



Mains Practice Question

Q. Energy security is significant for socio-economic development. Discuss the challenges in achieving energy security and suggest measures to ensure it.

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Approach

- Start with writing the significance of the energy security for socio-economic development of the country.
- Discuss the challenges in achieving energy security.
- Also suggest some measures to ensure energy security.
- Conclude suitably.

Answer

Significance of Energy Security

- Energy Security means reliable supply of energy and access to energy resources and fuel in the required quantity and quality at reasonable prices. Energy security depends on many variables.
- Definitions of energy security for countries importing energy materials consist mostly of three aspects:
 - Access to an adequate amount of energy resources,
 - In an appropriate format,
 - For an adequate price.
- India imports 80% of its oil needs and is the third largest oil consumer in the entire world.
- India's energy consumption is expected to grow 4.5% every year for the next 25 years.
- Recently due to high International Crude Oil Prices, Current Account Deficit (CAD) inflated because of higher cost of oil import, raising concerns about long term economic stability in India, highlighting importance of energy security.

Challenges of Energy Security in India

- **Policy Challenges:** Failure to attract international investment in domestic hydrocarbon exploration.
 - Coal mining in India suffers from delays due to regulatory and environmental clearances.
 - The [NITI Aayog](#) has produced an energy strategy but it has no executive authority and, as was the case with the Planning Commission document "Integrated Energy Policy" published in 2006.
 - The Planning Commission document was endorsed by the Cabinet and yet the majority of the recommendations were ignored.
- **Accessibility Challenge:** The household sector is one of the largest consumers of energy in India. It is responsible for about 45% of the total primary energy use. In rural areas, biomass accounts for 90% of total primary fuel consumption for cooking. This has serious health impacts on the rural people.

- **Infrastructure and skill related challenges:** Lack of skilled manpower and poorly developed infrastructure for developing conventional and unconventional energy.
 - India lacks transportation infrastructure for making energy accessible e.g. pipelines can be a useful way to boost the total supply of gas in the country. Gas will play a major role in the Indian energy mix because it can be used effectively in several demand sectors.
- **Economic challenges:** Coal, oil and natural gas are the most important sources of primary energy in India. Inadequate domestic supplies of these hydrocarbons are forcing the country to increase its import bill.
 - Rising fuel subsidies create difficult conditions for the economy.
- **External Challenges:** India's fragile energy security is under severe pressure from its rising dependence on imported oil, regulatory uncertainty, international monopolies and opaque natural gas pricing policies.
 - In wake of its difficult geographic location in South-Asia, India faces a strategic challenge to meet its energy needs.
 - Failure to get onboard all interested parties in IPI (Iran-Pakistan-India) gas pipeline and TAPI (Turkmenistan, Afghanistan, Pakistan and India) gas pipeline for assured supply of natural gas.

Way Forward

For the energy security purpose various steps can be taken-

- **Legislative Action:** The government can pass an Act (possibly) captioned **“The Energy Responsibility and Security Act.”**
 - This Act should elevate the significance of energy by granting it constitutional sanctity; it should embed in law, India’s responsibility to provide citizens access to secure, affordable and clean energy and in that context, it should lay out measurable metrics for monitoring the progress towards the achievement of energy independence, energy security, energy efficiency and “green” energy.
- **Institutional Action:** The government should redesign the existing architecture of decision-making for energy. Preference can be given for the creation of an omnibus Ministry of Energy to oversee the currently siloed verticals of the ministries of petroleum, coal, renewables and power.
 - An executive department within the PMO can also be established. It could be referred to as the “Department of Energy Resources, Security, and Sustainability”.
 - The objective would be to identify and handle all of the issues that currently fall between the cracks created by the existing structure.
- **Fiscal Actions:** There should be easy access to finance and the government should incubate clean energy R&D and innovation.
- **Raise Public Awareness :** It is necessary to coordinate and implement the communication strategy to raise public awareness about existing and emergent energy-related issues, especially global warming.