



Government of Tamilnadu

Department of Employment and Training

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Topic : Clean and Green Energy

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CLEAN AND GREEN ENERGY

CLEAN AND GREEN ENERGY:

In India recent past moving towards clean and green energy, more than 80% of India's electricity comes from fossil fuels, which produce greenhouse gases and hasten global warming. Reaching the renewables target is important because it will point India towards a route to achieve its 2030 goal of getting its 40% electricity from non-fossil sources, compared to 11% now. Renewables will also solve an important health issue back home: air pollution, responsible for one in every eight deaths and the loss of 1.24 million lives in India in 2017, India launched the world's largest renewable energy expansion programme and aims to achieve 175 GW capacity of renewable energy by 2022. The country is taking national actions plans to abide by its duty under the Paris Agreement. Projects like electrifying Rural India is also focused on using clean energy.

Need to promote Green Energy

1. Energy consumption results in 77 percent of India's greenhouse gas emissions.
2. Pollution in cities is already at critical levels.
3. Raising population out of poverty and the subsequent rural-urban migration will substantially increase India's carbon emissions in the years to come.
4. Volatility concerns regarding dependence on oil imports from West Asia
5. India's rapid growth is largely dependent on its energy supply.

Government Initiatives:

1. National Action Plan on Climate Change

8 govt missions under National Action Plan on Climate Change (NAPCC)

- 1) **National Solar Mission:** This initiative started in 2010 to promote the use of solar power. Recently, India achieved 20Gw (giga watt) cumulative solar capacity

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achieving the milestone four years ahead of the target for 2022 originally set in the National Solar Mission.

- 2) **National Mission for Enhanced Energy Efficiency:** The initiative was undertaken to promote the market for energy efficiency by fostering innovative policies and effective market instruments. In 2009, it was approved 'in principle' by the PM's Council on Climate Change.
- 3) **National Mission on Sustainable Habitat:** Approved by the PM in 2011, it aims to make cities sustainable through improvements in energy efficiency in buildings, management of solid waste and shift to public transport. The Ministry of Housing and Urban Affairs backs the mission.
- 4) **National Water Mission:** The mission was put in place to ensure integrated water resource management helping to conserve water, minimize wastage and ensure more equitable distribution both across and within states.
- 5) **National Mission for Sustaining the Himalayan Ecosystem:** A multi-pronged, cross-cutting mission across various sectors, NMSHE got a nod from the Union Cabinet in 2014. Aimed at protecting the Himalayas, it has mapped institutes and civil society organizations working on the Himalayan ecology for ease of coordination between governmental and non-governmental agencies.
- 6) **National Mission for a Green India:** Also termed as the Green India Mission/Scheme, it aims at protecting; restoring and enhancing India's diminishing forest cover and responding to climate change by a combination of adaptation and mitigation measures. Driven by the Ministry of Environment and Forests, it received the nod of approval from the Cabinet in 2014.
- 7) **National Mission for Sustainable Agriculture:** Another one of the govt's most efficient missions, it has been formulated for enhancing agricultural productivity especially in rain-fed areas focusing on integrated farming, water use efficiency, soil health management and synergizing resource conservation. It got the nod back in 2010, and has recently got approval for one of its key missions National Bamboo Mission by the Cabinet.

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8) **National Mission on Strategic Knowledge for Climate Change:** The mission seeks to build a dynamic and vibrant knowledge system that informs and supports national policy and action for responding effectively to climate change challenges, while not compromising on the nation's growth goals.

2.State Action Plan on Climate Change (SAPCC):

State governments have drafted climate strategies aligned with the eight National Missions under the NAPCC. The strategies focus on issues ranging from climate mitigation, energy efficiency, and resource conservation to climate adaptation.

3.International Solar Alliance (ISA):

The International Solar Alliance (ISA) is an alliance of more than 122 countries initiated by India, most of them being sunshine countries, which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn, now extended to all members of UN. The ISA Framework Agreement entered into force on December 6th , 2017, ISA formally became a de-jure treaty based International Intergovernmental Organization, headquartered at Gurugram, India. The Paris Declaration establishes ISA as an alliance dedicated to the promotion of solar energy among its member countries.

Objectives:

The ISA's major objectives include global deployment of over 1,000GW of solar generation capacity and mobilization of investment of over US\$ 1000 billion into solar energy by 2030.

As an action-oriented organization, the ISA brings together countries with rich solar potential to aggregate global demand, thereby reducing prices through bulk purchase, facilitating the deployment of existing solar technologies at scale, and promoting collaborative solar R&D and capacity building.

4.FAME Scheme for E-mobility:

Union Government in April 2015 launched Faster Adoption and Manufacturing of Hybrid and Electric vehicles (FAME) – India Scheme with an aim to boost sales of eco-

friendly vehicles in the country. It is a part of the National Mission for Electric Mobility. The schemes under the ministry of heavy industries

Objectives:

1. Encourage Faster adoption of Electric and hybrid vehicle by way of offering upfront Incentive on purchase of Electric vehicles.
2. Establish a necessary charging Infrastructure for electric vehicles.
3. The scheme will help in addressing the issue of environmental pollution and fuel security.

Now Fame II

'Faster Adoption and Manufacturing of Electric Vehicles in India Phase II' scheme for promotion of Electric Mobility in the country. The scheme with total outlay of ₹ 10000 Crores over the period of three years (2019-20 to 2021-22) will be implemented with effect from 1st April 2019.

Salient Features

1. Emphasis on electrification of the public transportation that includes shared transport.
2. In 3-Wheel (W) and 4-Wheel (W) segment incentives will be applicable mainly to vehicles used for public transport or registered for commercial purposes.
3. In the 2-Wheel (W) segment, the focus will be on the private vehicles.
4. To encourage advance technologies, the benefits of incentives, will be extended to only those vehicles which are fitted with advance battery like a Lithium Ion battery and other new technology batteries.
5. The scheme proposes for establishment of charging infrastructure, whereby about 2700 charging stations will be established in metros, other million plus cities, smart cities and cities of Hilly states across the country so that there will be availability of at least one charging station in a grid of 3 km x 3 km.

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6. Establishment of Charging stations are also proposed on major highways connecting major city clusters. On such highways, charging stations will be established on both sides of the road at an interval of about 25 km each.

5.Pradhan Mantri Ujjwala Yojana:

Pradhan Mantri Ujjwala Yojana aims to provide LPG (liquefied petroleum gas) connections to poor households. Under the scheme, an adult woman member of a below poverty line family identified through the Socio-Economic Caste Census (SECC) is given a deposit-free LPG connection with financial assistance of ₹ 1,600 per connection by the Centre.

Identification of households:

Eligible households will be identified in consultation with state governments and Union territories. The scheme is being implemented by the Ministry of Petroleum and Natural Gas.

Key objectives of the scheme are:

1. Empowering women and protecting their health.
2. Reducing the serious health hazards associated with cooking based on fossil fuel.
3. Reducing the number of deaths in India due to unclean cooking fuel.
4. Preventing young children from significant number of acute respiratory illnesses caused due to indoor air pollution by burning the fossil fuel.

Question:

1. What is clean and green energy? And give some government initiatives associated with clean and green energy.