



General Studies-3; Topic: Conservation, environmental pollution and degradation, environmental impact assessment.

Decarbonisation

Introduction

- The energy market has fragmented and energy nationalism is the driving force behind policy.
- Against this international backdrop, India must pivot the needle of its energy compass towards short-term energy security and long-term decarbonisation.

Coal Ecosystem

- **Coal will remain the bulwark of India's energy system for decades.**
- Hundreds of thousands depend on the coal ecosystem for their livelihood.
- The option of phasing out coal whilst environmentally compelling is not yet a macroeconomic or social possibility.
- In the interim, the government has to find an energy transition route that balances livelihoods and pushes forward the green agenda.
- Some small feasible steps in that direction would include
 - increased R&D expenditure for coal gasification and carbon capture and sequestration technologies;
 - setting a carbon tax;
 - the establishment of regulatory and monitoring mechanisms for measuring carbon emissions from industry;
 - the closure of inefficient and old plants and a decision not to approve any new ones.
- Niti Aayog could pull together a group of economists and energy experts to determine the competitiveness of coal versus solar on a full-cost basis.

Demand conservation

- Energy security cannot be achieved by focusing only on the supply and distribution side.
- **The demand conservation and efficiency side is equally important.**
- Europe will save 10 bcm of gas annually by simply adjusting their thermostats downwards by 1-degree centigrade.
- The government has conceptualised several demand management measures, but these have not been rigorously implemented.

Energy Security

- The government must increase the productivity of our existing Oil producing fields.
- Additional resources should be allocated for accessing relevant enhanced oil recovery technologies.
- India should enhance the strategic petroleum reserves to cover at least 30 days of consumption.
- The construction of a pan-India national gas pipeline grid should be expedited.

Policy Measures

- The underlying structural issues currently impeding the scaling up of renewables must be addressed. These include
 - repair of the balance sheets of state distribution companies (discoms),
 - easing the procedures for the acquisition of land and
 - removal of regulatory and contract uncertainties.
- It will take decades to harness our indigenous resources for the build up a domestic chip industry.
- In the interim, diplomats should secure diversified sources of supply to reduce the country's vulnerability.
- Creation of an enabling ecosystem for developing and commercialising third-generation clean energy technologies like hydrogen, biofuels and modular nuclear reactors.

Decarbonisation

- India is not responsible for global warming, but it will be amongst the worst affected.
- The livelihoods of those who live around the coastline will be undermined by rising sea levels.
- Millions will also be affected by melting glaciers and extremes of temperatures.
- So irrespective of who is to blame, India has to stay on the path of decarbonisation.