



A Vision of Coal Perspectives in India

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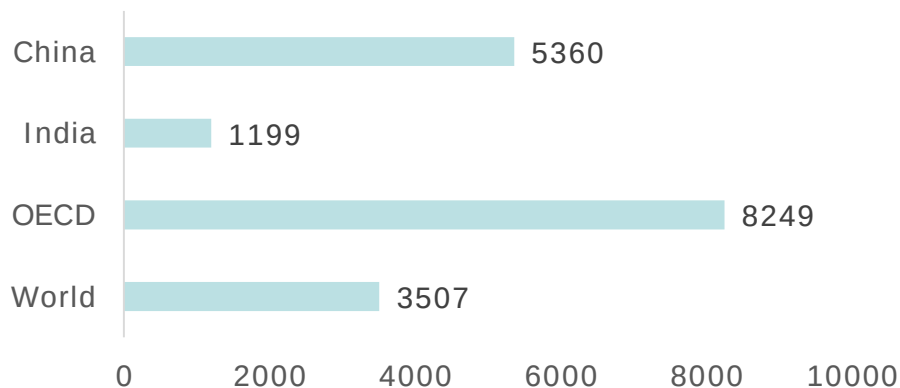


INDIA'S ENERGY PARAMETERS

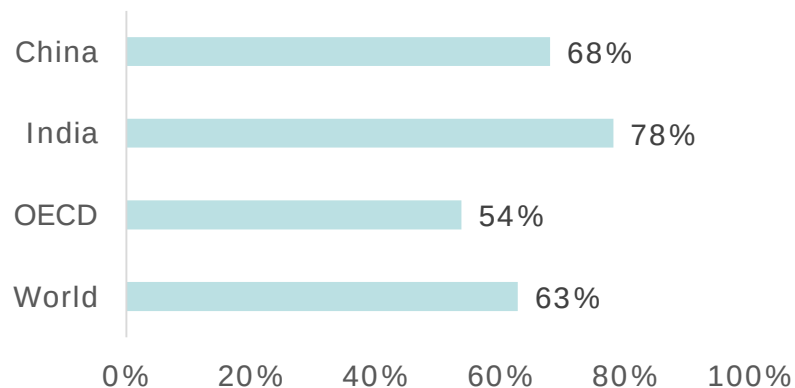


India's Energy Status

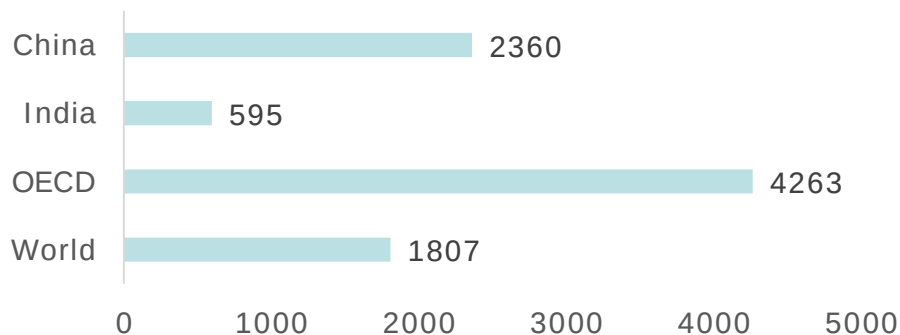
Electricity Consumption - 2019 (KWh/capita)



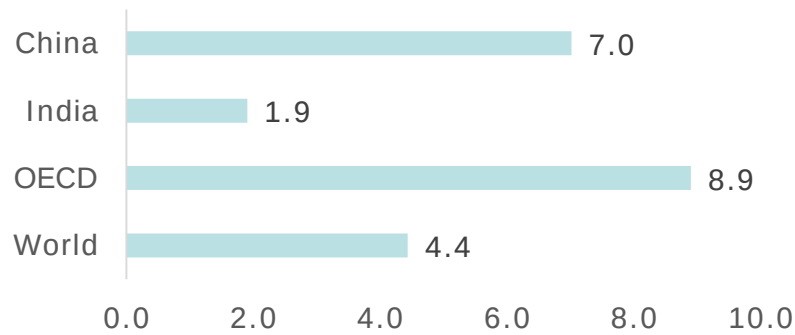
% Electricity Production from Fossil Fuels - 2019



Energy Use – 2019 (Kgoe/capita)

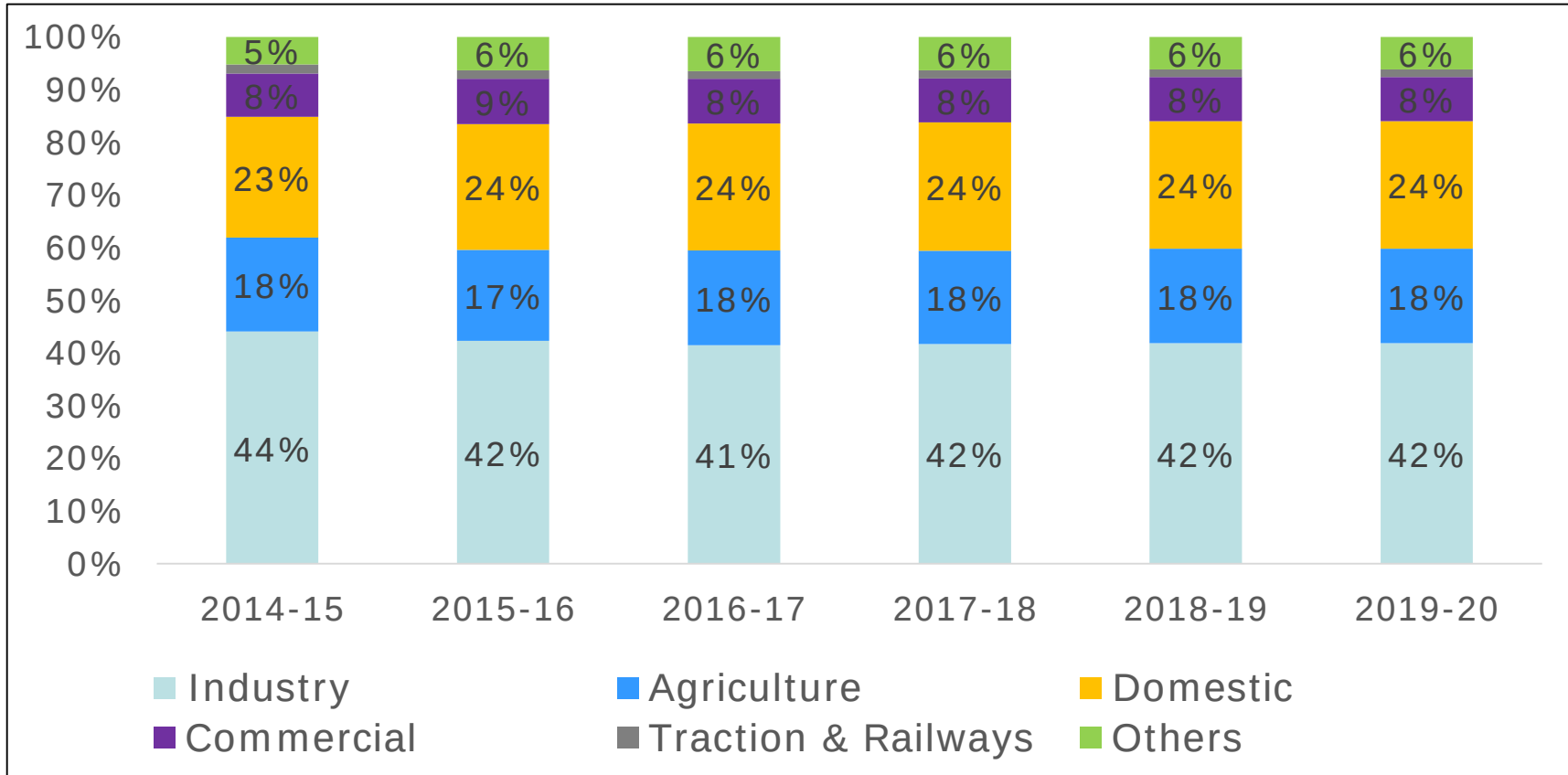


CO2 Emissions Per Capita - 2019 (tCO2/capita)





Sectoral Consumption of Electricity - India



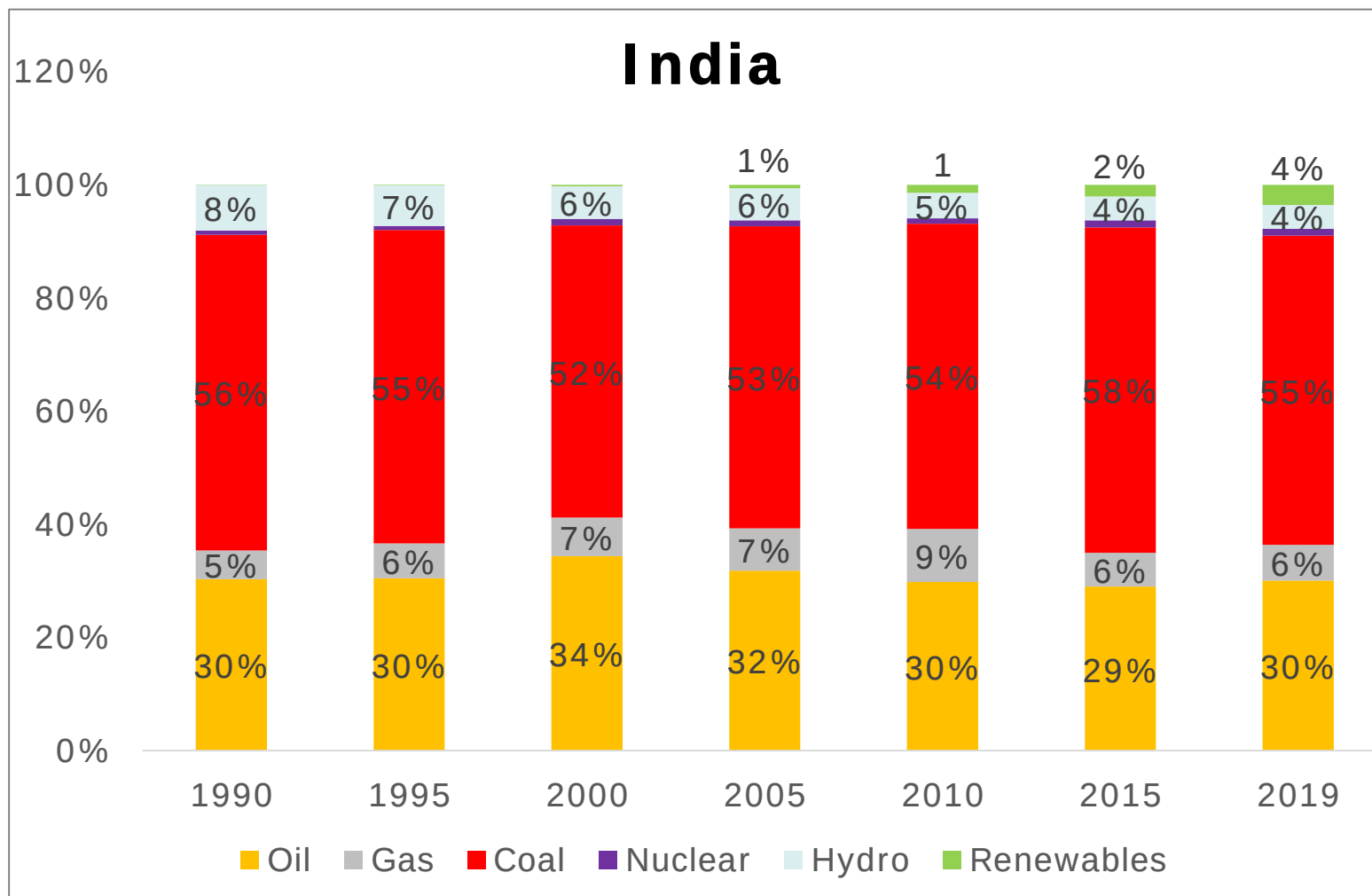
- Both Industry and Domestic, comprising two-thirds of total supply, have a large potential.
- In the last six years, shares have remained flat



THE CENTRALITY OF COAL



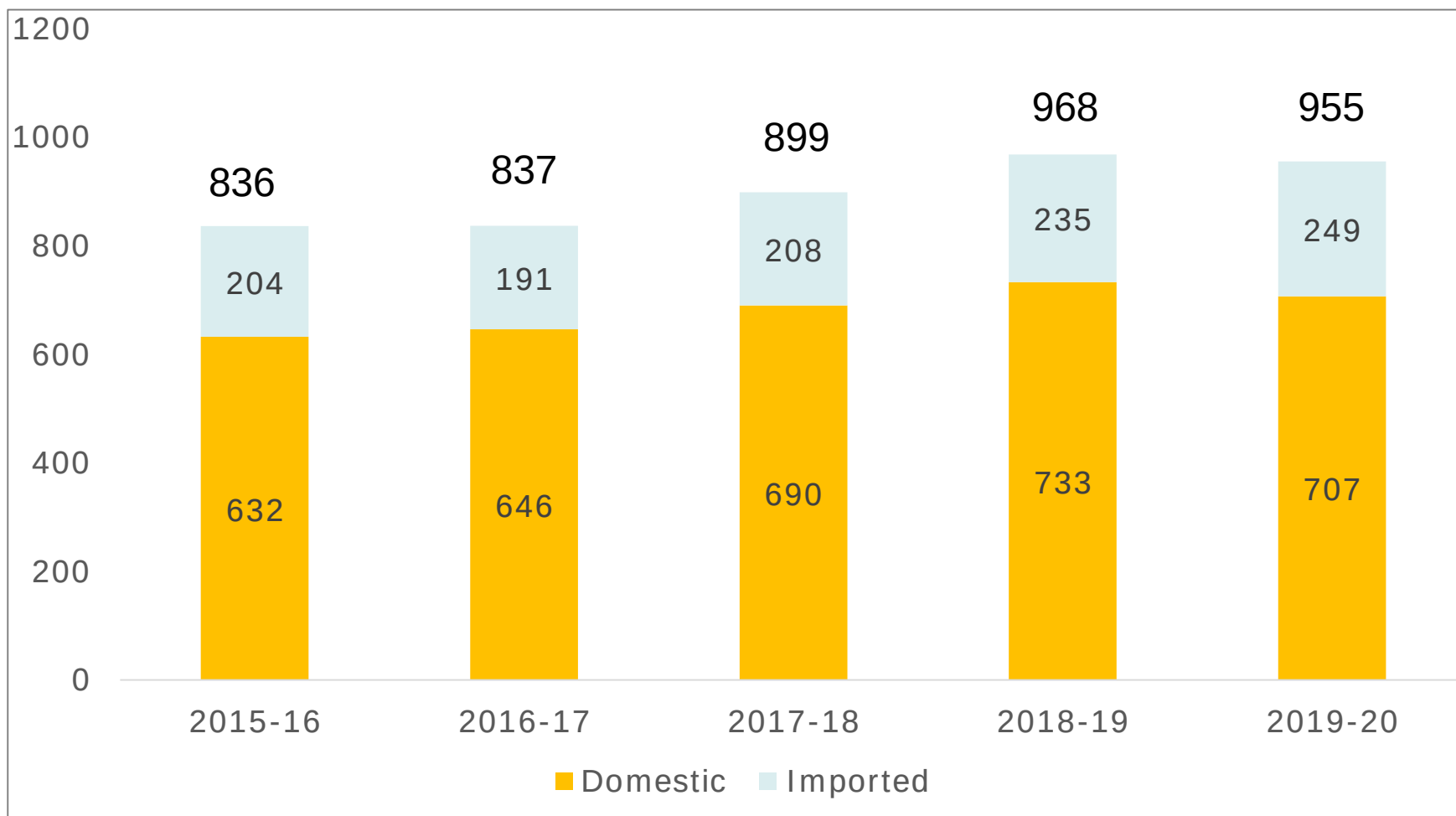
High Fossil Share – Historical legacy



- Fossil fuels are deeply entrenched
- Doubling of renewables (wind and solar) in just 4 years



India's Coal Consumption by Domestic and Imported Sources (2015-20) in MT

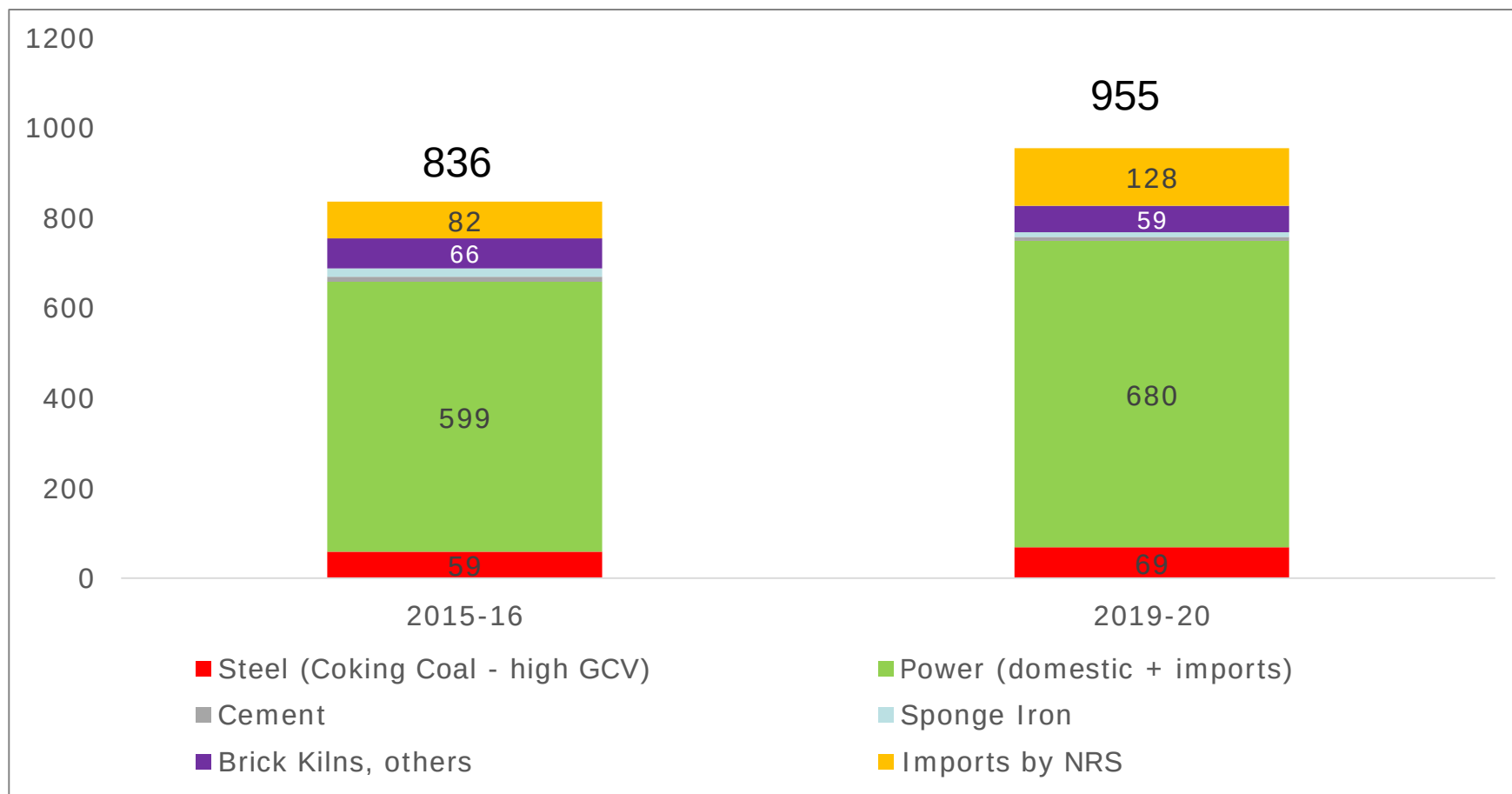


Source: CEA, Ministry of Coal (MoC)

India has a large domestic coal endowment. It has an opportunity to remove coal mining bottlenecks and enhance domestic availability



Sectoral Coal Consumption in India in MT (2015-20)

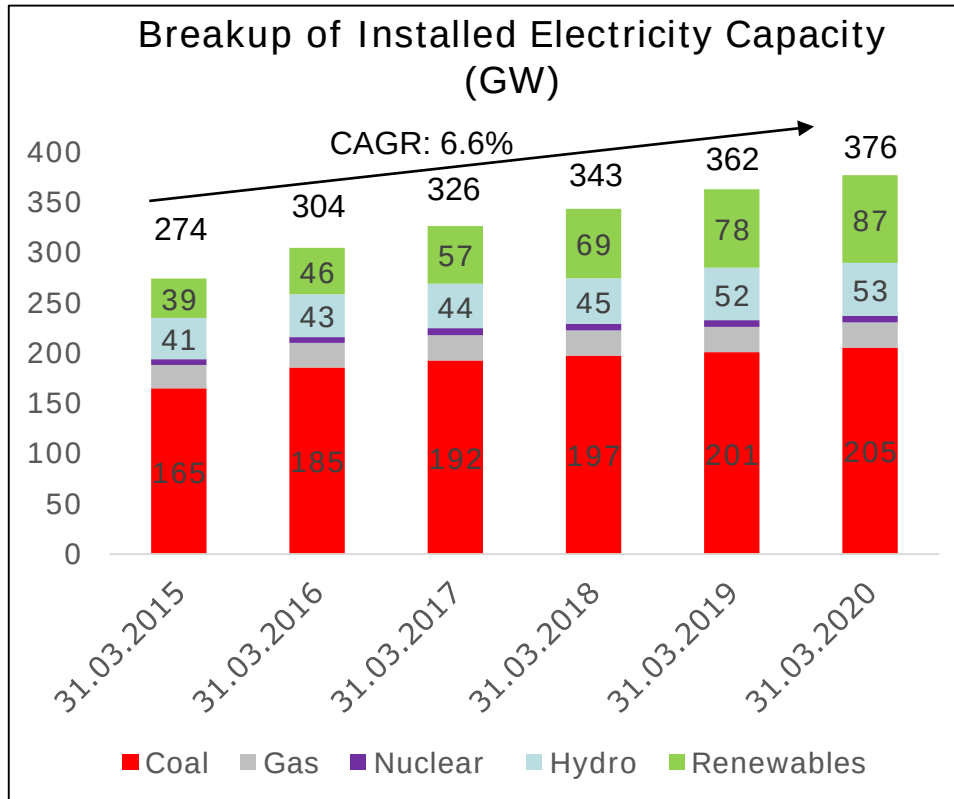
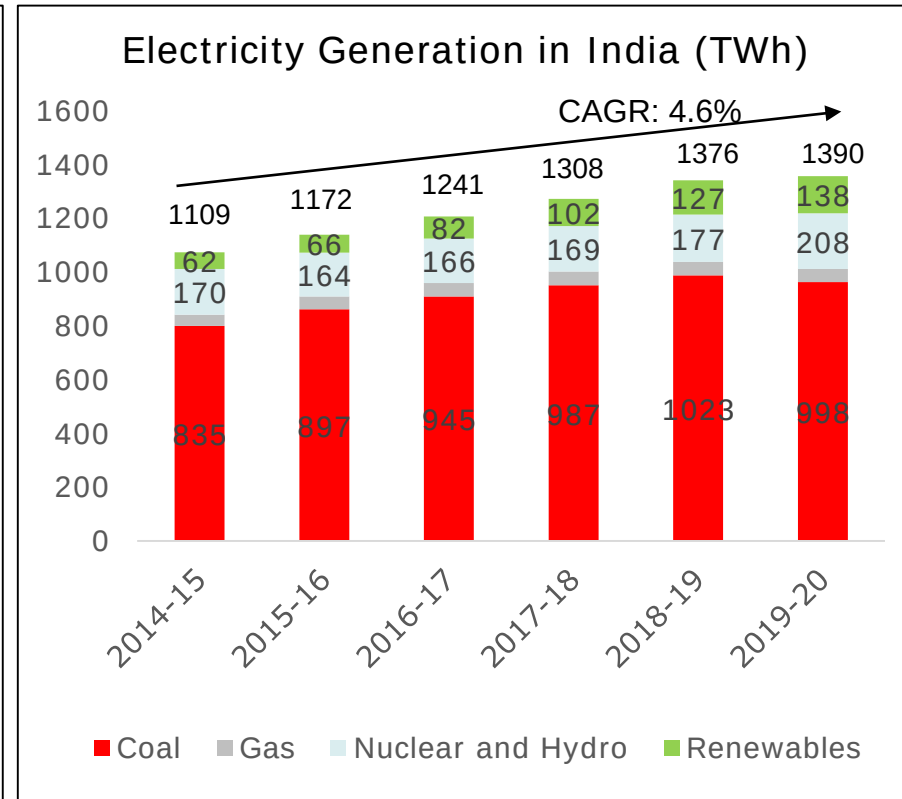


Source: MoC Annual Reports

Consumption of both thermal and metallurgical coal has been rising.



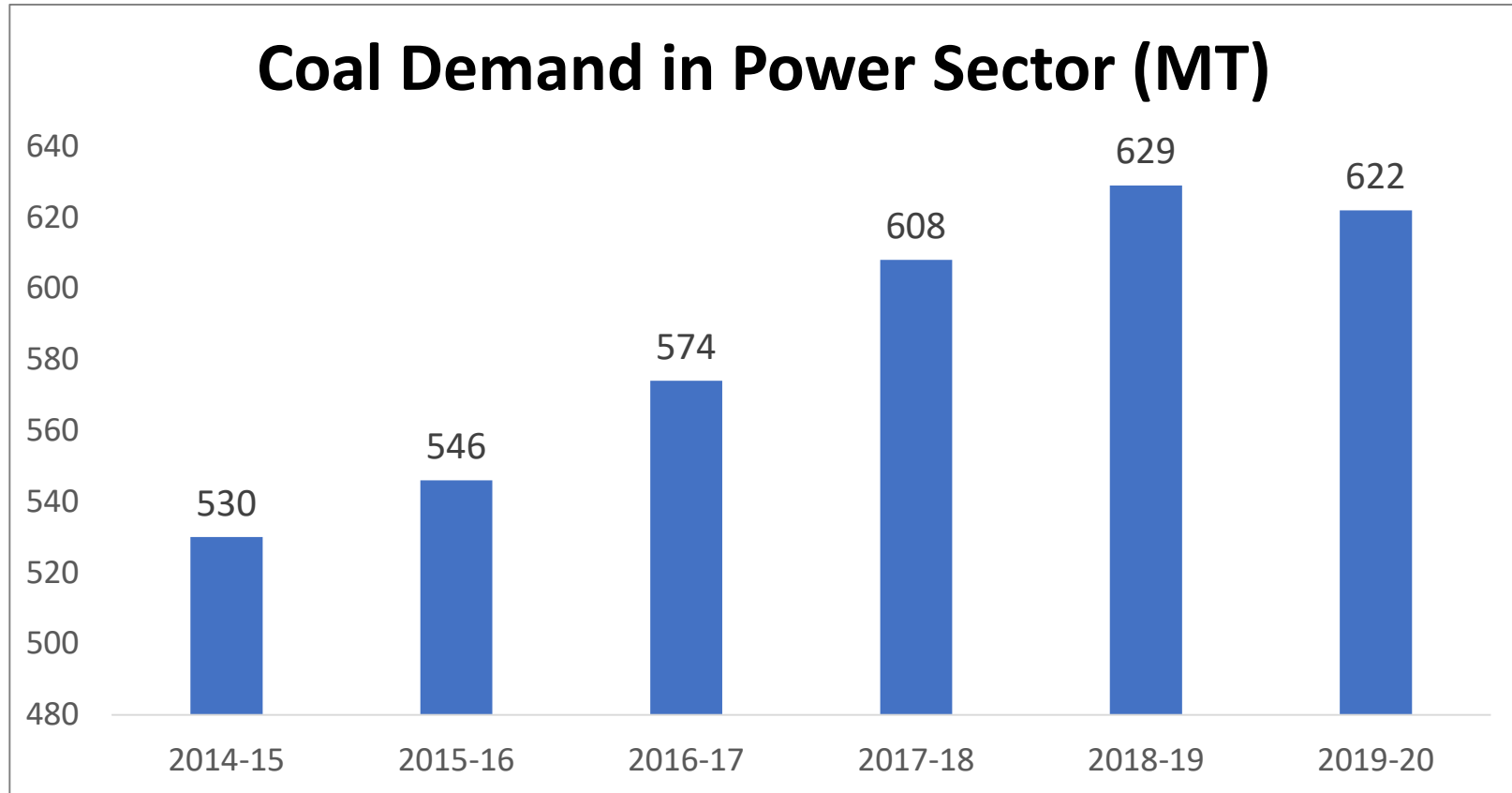
Rising Power Demand



- The installed capacity has risen @ CAGR of 6.6% from 2015 to 2020, with an addition of 40 GW of TPP capacity
- Power demand has risen @ CAGR of 4.6%. But for 2019-20, the growth rates would have been higher



Coal Demand in Power Sector

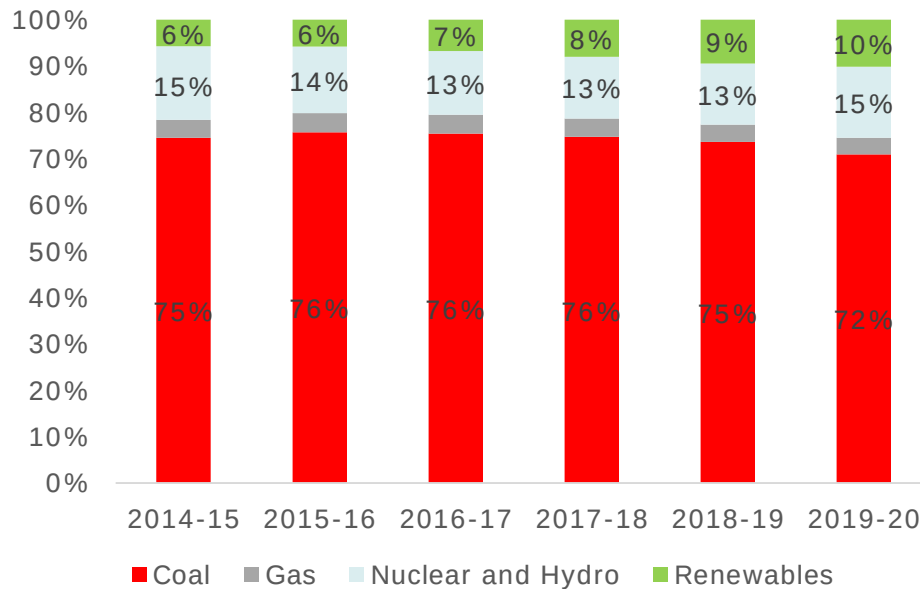


- Steadily rising over the years.
- Impacted in the last 2 years by economic slowdown and Covid-19.

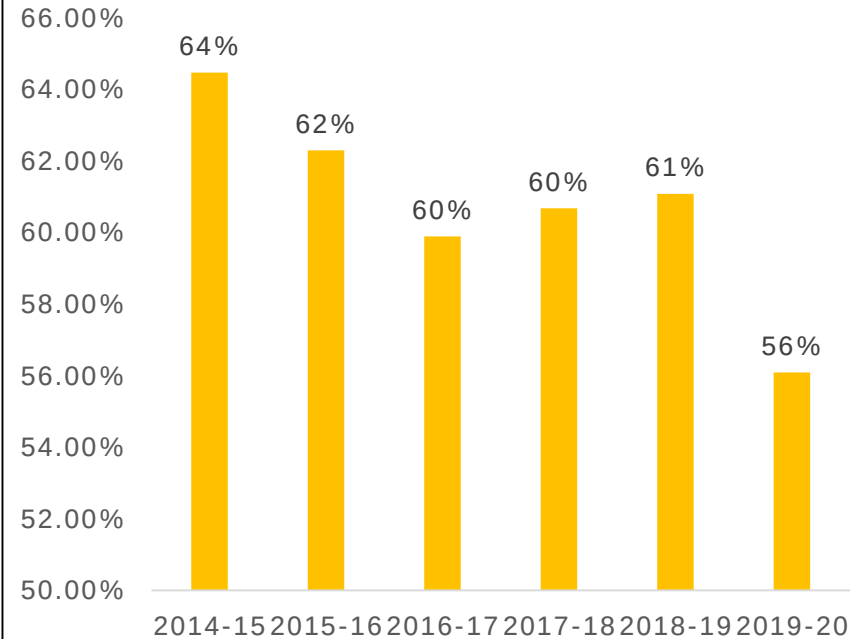


A Rise in Renewables and Decline in PLF of TPPs

% share of Primary Fuels in Electricity Generation



PLF of Coal and Lignite Power Plants



- Renewables are rising steadily.
- PLF of coal and lignite power plants has been falling.



Renewable Energy: Co-operate or Compete



Growth in Renewables Vs TPPs (2015-20)

- Indian renewable targets are highly ambitious: 450 GW of solar (2030) from 40 GW at present
- In the last 5 years, while 49 GW of renewable capacity has been added, TPP capacity addition has been lesser at 40 GW. Coal consumption in power sector has increased moderately from 530 MT to 622 MT in the same period
- DISCOMs are no longer keen to sign PPAs with TPP generators, while Government companies are entering into long-term PPAs for renewables, thereby, facilitating funding .
- Coal is finding support as solid fuel in industries where renewable has not made any dent (non-electrified processes). Mineral-based industries are poised for a large growth



Co-operate or Compete

	RENEWABLES	COAL
Demand in Power Sector	<i>Robust</i>	<i>Robust</i>
Non-power Demand	<i>Weak</i>	<i>Robust</i>
Price Competitiveness	<i>Competes well with coal</i>	<i>Losing competitiveness</i>
Capex per MW	<i>Much lower than TPPs</i>	<i>Capex is higher, also because of pollution control devices</i>
Policy support/Market perception	<i>All round support</i>	<i>Faces headwinds.</i>



Prospects for Coal



Dampening in Energy Demand (FY19 & FY20)

- Energy demand (and electricity) has been subdued in India over the last 2 years – potential is higher
- Demand for power has picked up feverishly over last 2 months, and coal has brought stability to the power system
- New Coal blocks have been offered over the last one year under a liberalized regime, and has found takers (readily for import substitution)
- Economic reforms/booster measures/power distribution reforms are expected to unleash economic growth and energy demand



Prospects for Coal

- Coal demand may rise, but at a tepid rate. The scenario of use as solid fuel is bullish.
- New TPPs are not on the horizon, but higher PLFs may meet the growth in power demand.
- Renewables will witness an exponential growth – so RE and TPPs cooperate and not compete
- The recent surge in power demand is indicative that the fundamentals of Indian economy are strong and Covid may not have a long-lasting impact.



Thank You

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