Is it the Beginning of End for India's Thermal Power Plants?

What is the issue?

Not adding any more thermal power capacity is important for India keeping in view its commitment to become carbon neutral by 2070.

How important is thermal power for India?

- At present, thermal power accounts for almost 60% of India's total installed power generation capacity.
- It is produced by burning fossil fuels like coal, gas, etc. and out of this, coal alone accounts for more than half of India's installed electricity generation.
- It has been the centrepiece of India's energy ecosystem for several decades because it is the cheapest natural resource and is abundant in India.
- It plays an important role in determining transportation costs, thereby determining the price of the end product.
- India's coal reserves are expected to last 100 years, compared to around 50 years for gas and about 16 years for oil.
- An expert group formed by NITI Aayog expects India's coal-based power generation capacity to touch 250 GW by 2030 from around 202 GW currently.

Why is the world turning against coal-fired power plants?

- The 2018 report by the IPCC warned against climate changes and stressed on limiting the operation of coal-fired power plants by 2050 to limit global warming.
- Coal-based power plants are significant contributors to pollutants such as particulate matter (PM), nitrogen oxides (NOx) and sulphur dioxide (SO_2).
- **India's plan-** Various committees and expert groups formed by Ministries and Departments have suggested not adding more coal-fired plants.
- It is important for India to become carbon neutral by 2070 and to have around 500 GW of renewable energy power by the same time.
- With growth in renewable energy power generation, the share of coal-based thermal power in the total power generation mix will decline from the existing 72% to a range of 50–55% by 2030.
- Generally, coal-based plants are decommissioned after the completion of their useful life, which varies between 30 to 45 years in India.
- The Council on Energy, Environment and Water suggested considering 30 GW of India's coal-based capacity for accelerated decommissioning as it would result in a one-time saving of Rs. 10,000 crore by avoiding pollution control retrofits.
- The proposed plants overlap with those identified for retirement in the **National Electricity Plan, 2018**.

To know about National Electricity Policy, click here

What challenges will India face in decarbonising its power sector?

- **Twin challenge**- India faces a twin challenge in decarbonising its power sector
    1. Replacing thermal power with RE sources in a phased manner
    2. At the same time, meeting rising demand for power
- Electricity demand in India is expected to grow at a CAGR of 5% during 2018-2040, which makes it crucial for India to urgently adopt cleaner technologies at scale and promote sustainable power generation.
- **Challenges in renewable power**- RE cannot produce power at all times during the day.
- Besides, the low-capacity utilisation of the transmission system is also impacting its growth.
- **Operation issues**- Another operation issue is grid operations and creating the right mix of various power sources like RE, coal-fired, etc.
- **Optimum utilisation-** Optimum utilisation of transmission resources is an issue which needs a clear picture of power requirements across the country and how an optimum mix of RE and thermal power can be devised to meet demand.

References

1. https://www.thehindubusinessline.com/blexplainer/is-it-the-beginning-of-end-for-indias-thermal-power-plants/article38025578.ece