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India Energy & Oil demand Outlook

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GDP projected to almost double by 2035

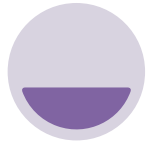
- World economy expected to almost double over the next 20 years, with growth averaging 3.4% p.a.
- World's population projected to increase by 1.5 billion people to reach nearly 8.8 billion people by 2035.
- Expected growth in the global economy is driven by emerging economies, with India and China accounting for around half of the increase.
- Global prosperity due to 2 billion people rising from low income group.

India's growth story

- 2018 Economic survey of India, projects GDP growth between 7 – 7.5% in FY19.
- IMF projects Indian Economy to grow at 7.4% in 2018 and 7.8% in 2019.
- Economic growth is expected to revive after the temporary decoupling due to demonetization & GST
- launch of GST, resolution of bad loans under the Bankruptcy Code, implementation of a bank recapitalization package for public sector banks and further liberalization of FDI scheme will boost GDP growth



Macro level factors fuelling strong energy demand in India



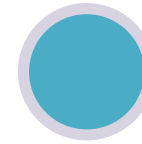
GDP growth and Population

- Accelerated investment in education, health & human capital
- Investment in physical Infrastructure, and R&D
- Ensuring ease of doing business
- Ensuring inflation containment & political and social cohesion



Urbanization and households

- Rate of urbanization is expected to grow quickly with more opportunities and development
- As compared to 32% urbanization in 2015, it is expected to grow to 46% in 2040



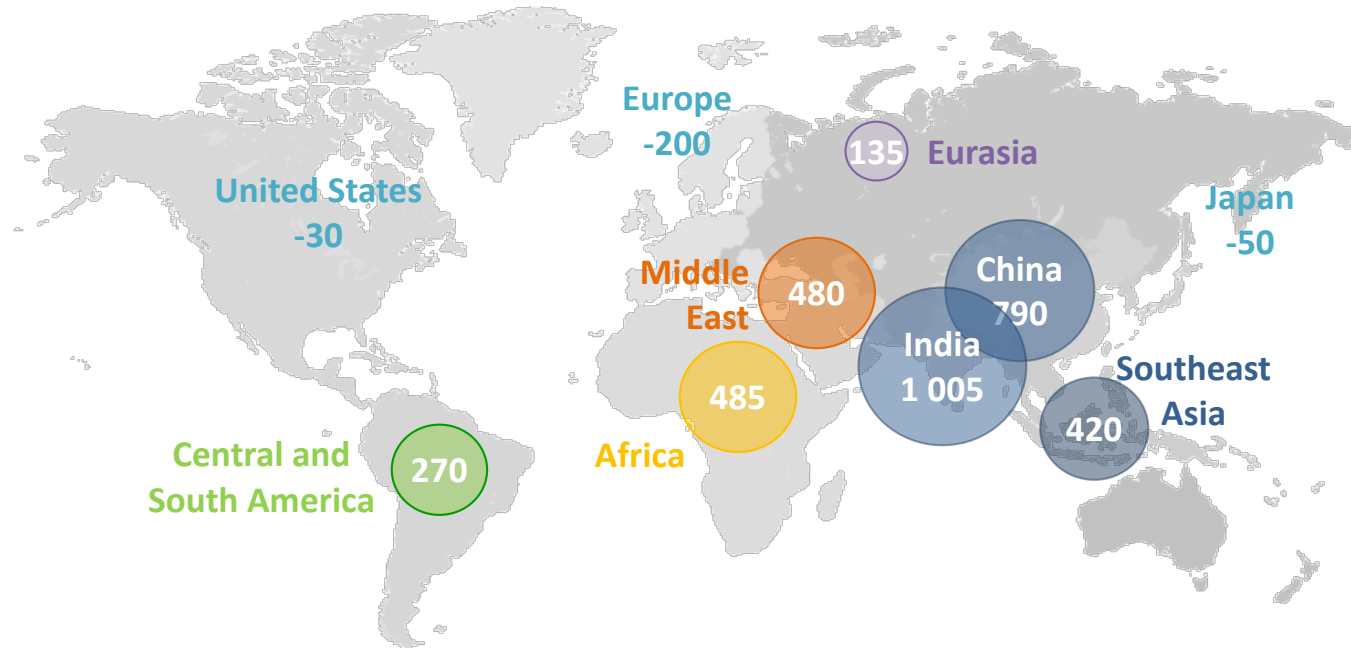
Energy consuming sectors

- Energy demand in transport sector to grow at 4.1% till 2040
- Increase in floor space per capita
- Strong growth expected across industries such as cement, iron & steel, petrochemicals, telecom, agriculture etc.

*India GDP growth rate is expected to be **8.2% over 2015 to 2040** period and population is expected to grow at a CAGR of **0.8%** as per Central Statistical Organization, India*

India takes the lead in change in Energy Demand, over 2016 – 2040 period

Change in energy demand, 2016-40 (Mtoe)

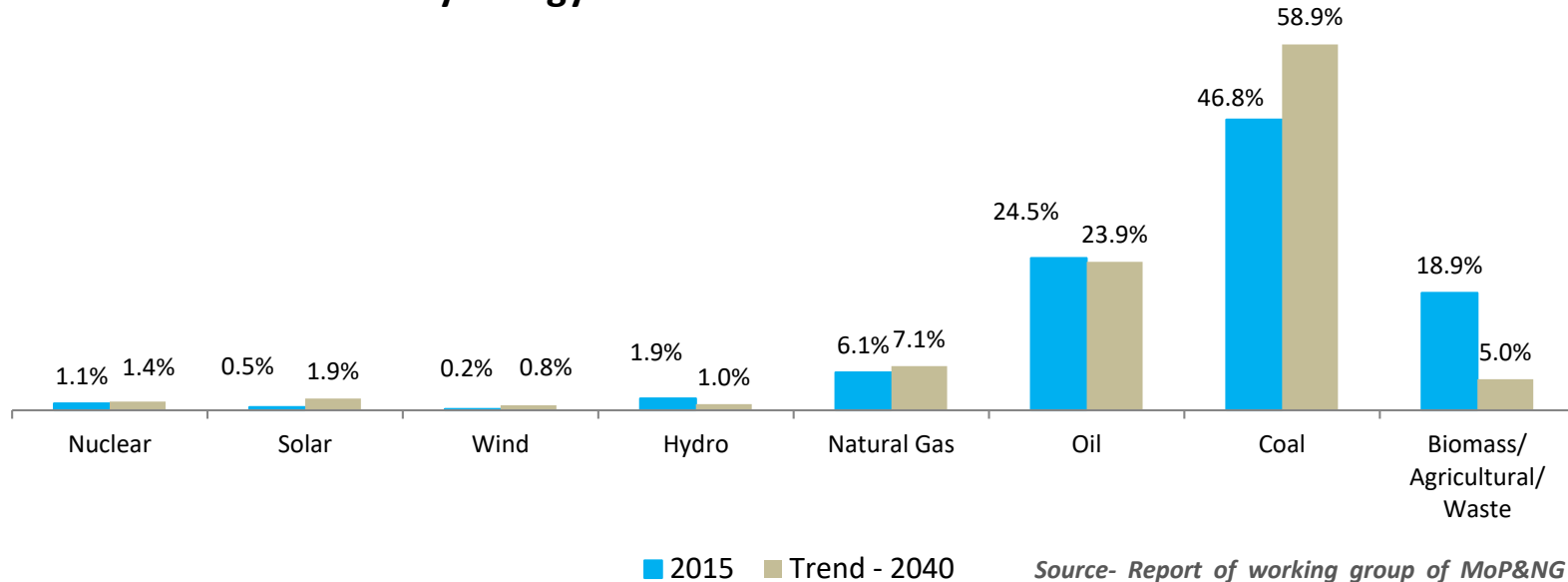


Source- OECD/IEA 2017

Demand for energy in India is expected to increase rapidly, even outpacing china over the 2016 – 2040 period

India's Primary Energy Demand Outlook

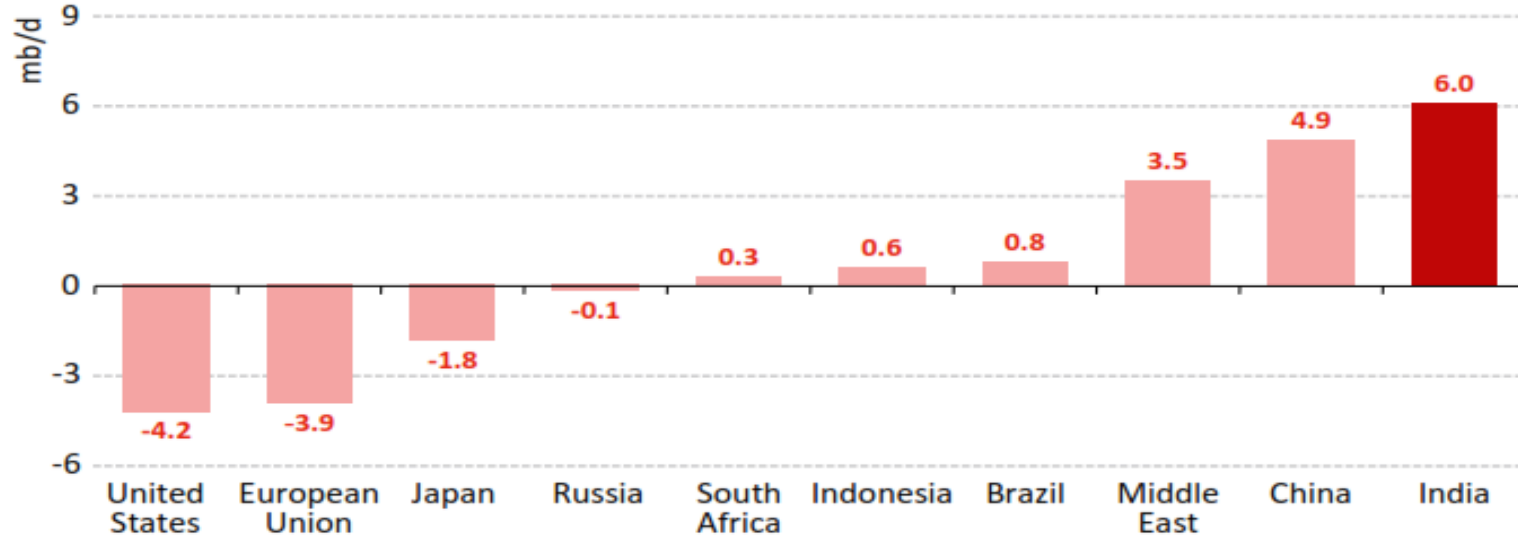
Primary energy demand share as a % of total



Source- Report of working group of MoP&NG on enhancing refinery capacity by 2040, Jan 2018

Primary Energy demand of India is projected to more than double by 2040; It is expected to grow to 2132 Mtoe in 2040 from 749 Mtoe in 2015

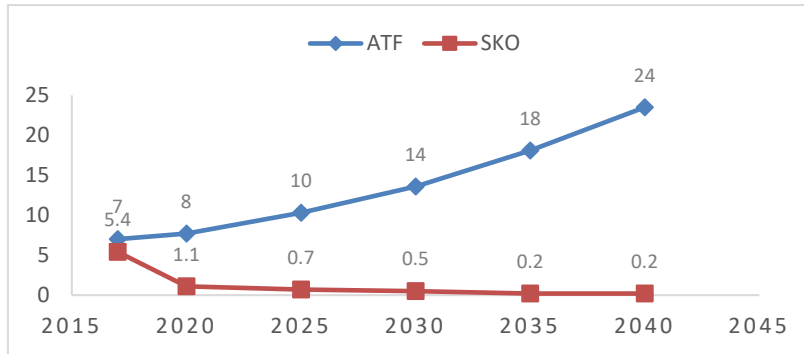
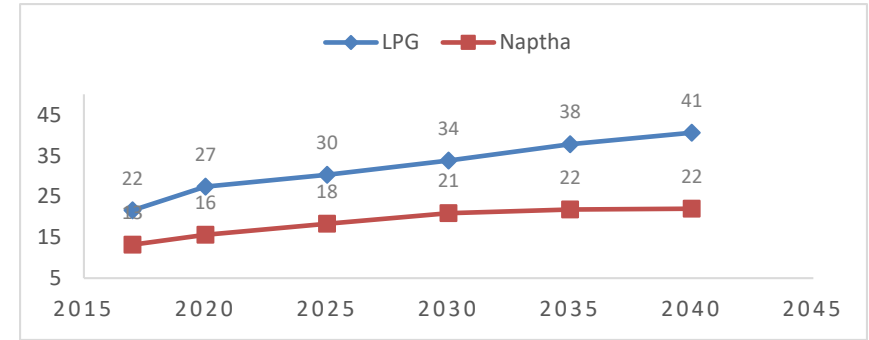
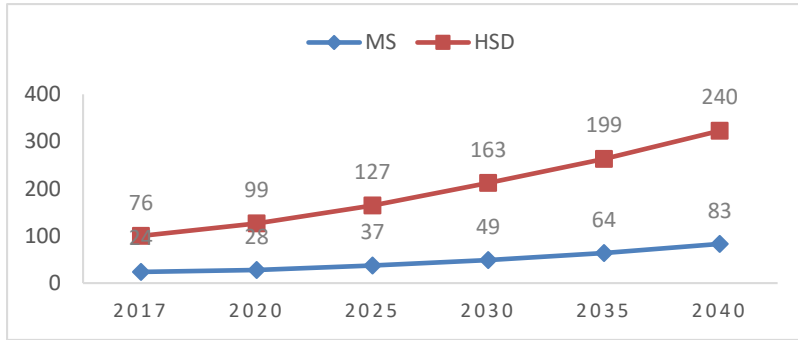
Incremental Oil Demand by Select Countries (2014-2040)



Source- WEO, 2016

Share of oil in total primary energy mix may come down slightly for India, however demand for oil in India will increase more than any other country in the world.

Demand for petroleum products in India to remain robust over 2017 – 2040



- ATF is expected to have highest growth rate ~ 6.5%, followed by MS (~6%)
- HSD growth rate is expected to be around 5%, however with its already large volume base, it translates to an even larger number of 240 MMTPA in 2040
- LPG demand grows at 2% while Naptha demand also rises steadily due to strong petrochemical demand
- Total demand of oil in 2040 is expected to grow from 183 mtoe in 2015 to 510 mtoe in 2040

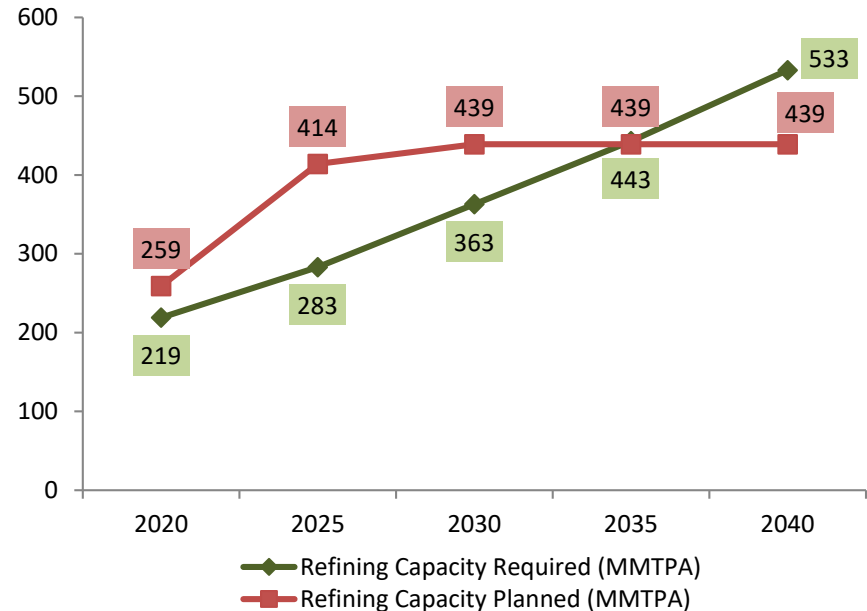
*All figures in MMTPA

Source- Report of working group of MoP&NG on enhancing refinery capacity by 2040, Jan 2018

Refining capacity expansion plans in India to meet petroleum products demand



- To meet rising domestic demand of petroleum products, refining companies in India have drawn several plans through the following means:
 - Debottlenecking of existing assets
 - Expansion of existing refineries
 - Grassroot refinery projects
- Significant refining capacity addition is expected in the next 5-10 year period
 - Includes implementation of grassroot refineries at Rajasthan (9 mmtpa) and west coast (60 mmtpa)
- Refining capacity remains in excess of supply till 2035, giving opportunities to export products



Source- Report of working group of MoP&NG on enhancing refinery capacity by 2040, Jan 2018

Summary

- Strong GDP growth rate, increasing population & urbanization of households, and strong demand from energy consuming sectors to fuel energy demand in India
 - Change in energy demand to even outpace China over the 2015 to 2040 period
- Primary Energy demand of India is projected to more than double by 2040; It is expected to grow to 2132 Mtoe in 2040 from 749 Mtoe in 2015
- Although share of oil in primary energy mix may marginally come down, growth of oil demand to remain robust and will increase more than any other country in the world
 - from 183 mtoe in 2015 to 510 mtoe in 2040
- Refining companies in India have drawn several plans to meet future demand of petroleum products by Debottlenecking of existing assets, Expansion of existing refineries and grassroots refinery projects

Thank you