

Paris

India: Growing Energy Needs

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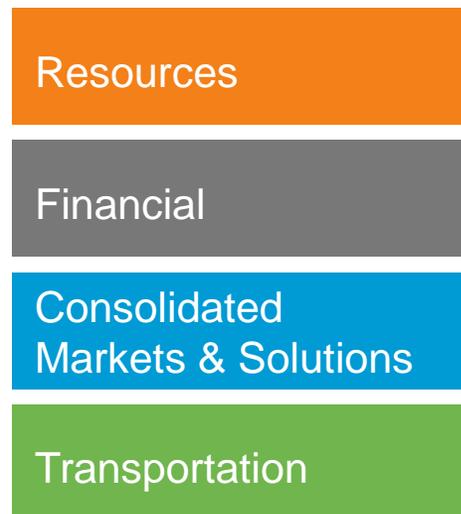
About IHS Markit (1/2)

50,000+ customers in 140+ countries



About IHS Markit (2/2)

Addressing strategic challenges with interconnected capabilities



INDIA Key Statistics:

Third largest energy consumer globally with a challenge to meet growing energy demand sustainably



Fifth Largest GDP Globally



Third Largest Energy Consumer | +37% Primary Energy Demand Growth (2010-2019)

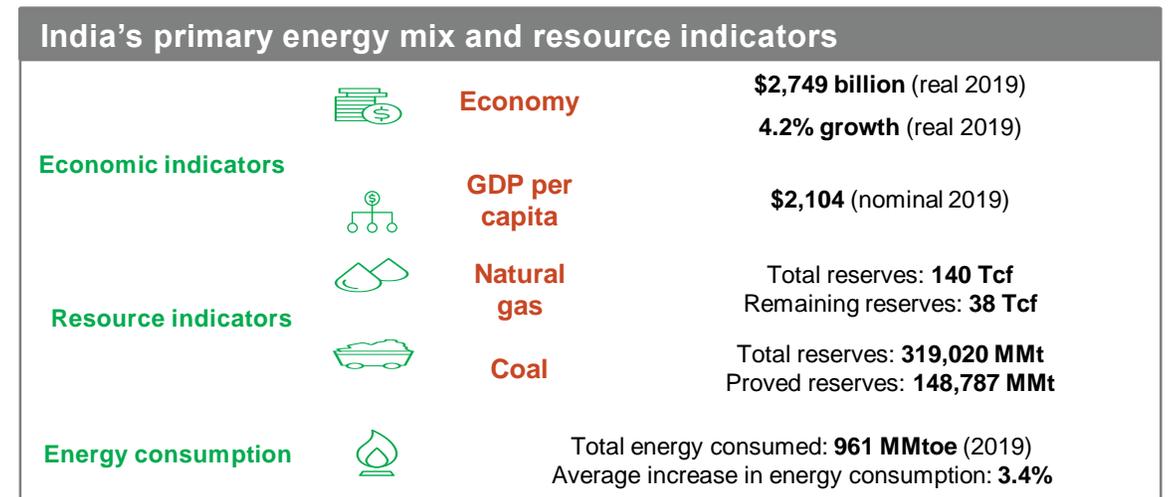
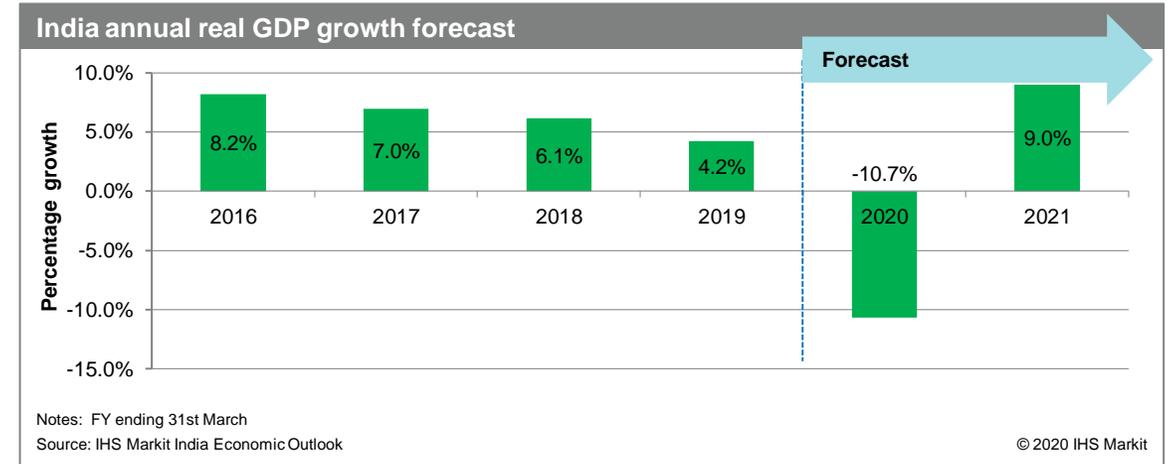
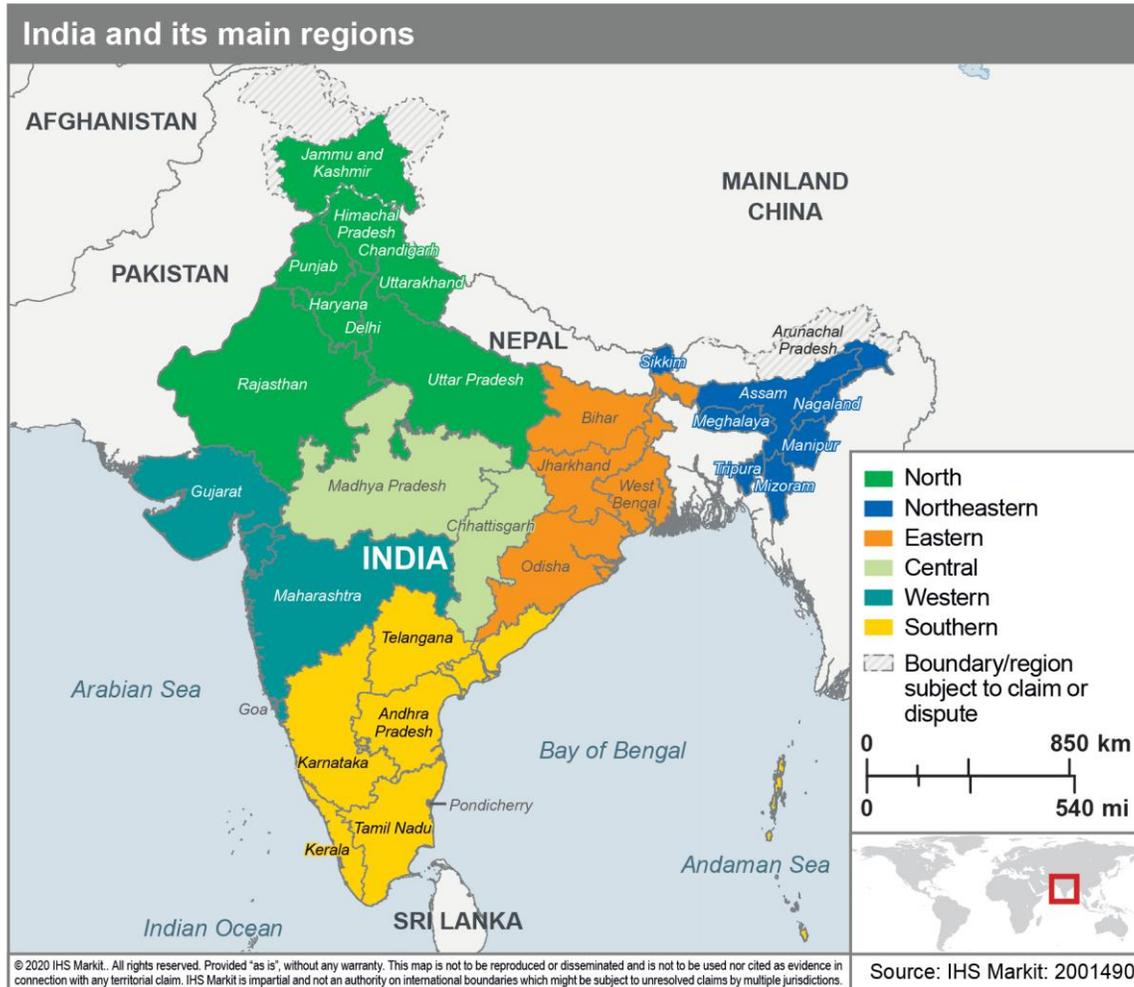


Third Largest Oil Consumer and Fourth Largest LNG Importer

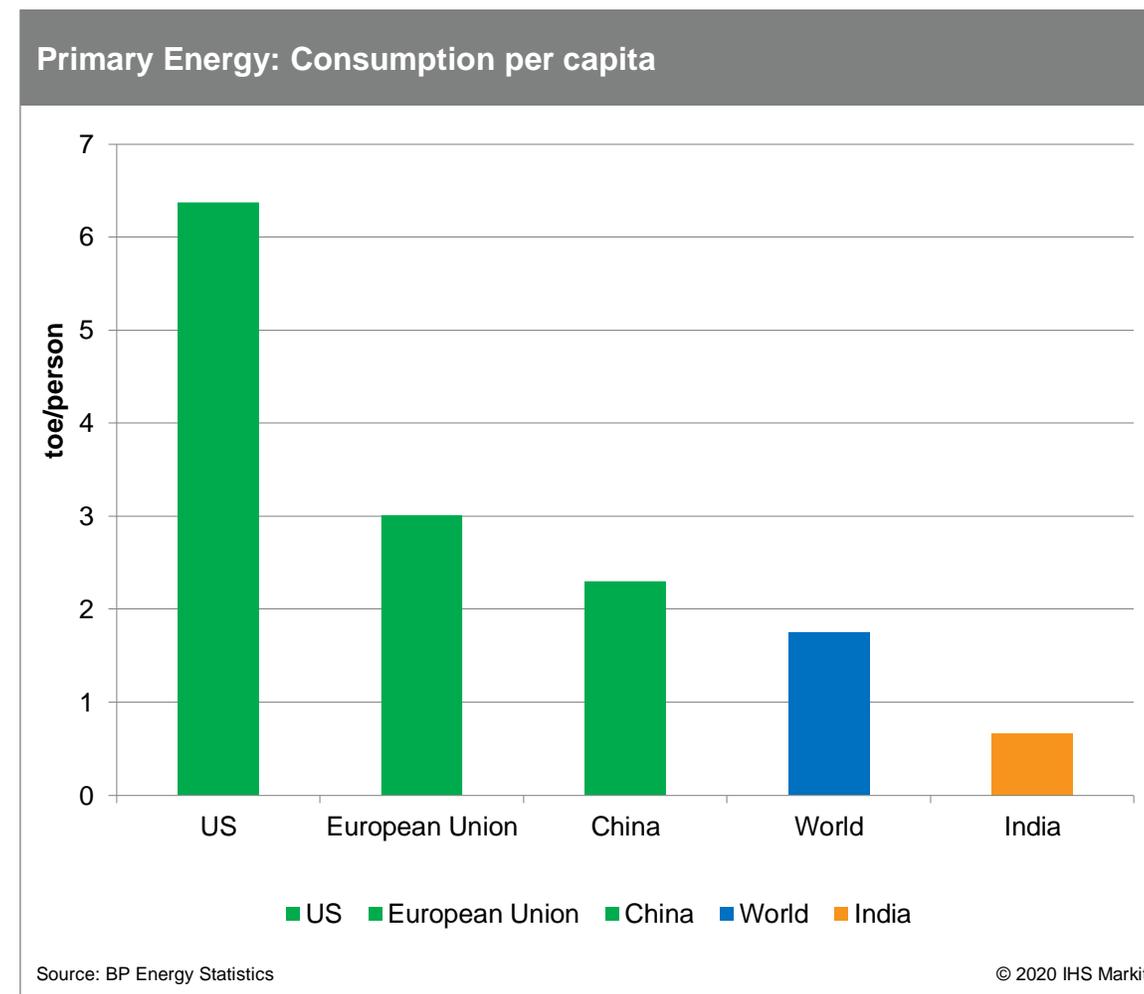
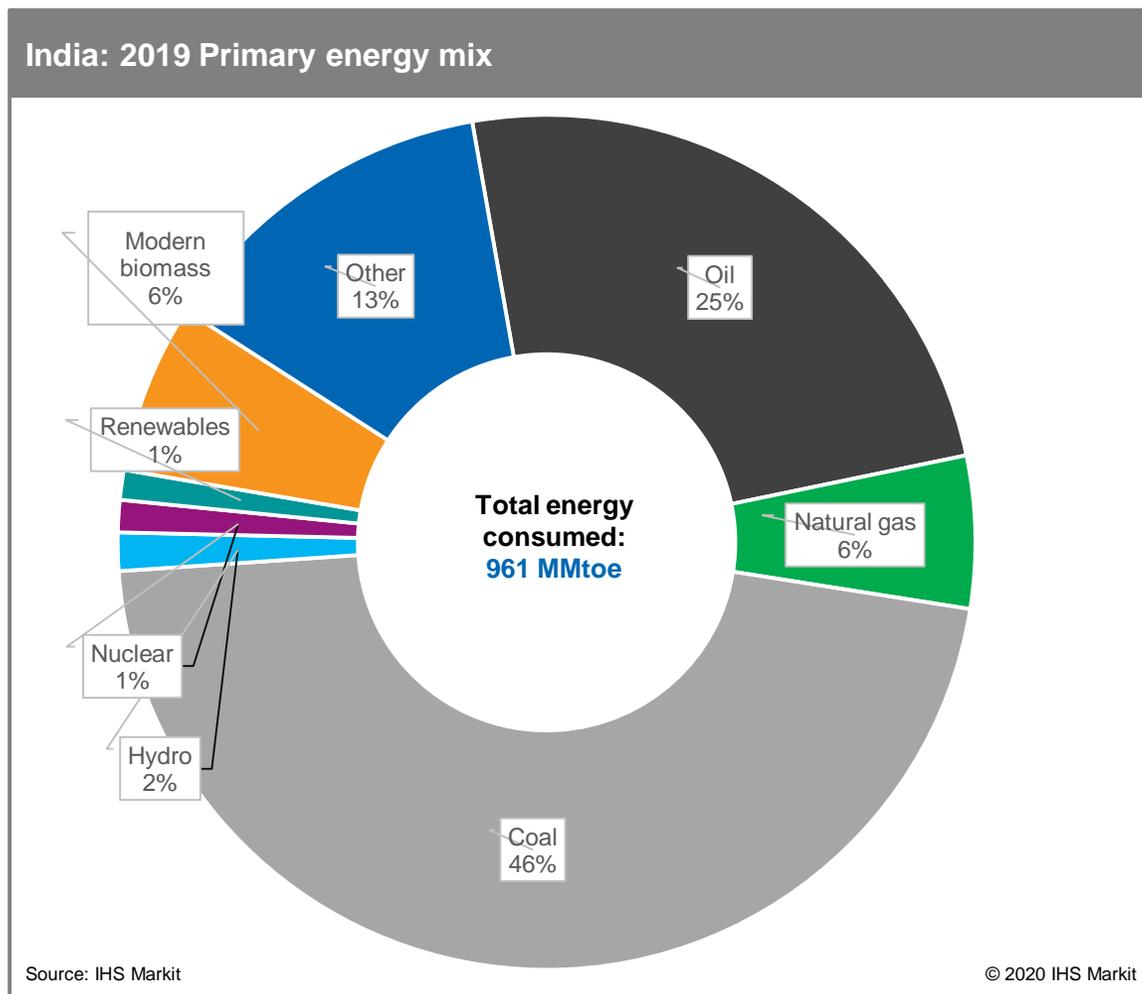


Second Largest Coal Consumer

India's GDP to contract by 10.7% in 2020, despite substantial improvement in economic activities in October



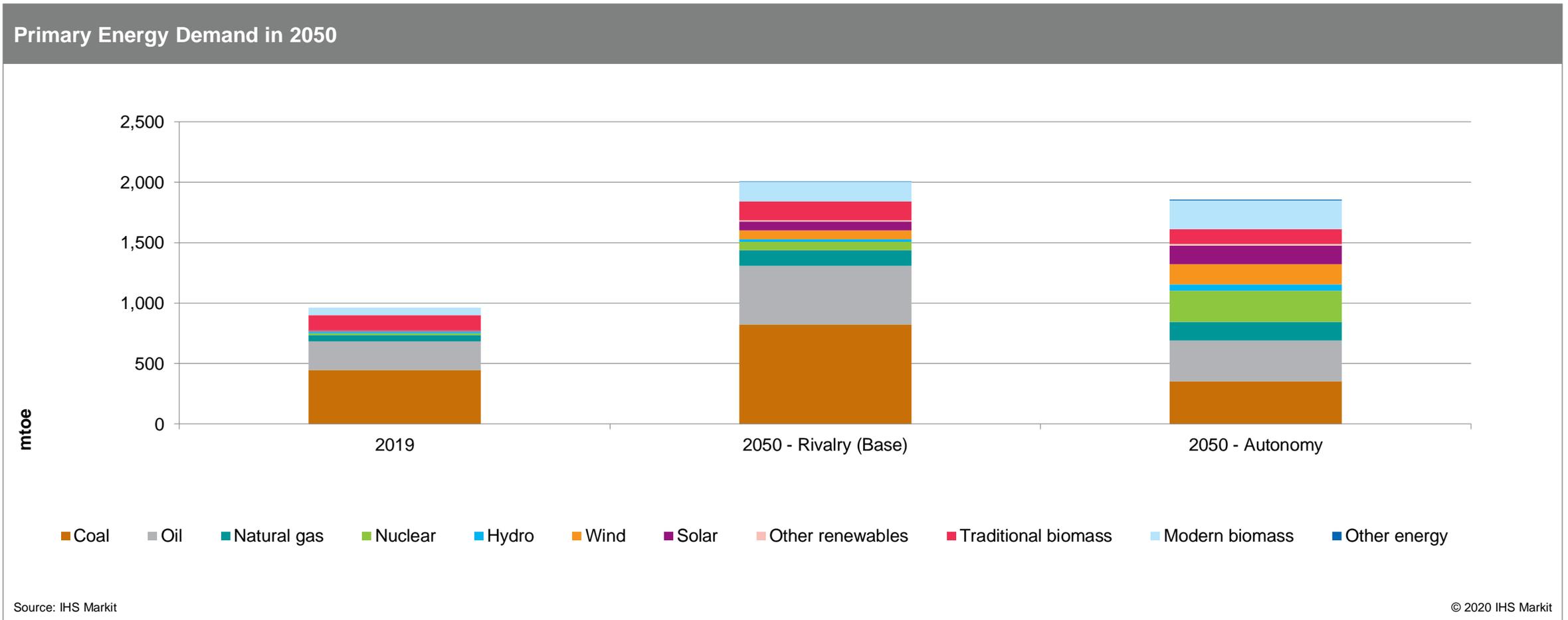
India is the third-largest energy consumer in the world; however, its per capita energy consumption is only about one-third the world's average



Primary Energy Demand in India

India's primary energy consumption nearly doubles by 2050 under both scenarios

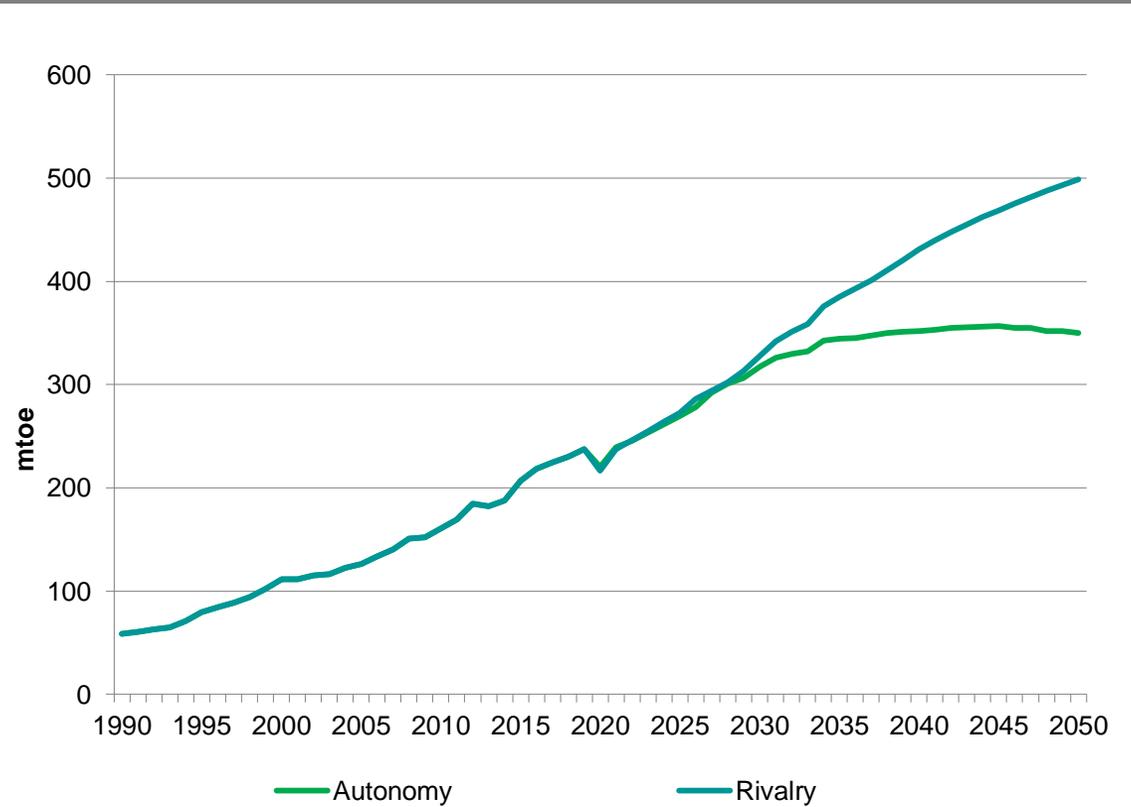
- **Rivalry** is the base planning scenario. **Autonomy** is an energy transition based alternative scenario outlook – it is not consistent with a +2 degree Celsius world.



Total Liquids Consumption

Liquids consumption nearly doubles in the base scenario

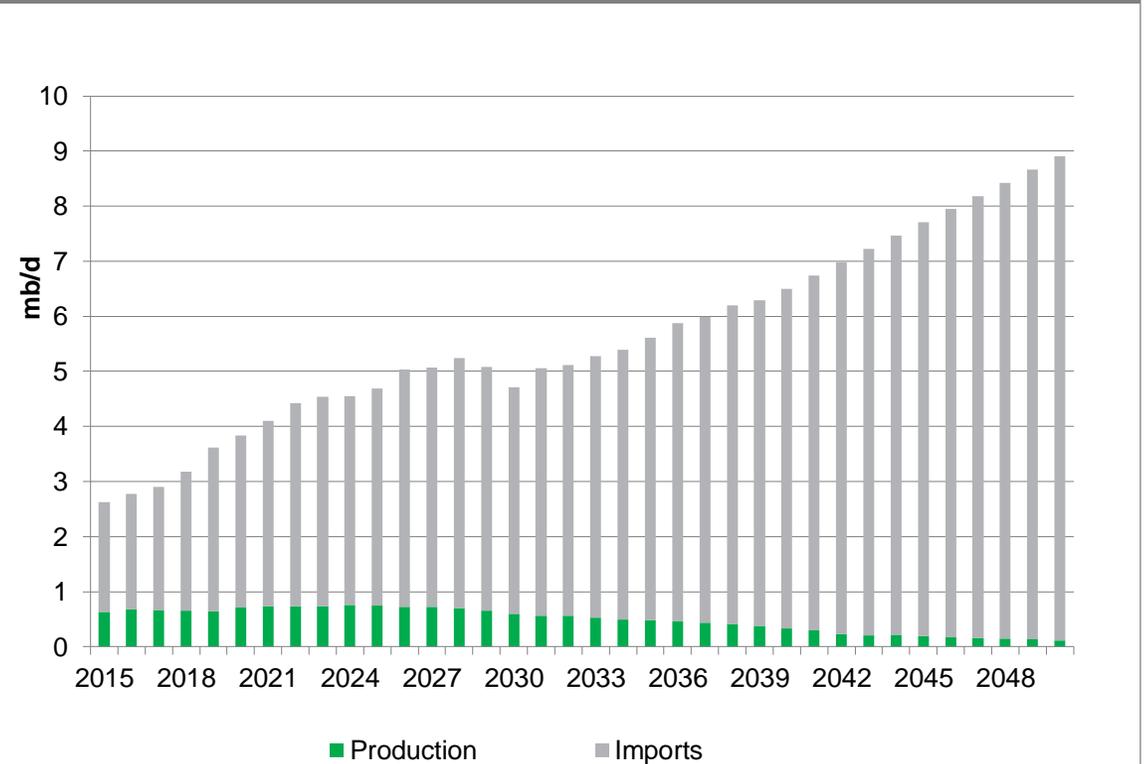
Total Liquids Consumption in India



Source: IHS Markit

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Oil Demand Outlook (Rivalry/Base Case)



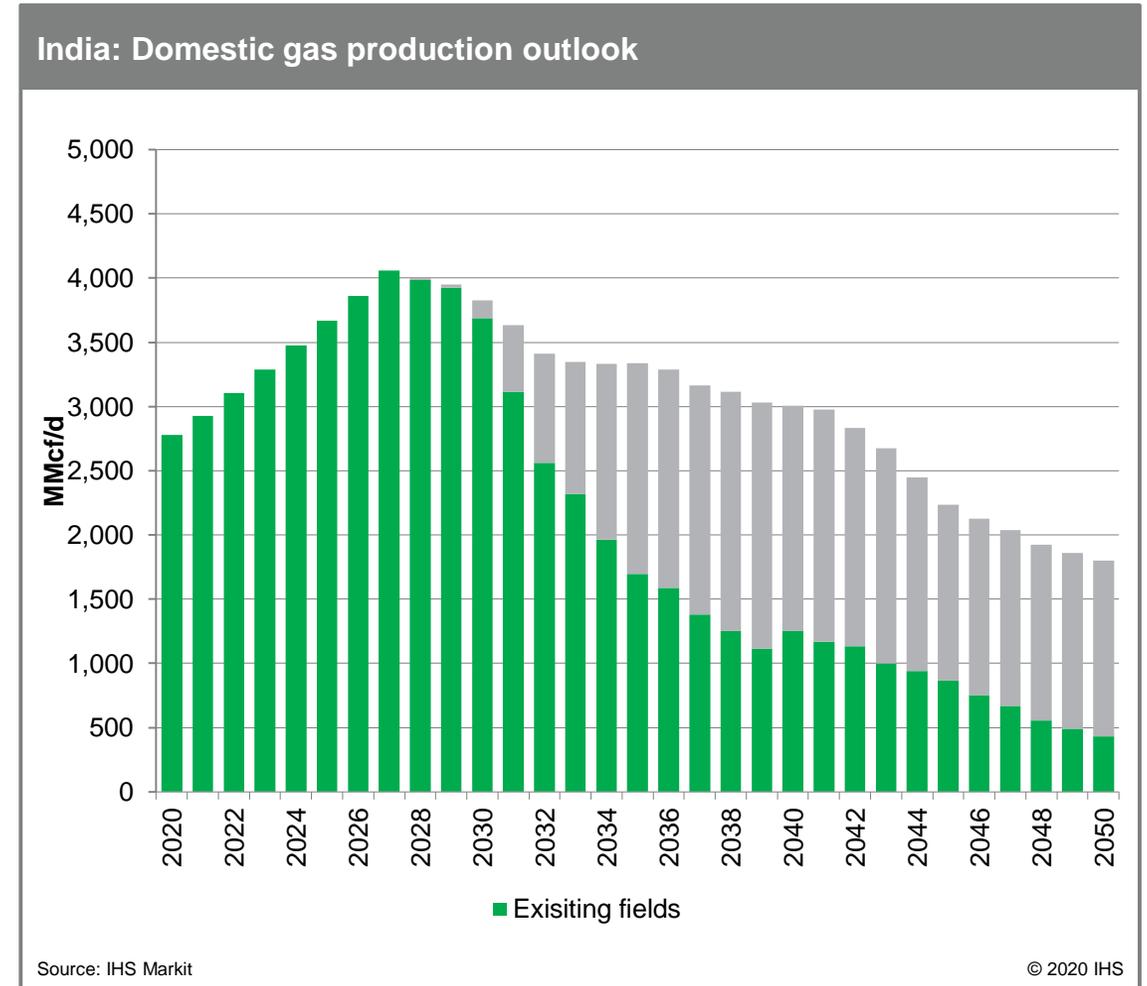
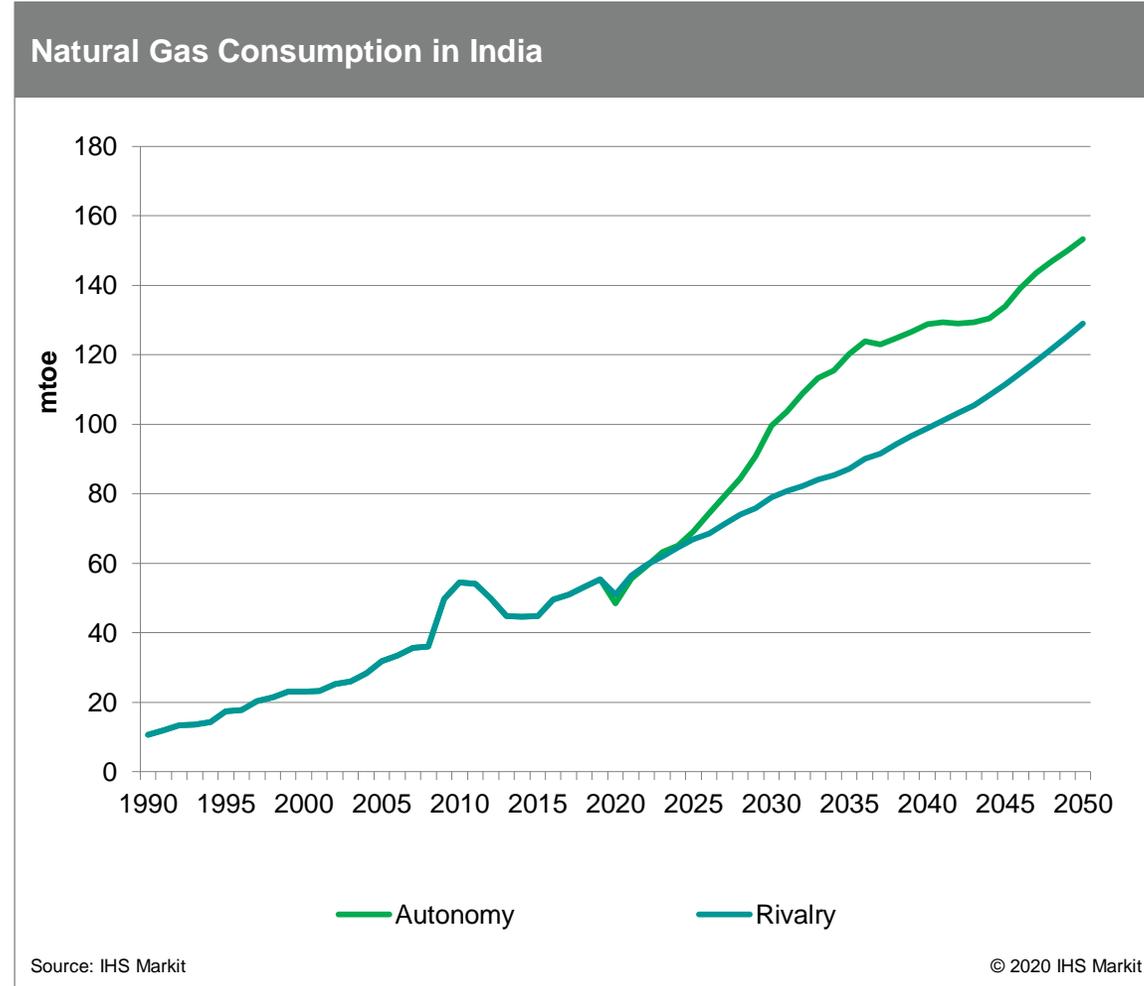
Source: IHS Markit

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Natural Gas Consumption

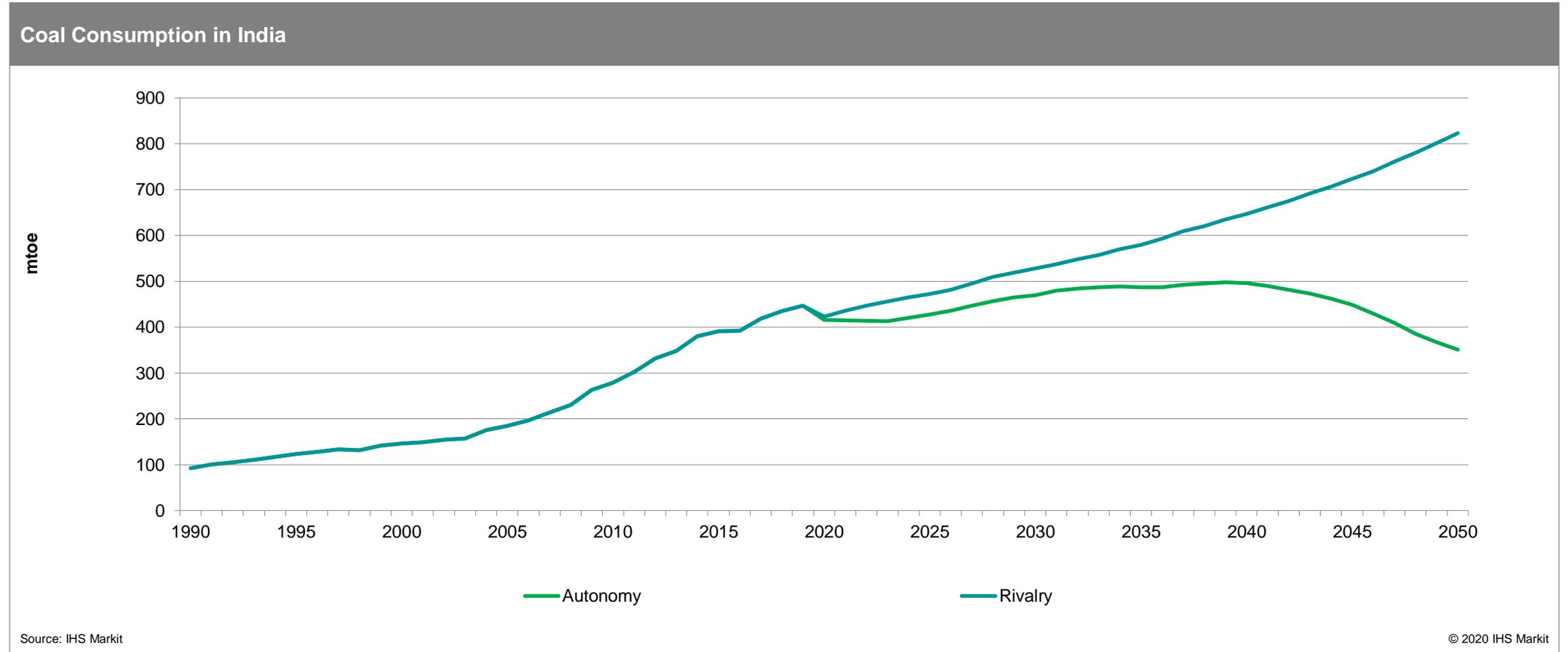
Natural Gas Consumption grows 3X in the Autonomy scenario over 2019

- Gas demand is forecast to grow at 3% per year, with fertilizer and industry accounting for 50% of this incremental growth



Coal Consumption

Power sector drives the coal consumption with nearly 36% of Installed capacity in 2050 in Rivalry (base) scenario



Conclusions

- Huge potential to grow given the low per capita consumption
- Economic growth in the longer term supports higher energy consumption
- Short term energy demand growth could be affected by the economic disruption from Covid 19
- Coal to play a key role in the energy mix in the longer term in both the scenarios
- Rapid development and expansion of gas infrastructure in the country boosts gas and lng demand in mid to long term despite falling domestic gas production post 2030
- Oil consumption continue to grow during the forecast period and dependence on imports increases with falling domestic oil production
- Renewables, both solar and wind are expected to grow rapidly in the Autonomy scenario which is expected to be driven by government policy support and low tariffs. The current solar which are between Rs 2.50-2.87 (\$.034 - \$.039) per kilowatt hour (kWh), have stabilised at rates 20-30 per cent below the cost of existing thermal power in India

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