POWER SECTOR IN INDIA - GS III MAINS

Q. The existence and development of adequate power infrastructure is essential for sustained growth of the Indian economy. Critically analyse the challenges associated with the power sector in India. (15 marks, 250 words)

News: *"Market coupling" in the power sector: Is India doing enough?*

What's in the news?

- The Central Electricity Regulatory Commission (CERC) and the Ministry of Power focus on deepening power markets, bolstering transmission systems and optimising procurement costs for discoms (power distribution companies).

Power Sector:

- Power is among the most critical components of infrastructure, crucial for the economic growth and welfare of nations.
- The existence and development of adequate power infrastructure is essential for sustained growth of the Indian economy.
- The fundamental principle of India's power industry has been to provide universal access to affordable power in a sustainable way.
- **India's power sector is one of the most diversified in the world**. Sources of power generation range from conventional sources such as coal, lignite, natural gas, oil, hydro and nuclear power, to viable non-conventional sources such as wind, solar, agricultural and domestic waste.

Issues Associated with Power Sector:

1. Challenges in Fuel Supply:

- The challenges include unequal contractual provisions, inadequate supply and poor transport logistics.
- Coal is transported over long distances through railways, but such long haulage leads to increased delivery costs, thefts and life-cycle energy consumption

2. Challenges to Open Access:

- While all states in India have notified open access, only 19 have determined all the charges (cross-subsidy charges, wheeling charges, transmission charge) on open access.

3. Poor Financial Health of DISCOMS:

- The main causes of which include unmetered consumption, low collection efficiency and high technical losses due to insufficient capital expenditure on up-gradation of existing infrastructure.
- The extent of commercial losses of DISCOMS across India increases by over 50% in the absence of subsidy.

4. High Transmission & Distribution Losses:

- Averaging about 22.3% of electricity which is very high as compared to those of the developed countries (6-11%).

5. Under-procurement of Power by States:

- Cancelling out costlier Power Purchase Agreements (PPAs) in favour of newer and cheaper agreements.

6. Coordination Issues:

- Multiple ministries and agencies are currently involved in managing energy-related issues which presents challenges of coordination and optimal resource utilisation, thus undermining efforts to increase energy security.

7. Interstate Disputes:

- India is a federal democracy and because rivers cross state boundaries, constructing efficient and equitable mechanisms for allocating river flows has long been an important legal and constitutional issues.
- Due to this there is not availability of water all the time to operate hydro plants. Inter- state disputes also restrict the excess power exchange between the states. For example, Mahanadi water dispute.

WAY FORWARD:

1. Fuel Reforms:

- Various aspects like ramping up coal production by both public and private sector in a time-bound manner, increased participation of private sector in coal production and easing of regulatory framework, clearances and approvals for allocation and development of coal blocks & gas infrastructure need to be addressed while formulating such reforms.

2. Balanced Regulatory Interventions:

- Regulators need to be sensitised to the challenges faced by the sector and policy framework needs to be crafted and enforced to ensure a win-win situation for all the stakeholders.
- They must pro-actively intervene to resolve the immediate issues ailing the power sector.

3. Increased Financing Facilities for Energy Sector:

- A robust and sustainable credit enhancement mechanism for funding in Energy Sector needs to be put in place through increased participation by global funding agencies like The World Bank, ADB etc. in the entire value chain.

4. Public Private Partnership:

- There is a strong need to push for wider-scale implementation of public private partnership models.
- The private sector has been playing a key role in generating power, a more supportive environment will help in bridging the energy deficit of the country.

5. Taxation:

- Power-generating companies should not be saddled with the burden of cross-subsidising the renewable sector.
- This can be borne by the society (through taxation) and not by the entities that are already in trouble.

6. Cooperative Federalism:

- To resolve water disputes, government must help states to come to a common ground.
- Emphasis should be on cooperative federalism with shared benefit to all the states.

7. Merger of Ministries:

- There should be only one energy ministry to make coordination and implementation of policies better. It will remove policy paralysis too.

8. Reduction of Transmission Losses:

- This should be achieved by better infrastructure and technological efforts. Old plants should be shut and should be replaced with new.

In the current decade (2020-2029), the Indian electricity sector is likely to witness a major transformation with respect to demand growth, energy mix and market operations. India wants to ensure that everyone has reliable access to sufficient electricity at all times, while also accelerating the clean energy transition by lowering its reliance on dirty fossil fuels and moving toward more environmentally friendly, renewable sources of energy.