



Mains Practice Question

Q. Briefly outline the underlying causes for the declining cost of electricity production in recent times. Also, suggest policy measures to reduce the cost further. (250 words)

23 Oct, 2019 GS Paper 3 Economy

Approach

- Introduce by giving some facts about reducing electricity production costs in India.
- Explain the causes of declining costs and suggestions to reduce the cost further.

Introduction

Efficiency in power supply plays a critical role in India's rapid growth and industrial development. With focus on renewable energy, there are significant advancements in technology upgradation and cost effectiveness. Recent study by IRENA found that the costs for setting up solar PV projects have dropped by about 80 per cent in India between 2010 and 2018.

Body

Causes for declining cost of electricity production in recent times:

- **Advances in technology:** This resulted in the construction of larger power plants, indicating economies of scale.
- **Increasing share of private sector investment** which is far more cost effective than public investment.
- Flexible **utilization of coal linkages** by state owned or central owned generation utilities that could result in an optimal utilization of the linkage coal from mines and help lower the transportation cost of domestic coal.
- **Competitive tariff-based bidding** of solar project that Solar Energy Corporation of India, State and Central Government have undertaken through reverse auctioning.
- **Subsidizing renewable energy generation:** The incentives provided by the Government under **National Solar Mission** have been instrumental in reducing cost and adoption of solar energy.
- **Facilitating land acquisition:** The **Solar Park Policy** introduced guidelines that lead state governments to identify suitable large tracts of land with appropriate insolation levels, and prioritise the use of government waste/non-agricultural land in order to speed up acquisition process for **setting up solar park**.
- **Low cost of labour-** India has the lowest cost of labour allowing solar industry to employ a large number of people resulting in speedy project completion at the lowest cost.

Policy measures to reduce the cost further:

- **Achieving economies of scale:** Infrastructure projects have an inverse relationship between size and unit cost. Focus should be on construction of large solar and wind plants in the future to shift towards non-fossilized clean energy.
- **Project ownership:** Private sector plants have an average cost which is 12-34% lower (cost per MW) for all categories except solar. Therefore, creating additional capacity in existing plant at

lower cost can play a big role in keeping electricity tariffs low.

- **Investing in infrastructure development:** Better ports, road and rail connectivity would help create linkages and lower the transportation cost of domestic coal.
- **Financial restructuring of DISCOMs:** Timely implementation of **Ujwal Discom Assurance Yojana** (UDAY) would help respective state governments to improve their operational efficiencies.
- **International engagements:** Utilizing opportunity of newer hydroelectric power generation plants in neighboring countries of Nepal and Bhutan.

Conclusion

As India continues to ramp up capacity, it is imperative to create generation assets with the lowest unit cost by optimizing plant capacities and encouraging private sector investment.

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