Retiring Old Thermal Power Plants

Why in News

According to a report by research organisation **Climate Research Horizon, shutting down thermal power plants older than 20 years** can **save the government Rs. 53,000 crore over five years.**

> The thermal power plants were analysed in **11 States** (Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal), which account for **nearly 50% of Power Distribution Companies (discom) dues.**

Key Points

- **Findings from the Report:**
  - **Shutting down old coal-based power plants** and **freezing those under construction** can save over **Rs. 1.45 lakh crore** at a time when **electricity demand** has been **hit due to Covid-19.**

    The savings will accrue from **avoiding retrofitting old plants** to reduce the toxicity from their emissions.
  - **Replacing electricity from older coal plants with cheaper renewable sources** will reduce the gap between cost of supply and revenue generation for discoms.
    - With lack of power demand due to Covid-19, and difficulties in revenue collection, discoms' overdues to power generators have increased to Rs. 1,14,733 crore.
    - The Centre is in the **process of disbursing Rs. 1,00,000 crore** by way of relief to discoms to enable them to pay their dues to generators. This is expected to be a **temporary fix,** given the lack of progress by discoms in reducing the gap between cost of supply and revenue raised.
  - Further, surplus electricity generation capacity has seen many **power plants struggle with low Plant Load Factors** (PLF or capacity utilisation), a situation that most experts predict will persist for the foreseeable future.
- **Power Generation Scenario:**

  India mainly uses three types of **thermal power plants-** Coal, Gas and Liquid-fuel based. The electricity generated by these plants adds up to **62.2%** of the total power generation in the country.

Fuel	MW	% of Total
Total Thermal	2,31,456	62.2%
Coal	1,99,595	53.7%
Lignite	6,360	1.7%
Gas	24,992	6.7%
Diesel	510	0.1%
Hydro (Renewable)	45,699	12.3%
Nuclear	6,780	1.8%
RES* (MNRE)	88,042	23.7%
Total	**371,977**	

- **Problems Faced by Discoms:**
    - 75-80% of a disoms' costs are in power purchase and many are locked into expensive agreements **(Power Purchase Agreements** -PPAs) for decades.
        - PPAs in India are **not flexible.** They lack the option for exiting the contract.
        - Also renegotiating them in case of demand collapse is not easy because of lack of provisions for a review of terms and conditions.
        - Discoms purchase power from generation companies through **Power Purchase Agreements** (PPAs), and then supply it to their consumers (in their area of distribution).
    - This has been **affecting the ability of discoms to buy power for supply,** and the **ability to invest in improving the distribution infrastructure.** Consequently, this impacts the quality of electricity that consumers receive.
- **Issues Complicating the Problem:**
    - **Lockdown Effect:** The nationwide lockdown has resulted in peak electricity demand coming down, with commercial and industrial power demand taking a hit after many factories shut down.
    - **Power theft** is also a challenge.
    - **Cross Subsidisation -** Discoms charge "commercial and industrial (C&I) consumers" very high tariffs.
        - This is to compensate for subsidies provided to residential and agricultural consumers, for whom tariffs are kept artificially low for political reasons.
        - High tariffs combined with unreliable supply have rendered Indian industry uncompetitive in global markets.

            However, to counter this, industries were forced to build capacity for **captive electricity generation** (i.e a small and private owned power plant within industrial units or clusters) – which accounted for as much as 17% of all discom sales in 2017.
    - **Ineffective Government Schemes-** The **Ujwal Discom Assurance Yojana (UDAY)** that was launched in 2015 to fix the financial problems of the sector has not yielded expected benefits.

Government Initiatives

- **Shut down old power plants:** The **2020-21 Budget speech** advised utilities to close thermal power plants which are in violation of **National Clean Air Programme** (NCAP) norms.

- **Economic Stimulus:** Part of the Rs. **90,000-crore economic stimulus package** announced by the Ministry of Finance is assigned for liquidity injection into power distribution companies.
    - The move is aimed at helping the discoms clear their dues with GENCOS (or electricity generation companies), who in turn can clear their outstanding dues with suppliers, such as coal miners, easing some of the working capital woes of Coal India Ltd. and contract miners.
    - This is subject to the condition that the Centre will act as guarantor for loans given by the state-owned power finance companies to the discoms.

Solutions

- **Cost Effective Solar Plants:** The average cost of coal-fired projects is **Rs.4 per unit** and generally sees an upward escalation whereas new solar power plants are being bid out at less than **Rs.3 per unit.**
- **Encourage Private Sector:** New private competition can bring new capital and more innovation.

    New coal-fired power plants are still being financed so that the private sector is not building any coal-based power plants at all; only the public sector power companies are doing so. These PSU thermal plants are financed by public sector banks and largely on tax payers' money.
- **UDAY 2.0:** Government's announcement of the launch of UDAY 2.0 which seeks installation of smart prepaid metres, prompt payment by discoms, making coal available for short term and reviving gas-based plants is a step in the right direction.
- **Flexible Contracts:** Long-term supply contracts need flexibility for public utilities to adapt to unforeseen situations such as a Covid collapse in demand.

Way Forward

- There is an urgent need to address the issues of burgeoning outstanding dues of discoms towards power generators and stressed projects that are being dragged under insolvency proceedings.
- **Formulation of pragmatic power tariff policy** is the need of the hour because without a financially viable power sector, socio-economic growth of India will suffer.
- The Indian government has vowed to provide 24X7 power supply to every village and every house in India. The fulfilment of this dream will rest upon a sustainable power sector. Therefore, the government should proactively address the concerns of these power distribution companies.

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