



Date

Name of anchors

Name of Speakers



Coal is king but for how long?

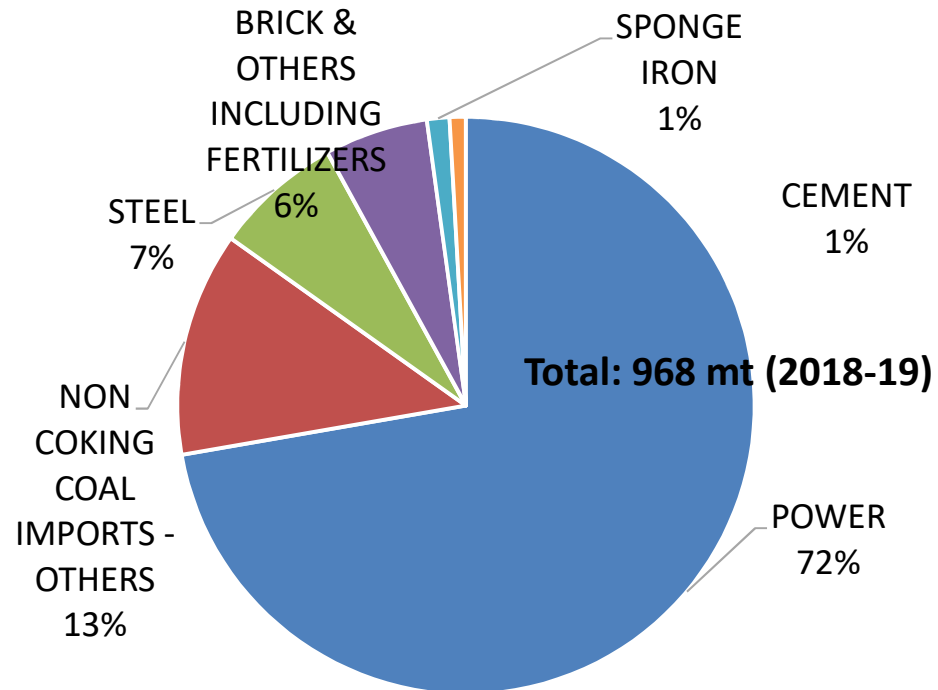
- We ask the following questions in this investigation
 1. What is India's current coal used for?
 2. Why do we need to mine more? What will be the future usage of coal?
 3. Is the policy brought in to substitute imports? If so, how much is imported and for what? Can substitution work
 4. What is the energy mix for the future?





Coal – Source of electricity today

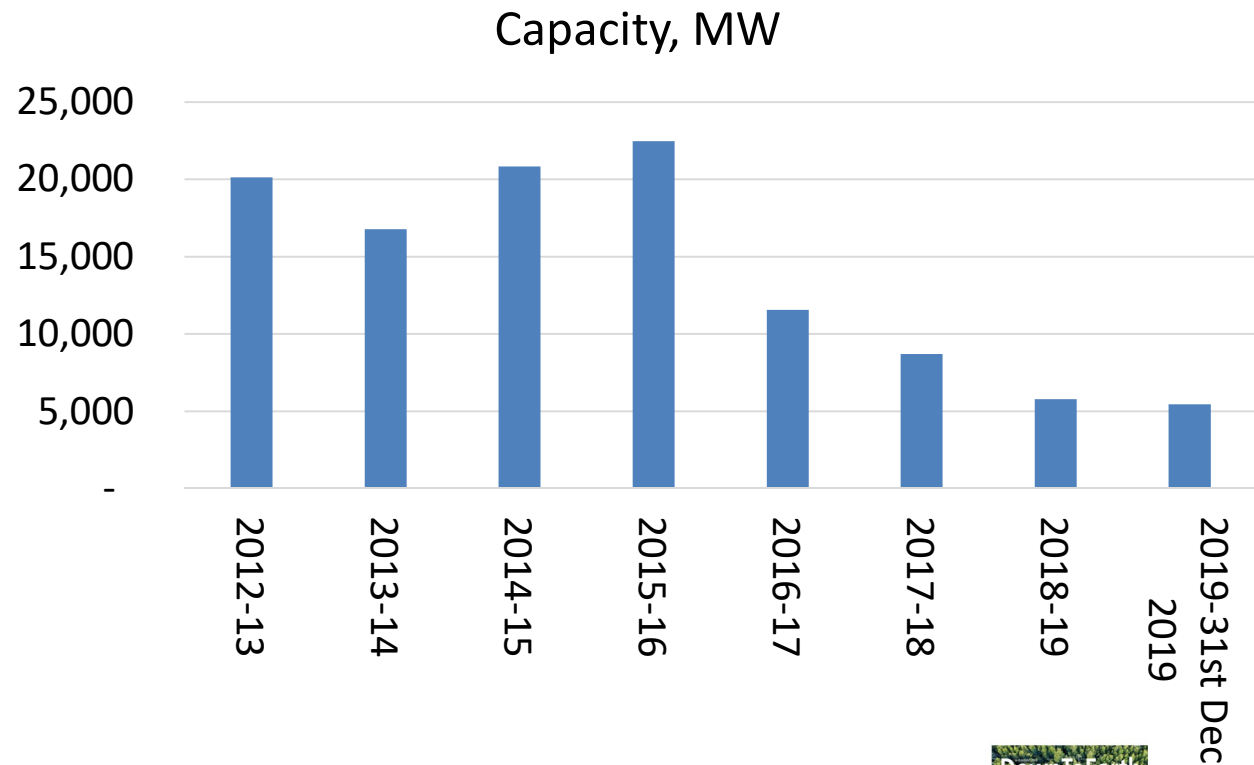
- Over 70 per cent or ~ 700 million tonnes used to generate power
- Others coal users - steel, bricks, sponge iron, cement and other industries





Coal era in power sector to fade

- India is now not adding new thermal power plants at previous rate.
- Existing plants working below capacity.
- Solar and RE – competing.





Coal production - Domestic vs. Imported

- In 2018-19, of the 968 million tonnes of coal consumed, 250 million tonnes was imported.
- Despite vast coal reserves, over the past 10 years, from 2008 to 2018, coal imports have jumped five times
- Biggest exporters: Thermal coal - Indonesia and South Africa, Metallurgical coal - Australia.





Coal is under Open General licence

- Open General License (OGL) – list decided by Ministry of Commerce
- Means private parties can buy coal directly from coal miners in, say, Indonesia and have it shipped to ports and then to their units.
- Growing use of coal, imported or domestic, in small, medium and large boilers and furnaces spread across the country is already adding to pollution load in our cities





But imports of coal may not be that easy to stop

- Two varieties of coal imported – Coking (30%) and Non-coking (70%)
- Coking is good quality coal – with less ash and high C content used by steel industry – swapping not possible
- 183 mt out of 250 mt imported is thermal coal - certain plants designed to operate with coal of a certain grade.
- Currently some 18,030 MW power plant, which require about 40 million tonnes of coal, cannot do without imported coal





Coal gasification? Green?

- Government says that in order to 'green' coal it will be converted into gas (coal blown with oxygen and steam to produce syngas)
- Current auction, the government has given incentives to bidders: use at least 10% annual coal production for making gas which will displace costly imported natural gas.
- **However, experts say coal gasification is not a clean process and is highly carbon intensive. It produces more CO₂ than a normal coal-based plant and is also a water-intensive process. The technology has also not been very successful on ground so far.**



Energy mix of future

- Niti Aayog estimates that India will need much more coal in 2042 – 1.78 billion tonnes annually as against 900 million tonnes today
- But it also accepts that coal usage will not grow in the power sector
- Instead it will grow in formal sector like steel, but more in the unorganized and small scale industry like brick etc.





Coal demand to emerge if at all only in Industries

- Major demand expected from steel sector and industries.

SECTOR	Now	2030
POWER – UTILITY (LARGE)	608	814
POWER – CAPTIVE	92	NA
STEEL	67.76	297
BRICKS	53	66-118
Other industries	147.24	NA
Total	968	1229+





Energy future?

- CEA in its draft report on optimal generation capacity for 2029-2030 says the non-fossil fuel power installed capacity will grow exponentially – from 36 per cent in 2018 to 65 per cent in 2030.
- On maximum solar energy day, coal based power generation will need to be curtailed by 17 per cent
- Higher the curtailment; higher the pollution





Coal will add to pollution

- Burning coal in power plants has a huge pollution footprint
- 2015 emission standards (which were to be implemented by 2017 and now deadline pushed to 2022) will reduce pollution from power plants
- But there are little controls on coal usage in other industries – small and medium scale units. This is where growth of coal usage is expected





Thank you

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