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**GIST OF IMPORTANT  
REPORT**

**STATE  
ENERGY AND  
CLIMATE INDEX**

**By: NITI Aayog**

**For Civil Services Examination**

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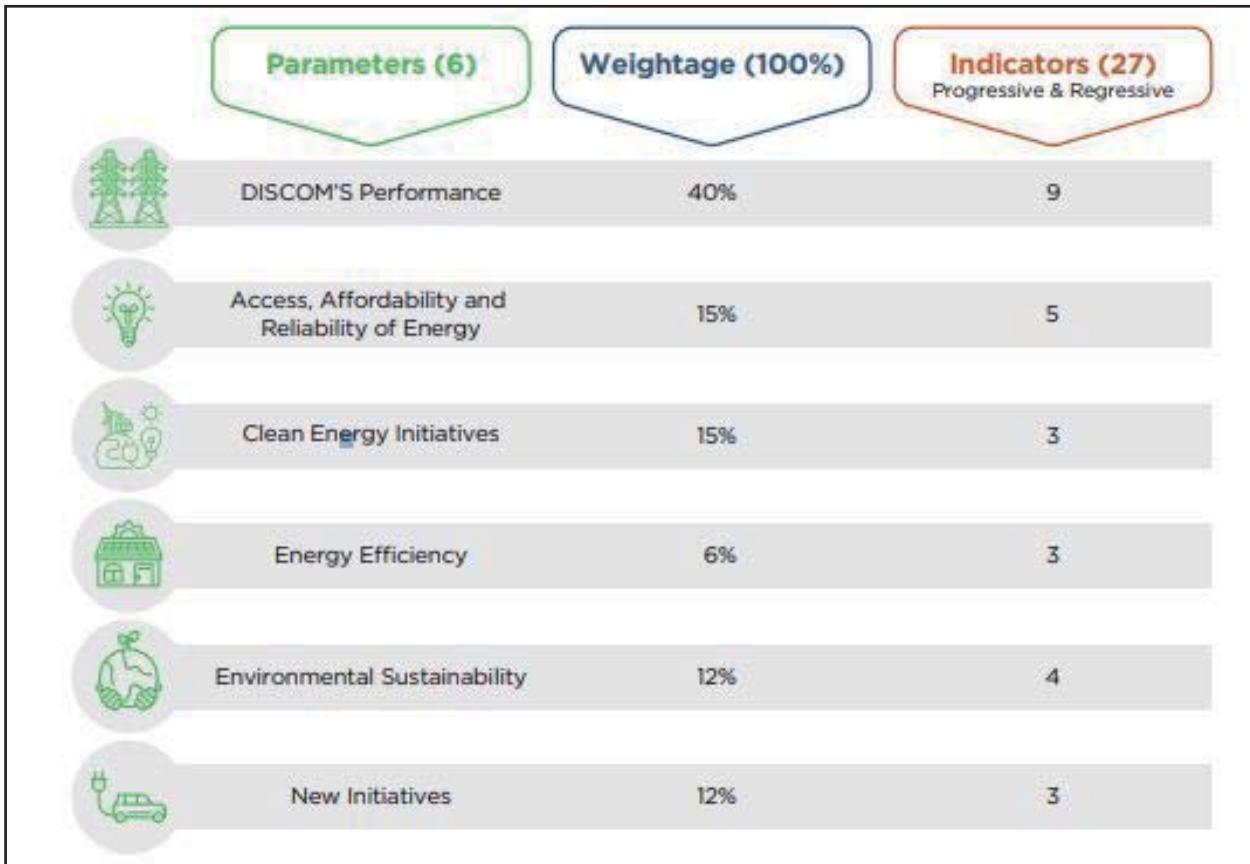
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# STATE ENERGY AND CLIMATE INDEX

## Introduction on SECI

- NITI Aayog has developed the State Energy & Climate Index (SECI) which measures the state's efforts for improving the energy sector.
- Aim: The index has been designed to assess and identify the scope for improving the performance of states and to help them efficiently manage their energy resources.
- The State Energy and Climate Index (SECI) is the first index that aims to track the efforts made by states and UTs in the climate and energy sector.
  - ▶ It is hoped that an **in-depth analysis of individual states** will help in enhancing the service delivery on various parameters of energy.
  - ▶ These parameters have been devised keeping in mind **India's goals for climate change and clean energy transition**.
- **The energy sector contributes to about 75% of the total greenhouse gas emissions of the country.** The paradigm shift in the clean energy transition has a twin-fold objective:
  - ▶ Ensure affordable and reliable energy to all
  - ▶ Reduce its dependence on fossil-based energy by accelerating the clean energy transition.
- **6 parameters:**
  - ▶ DISCOM's performance
  - ▶ Access, affordability & reliability of energy
  - ▶ Clean energy initiatives
  - ▶ Energy efficiency
  - ▶ Environmental sustainability
  - ▶ New initiatives
- **Weightage:** Since DISCOMS are the important link in the entire energy value chain, their performance has been assigned with higher Weightage (40%) in the overall index.
  - ▶ Other parameters have been assigned weights of 15%, 15%, 6%, 12% and 12% respectively.
- **Energy requirement:** Almost 80% of the country's energy requirements are met by coal, oil, natural gas and solid biomass.



- India's per capita emission is quite low but in absolute terms, it is the **3rd largest greenhouse gas emitter (country-wise) in the world.**

### Objectives

The objectives of the index are:

- Ranking the States based on their efforts towards improving energy access, energy consumption, energy efficiency, and safeguarding environment.
- Helping drive the agenda of **affordable, accessible, efficient and clean energy transition** at the State level.
- Encouraging healthy competition among the states on different dimensions of energy and climate.

### Key findings of the report

	Top Three Performers	Bottom Three Performers
Larger States	Gujarat, Kerala, Punjab	Jharkhand, MP, Chhattisgarh
Smaller States	Goa, Tripura, Manipur	Meghalaya, Nagaland, Arunachal Pradesh
Union Territories	Chandigarh, Delhi, D&D and D&N	A&N, J&K, Lakshadweep

- Front-runners:** Gujarat, Kerala, Punjab, Haryana, Uttarakhand, and Maharashtra fall under the category of Front-runners.
- Aspirants:** The states such as HP, Karnataka, TN, Assam, Telangana, Andhra Pradesh, UP, WB and Bihar are achievers and the remaining states are aspirants.

- **Leading state:** The highest score of 50.1 was achieved by Gujarat, followed by Kerala and Punjab with a score of 49.1 and 48.6 respectively.
  - ▶ Though Gujarat is the best-performing state, its performance in terms of Environmental Sustainability and New initiatives needs improvement.
- **Bottom ranked state:** The lowest score of 31.7 was achieved by Chhattisgarh and it can be observed from the parameters score that the state has not performed well in terms of clean energy initiatives, energy efficiency, environmental sustainability, and new initiatives.
- **Scope of improvement:** The performance of Madhya Pradesh, Bihar, Jharkhand, and Orissa has greater scope for improvement in terms of clean energy initiatives, energy efficiency, environmental sustainability, and new initiatives.
- **The score and ranking of small States:** Goa and Tripura are front-runners, Manipur is achiever and remaining smaller states fall in the category of aspirants.
  - ▶ The highest score of 51.4 was achieved by Goa and the lowest score of 27 by Arunachal Pradesh.
  - ▶ Tripura with a score of 58.7 is the best performer all over India in terms of the new initiative parameter.
- **In the third category of UTs:** D&N/D&D, Chandigarh, Delhi and Puducherry are performing better and they are in the category of front-runners.
  - ▶ J&K, A&N, and Lakshadweep fall in the category of aspirants.

## Rankings

### ■ Rankings of larger states

Score and Ranking of Larger States								
Rank	States/UTs	DISCOM's Performance	Access, affordability & reliability	Clean Energy Initiatives	Energy Efficiency	Env Sustainability	New Initiatives	SECI score
1	Gujarat	72.7	52.4	39.2	40.1	35.1	5.5	50.1
2	Kerala	64.4	67.3	21.5	58	46.9	7.7	49.1
3	Punjab	77.1	46.8	26.1	35.1	37	2.3	48.6
4	Haryana	69.8	53.6	42.9	11.7	33.4	6.9	47.9
5	Uttarakhand	61.9	55.3	18.5	50.5	48.7	14.7	46.5
6	Maharashtra	57.7	51.2	34	75.7	36.2	10.4	46.0

### ■ Rankings of smaller states

Score and ranking of Smaller States								
Rank	States/UTs	DISCOM's Performance	Access, affordability & reliability	Clean Energy Initiatives	Energy Efficiency	Env Sustainability	New Initiatives	SECI score
1	Goa	63.4	59.6	62.4	16.6	43.7	12.4	51.4
2	Tripura	57.3	33.1	22.9	31.7	39.6	58.7	45.0
3	Manipur	57.6	34.1	4.7	22.1	41.3	7.3	36.0
4	Mizoram	51.7	39.3	18.9	29.7	38.2	1.1	35.9
5	Sikkim	43.2	37.6	13.8	33.3	52.2	0.6	33.3

6	Meghalaya	47.9	30.9	1.9	4	39.8	2.8	29.4
7	Nagaland	35.9	32.9	12.2	26.4	40	3.4	27.9
8	Arunachal Pradesh	31.1	43.2	5.8	19.8	49	1.1	27.0

## ■ Rankings of UT

Score and ranking of Union Territories								
Rank	States/UTs	DISCOM's Performance	Access, affordability & reliability	Clean Energy Initiatives	Energy Efficiency	Env Sustainability	New Initiatives	SECI score
1	Chandigarh	65.6	58.7	69.2	16.2	62.5	14.1	55.7
2	Delhi	66.2	38.3	67.2	43.9	38.6	49.7	55.6
3	D&D and D&N	71.5	60.3	68.6	0	36	7.9	53.2
4	Puducherry	67.9	57.7	20.3	0.6	42.7	37.9	48.5
5	A&N	37.7	35	20.6	1.3	49.5	0	29.4
6	J&K*	31.2	51.4	11.6	9.9	51.8	4.5	29.3
7	Lakshadweep	42.9	25.9	33.6	0	7.1	0	26.9

## Challenges associated

- **One-size-fits-all approach:** India is a resource-rich and diverse country. Many of its states are comparable to countries in the European Union in terms of area, population, and diversity of resources.
  - ▶ Thus, a one-size-fits-all approach will not be appropriate as each state and Union Territory (UT) differ in terms of **culture, geography, and use of energy resources.**

## Significance of the report

- **Energy access to all:** India, the third-largest energy consumer and the third-largest oil importer is working aggressively to provide affordable energy, ensuring energy access to all and ensuring high efficiencies in the operations.
- **Transforming nation:** India has strengthened its position in the market not only as a popular consumer but also as a transforming nation with **some outstanding far-reaching agendas like:**
  - ▶ **Increasing non-fossil fuel based installed electricity** capacity of the country by 2030 to 500 GW
  - ▶ **Reducing the emission intensity** of its GDP by about 45 percent from 2005 levels by 2030.
- **Rankings will be useful for policy-makers and the state authorities:** in identifying the leaders and the laggards in the energy sector and fine-tune the policies by benchmarking against the best.
- **Energy demand:** Since 2000, India has been responsible for more than 10% of growth in the world's energy demand and India's per capita energy demand has increased by more than 60 percent.
  - ▶ India's energy use has doubled from 2000-level, due to an **increase in income and improved standard of living.**
- **Clean energy transition:** India is one of the countries that occupy the center stage in the world's quest for clean energy transition and mitigation of climate change.
  - ▶ States and UTs have to play a pivotal role in implementing the policies and realising the goals set.

## Government Initiatives in this sector

- **The government has given thrust to improve downstream delivery:** with an aim to improve transmission, distribution infrastructure and financial position of distribution companies; access to clean cooking fuel through efficient and affordable fuel and ensure 24\*7 supply of electricity.
- **PM presented five nectar elements, Panchamrit, to deal with climate change:**
  - ▶ India will reach its **non-fossil installed electricity capacity to 500 GW by 2030.**
  - ▶ **India will meet 50 percent of its electricity requirements** from renewable energy by 2030.
  - ▶ India will reduce the total projected **carbon emissions by one billion tonnes from now onwards till 2030.**
  - ▶ **By 2030, India will reduce the carbon intensity** of its economy by less than 45 percent.
  - ▶ **By the year 2070, India will achieve the target of Net-zero.**
- **Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India)** was launched in 2015 to promote HEVs and EVs throughout their supply chain.
- **UDAY scheme:** all consumers with consumption of more than 200 units per month must compulsorily install smart meters.
- **National Hydrogen Energy Mission (NHEM):** NHEM will focus on green hydrogen and its end users fertilizer, refinery industry, and steel industry etc.
- **India Cooling Action Plan:** to address cooling requirements across sectors and formulate action points to decrease cooling demand.

## Way forward/ Suggestions

- **State specific policy:** It is imperative for each state and UT to have its own policy to harness its potential and capability.
- **Raise this per capita energy consumption:** The per capita energy consumption of India is one-third of the world average. More efforts are required to raise this per capita energy consumption for the inclusive development of the country.
- **Under cooperative and competitive federalism:** ranking the state's initiatives can play an important role to improve performance.

### Important Terms

- **Energy Security:** This measures the capacity of nations to provide a sufficient and reliable supply of energy to meet their current and future energy demand.
- **Energy Equity:** This measures each nation's ability to ensure universal accessibility, affordability and reliability of energy for domestic as well as commercial use.
- **Environmental Sustainability:** This captures indicators that measure the efficiency of the nation's energy system to mitigate and avoid potential harm to the environment and climate change impact.
- **Country Context Dimension:** This captures elements such as macroeconomics, governance and institutional conditions that enable economies to develop and implement their energy policy effectively.

### Global Indices

- World Energy Trilemma Index (WETI)
  - ▶ Since 2010, the **World Energy Council** has been preparing the World Energy Trilemma Index which annually measures the energy system performances of 127 countries.

- World Energy Transition Index
  - ▶ The Energy Transition Index (ETI) is one of the initiatives taken by the **World Economic Forum (WEF)** to track global energy transition.
  - ▶ The index disseminates information on the nation's energy systems and promotes the adoption of policies, decisions and collaboration to secure affordable, sustainable and inclusive energy systems in the future.
- Renewable Energy Country Attractiveness Index (RECAI)
  - ▶ Since 2003, the biannual RECAI by **Ernst & Young (EY)** ranks top 40 markets on the basis of investment made in the renewable energy sector.
- Climate Change Performance Index 2022
  - ▶ **Germanwatch** along with **New Climate Institute and Climate Action Network International** publishes the Climate Change Performance Index (CCPI).
  - ▶ CCPI analyses and compares the climate protection performance of 63 countries and the European Union (EU).

## National Indices

- State Energy Efficiency Index
  - ▶ The State Energy Efficiency Index framework was jointly conceptualized by NITI Aayog, BEE and AEEE.
  - ▶ It examines states' policies and regulations, financing mechanisms, institutional capacity, adoption of energy efficiency and energy savings.
- Ranking & Annual Integrated Rating: State Distribution Utilities
  - ▶ Integrated Rating Methodology was formulated in 2012 by the **Ministry of Power**.
  - ▶ This rating exercise is undertaken annually by **Power Finance Corporation Ltd.**

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