

## Sansad TV Perspective: Energy Conservation

In the series Sansad TV Perspective, we bring you an analysis of the discussion featured on the insightful programme 'Perspective' on Sansad TV, on various important topics affecting India and also the world. This analysis will help you immensely for the [IAS exam](#), especially the mains exam, where a well-rounded understanding of topics is a prerequisite for writing answers that fetch good marks.

In this article, we feature the discussion on the topic 'Energy Conservation'.

Video link: <https://youtu.be/C-7AJRTBd8Q>

**Anchor:** Vishal Dahiya

### Participants:

1. Amar Nath, Additional Secretary, MOP&NG & Vice-Chairman, Petroleum Conservation Research Association
2. Abhay Bakre, Director General, Bureau of Energy Efficiency
3. Prof. Mukesh Sharma, Department of Civil Engineering, Indian Institutes of Technology, Kanpur
4. Dr. Prodipto Ghosh, Former Secretary, Ministry of Environment, Forest & Climate Change

### Context:

The evolution of human beings over a period of time has introduced a spectrum of changes in various aspects which is driven by the changing needs of the population. The variants of such changes can be observed socially, politically and economically. An assessment of the impact of the evolving and expanding human population cannot be carried forward without a prominent consideration of the environment. The environment has been a major area to experience the implications of anthropogenic activities. We have arrived at a point wherein it becomes a necessity to talk about the issues of climate change and collaborate at the international levels to mitigate the harsh consequences. In order to procure a sustainable future with normal climatic conditions and environment-friendly activities, energy conservation becomes an essential practice which the world is intending to adopt.

### UN Statistics on Energy:

- 13% global population lacks access to electricity
- 3 billion people depend on wood, coal, waste for cooking and heating
- Energy needs account for 60% of global [greenhouse gas](#) emissions

### Government of India Initiatives:

- **International Solar Alliance:**

- India has taken active measures to lower the consumption of energy and develop an efficient network of renewable energy sources. The International Solar Alliance is an embodiment of India's eagerness to lower the dependency on fossil fuels for energy requirements.
- [ISA](#) has been granted observer status by the UN General Assembly to further the cooperation between countries and establish a value system of renewable, affordable, sustainable and convenient sources of energy.
- This will be a boost for the visionary [One Sun One World One Grid](#).

- **Energy Efficiency in Buildings:**

- Energy efficiency in buildings is an integral part of urban development and planning contributing to energy security in developing countries.
- This aims at reducing energy consumption.
- In 2018, the Ministry of Power announced the ECO Niwas Samhita which provides for Energy Conservation Building Code for Residential Buildings to promote energy efficiency in building construction, apartments and townships.
- **Also read about Green Buildings in [CNA](#) dated 14th March 2017.**

- **National Energy Conservation Award**

- The Bureau of Energy Efficiency, functioning under the Ministry of Power, offered recognition to industrial units, institutions and establishments who have worked towards reducing energy consumption by awarding them with the National Energy Efficiency Innovation Awards along with the National Energy Conservation Award.
- **About the Award:**
  - The National Energy Efficiency Innovations Awards was institutionalized on the 14th of December which is celebrated as National Energy Consumption Day.
  - As a part of the celebration of Azadi Ka Amrit Mahotsav, these awards are conferred to the energy-intensive units of various sectors of the Indian economy for their significant achievements in reducing energy consumption.
  - The applications for the National Energy Consumption Awards include industries, transport sectors, the construction sector and other institutions that are divided into 30 sectors.
  - The new category of the National Energy Efficiency Innovation Award (NEEIA) will be introduced in order to encourage and boost the technologies that are innovative towards energy storage and assure energy efficiency.
  - This will motivate the industry to look for a sustainable solution for energy consumption and design research with the intent of promoting innovations.
  - The NEEIA will also include a category B for applications from students and research scholars to share their ideas of innovative technology to enhance energy efficiency. The various industry applicants will be included in Category A.
- **Significance:**

- Initiatives like the introduction of a new category of awards like NEEIA that include students act as a captivating step towards strengthening the major pillars of sustainability in the form of energy efficiency and an inclination towards renewable energy for a low carbon future.
- **Read more about National Energy Conservation Awards in [PIB](#) dated Jan 11 2021.**
- **India's wind energy potential**
  - According to the Global Wind Energy Council, India's capacity to generate electricity from wind energy was estimated at 39.2 gigawatts in March 2021.
  - India has the potential to generate 127 GW of offshore wind energy using the long coastline.
  - According to the National Institute of Wind Energy, the total wind energy potential is 302GW at a 100-meter hub height.
  - About 95% of resources that are commercially available are present in the states of Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu.
  - **Also read about [National Wind - Solar Hybrid Policy](#) in the linked article.**

#### India's Renewable Energy Target by 2022 (By Source)

Unit: Gigawatts



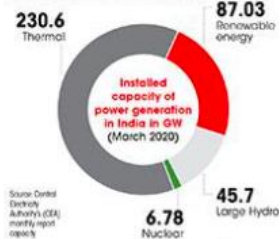
Graphic © Asia Briefing Ltd.

**FACTSHEET**

## HOW RENEWABLE ENERGY SHAPES UP

### Solar Energy

India set itself a target of 175 gigawatt (GW) installed renewable energy (RE) capacity by 2022. This target currently stands at 87 GW till March 2020.

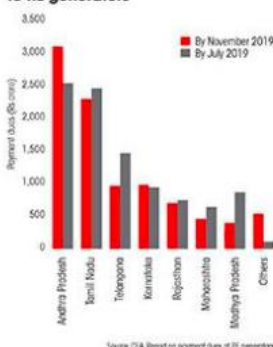


Source: Central Electricity Authority (CEA) monthly report capacity.

Payments for power to RE generators are frequently delayed. Roughly ₹10,000 crore was owed to them in July 2019.

RE-rich states delay payments, with Andhra Pradesh accounting for one-third of the total amount.

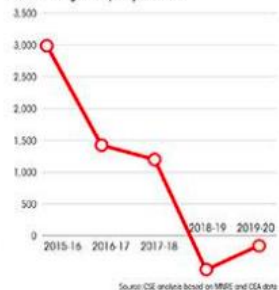
### State-wise payment owed to RE generators



### Large-scale solar

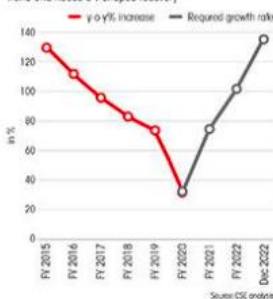
India expected to add only 5 GW to the 60 GW utility-scale solar power target by 2022 due to the COVID-19 pandemic. This includes rooftop solar capacity.

Rate of change in capacity addition:



### Rooftop solar

Installing solar on rooftops does not need new land and provides direct electricity to the consumer. Year-on-year growth, however, indicates a decreasing trend and needs a V-shaped recovery.

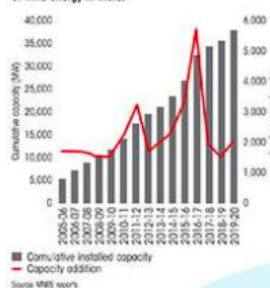


### Wind energy

India is fourth in the world in wind power, with 37.7 GW as of March 2020. But can it meet its 60 GW target?

CB&I reports that wind installations may reach only 45 GW by March 2022.

Capacity addition and total installation of wind energy in India:



### Biomass energy

India has already met its biomass energy target. The sector, however, is hampered by low availability of raw material and rising costs and seems to be running out of steam.

Capacity addition over the years:

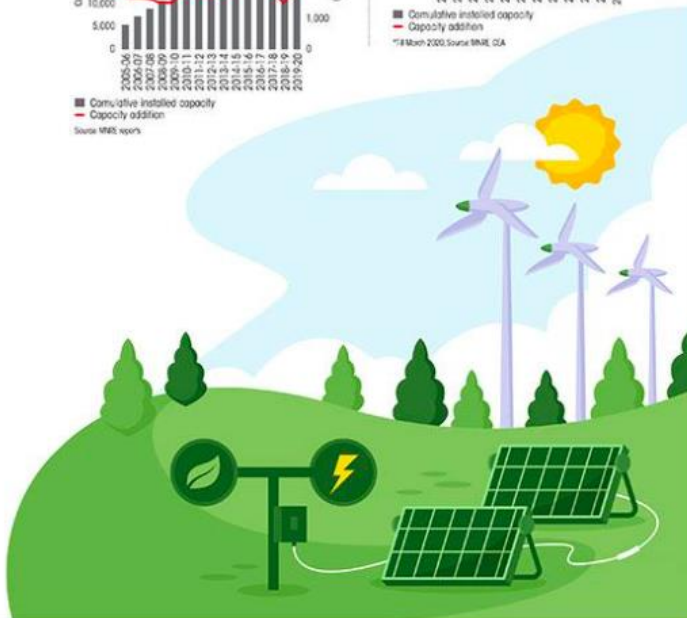


Image source: [www.downtoearth.org.in](http://www.downtoearth.org.in)

## Ways to have an energy-efficient future:

- Experts recommend introducing more awareness programmes regarding green buildings as there is a rapid expansion of urbanization. Awareness has to be generated among the architects regarding energy-efficient buildings.
- There must be universal access to affordable energy with effective intervention by the government.
- More investments in energy-efficient infrastructure are required.
- Lithium-ion batteries can be promoted and employed in appliances and electronic gadgets. The Government of India is also taking measures to manufacture indigenous [lithium-ion batteries](#). This indicates India's step towards self-reliance in manufacturing and energy efficiency.
- Energy storage must also be addressed with importance. For example, the Ministry of Power has discussed the Comprehensive Policy Framework on Energy Storage which is a welcoming step.
- A stable supply chain of renewable energy and cleaner fossil fuel technologies must emerge in order to achieve the ambitious energy targets and pave a roadmap for a clean and green future that is sustainable.

