regas capacity to increase to over 60 MMTPA by 2025
- ▶ 25 mmscmd CGD volumes sold currently
- ▶ Domestic gas –priority allocation to Domestic PNG and CGD

CGD volumes can rise from 25 to over 50 mmscmd by FY25 as new GAs are implemented

City Gas Distribution (CGD)

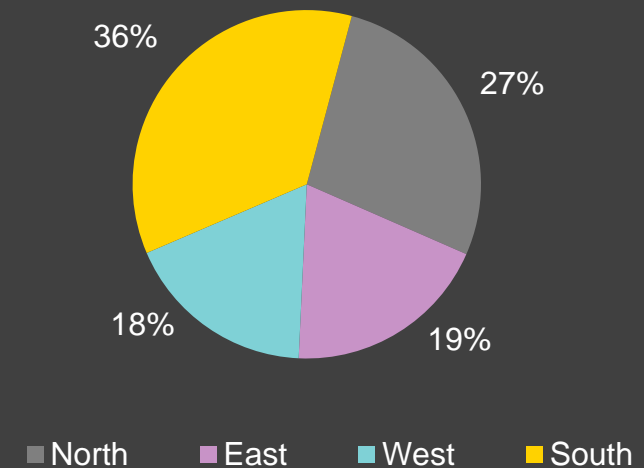


Regional CGD Gas Consumption



Source: PPAC, Feb 2018 figures, PNGRB

9th Bid Round GAs



- ▶ 91 GAs, which are operated by 36 companies
 - ▶ Over 4 Mn Domestic PNG connections and 3 Mn CNG vehicles
 - ▶ 1.39 Lakh inch-Km of steel pipe and PE pipes laid
- ▶ 95% volumes sold primarily in North and Western India

9th Bid Round GAs provide access to vast untapped areas in Eastern and Southern India

Recent Policy Enablers to Promote Gas Usage



Infrastructure Expansion

- ▶ Capital Grant for Transmission Pipelines to connect Eastern India
- ▶ New LNG Terminals
- ▶ North Eastern gas grid
- ▶ LNG as transport fuel for M&HCVs/ Ships / Railways

Gas Pricing

- ▶ Formula for Domestic Gas
- ▶ Market-linked pricing for Deepwater / HPHT fields
- ▶ Gas marketing and pricing freedom for CBM, DSF and OALP

Gas Production

- ▶ Successful DSF-I Bid Round
- ▶ Launch of HELP and OALP
- ▶ Approvals for Gas Development Projects
- ▶ HELP / OALP Award in June
- ▶ DSF-II Announced
- ▶ PECs

9th CGD Bid Round with revised bidding parameters addressing earlier challenges will drive the gas market development

A photograph of a yellow metal structure, possibly a ship's deck or a large-scale sculpture, with a grid of vertical and horizontal bars. The structure is set against a background of blue ocean water with white foam. The text "Thank you" is overlaid in the center in a white, sans-serif font.

Thank you

Important notice



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