BUREAU OF ENERGY EFFICIENCY
Government of India, Ministry of Power

विद्युत मंत्रालय
MINISTRY OF POWER
सत्यमेव जयते

LiFE
Lifestyle for Environment

STATE ENERGY EFFICIENCY INDEX 2023

The State Energy Efficiency Index (SEEI) 2023 has been developed by the Bureau of Energy Efficiency (BEE) in collaboration with Alliance for an Energy Efficient Economy (AEEE) to track EE initiatives in the states and UTs. It provides insights on sub-national energy efficiency policies, programmes, and investments. SEEI 2023 is the fifth edition of the index after the successful execution of State Energy Efficiency Preparedness Index 2018, SEEI 2019, SEEI 2020 and SEEI 2021-22.

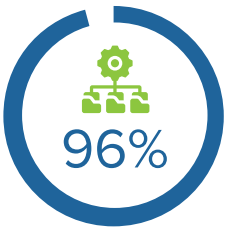
The objectives of SEEI 2023 are to:

- Help drive EE policies and programmes implementation at the state and local level
- Highlight best practices and encourage healthy competition among states and UTs
- Track progress in managing the states' and India's energy footprint
- Institutionalise state-level data capture and monitoring of EE activities by the State Designated Agencies (SDAs)

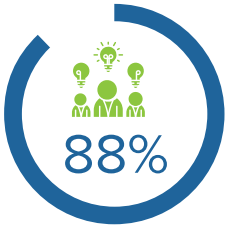
A feedback survey on SEEI 2021-22 was conducted in August 2023 with the SDAs to gather their insights. A total of 25 out of 36 SDAs have responded to this survey by providing valuable feedback on the effectiveness and utility of the index.

Improvmg EE data collection and data management

Tracking States' progress



Enabling the overall coordination with other state departments to gather information



Developing ideas for EE programmes

Influencing the State government/ departments to secure more budget for EE

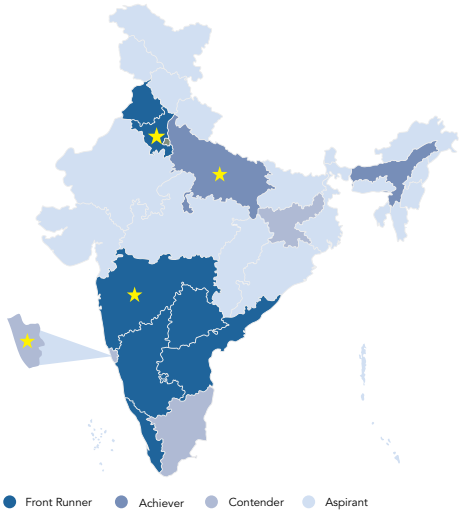
Enabling better relationship private sector for collaboration in EE products & services

SEEI 2023 assesses the performance of the 36 states and UTs in energy efficiency implementation for the FY 2022-23 using 65 indicators across seven sectors, namely: Buildings, Industry, Municipal Services, Transport, Agriculture, Distribution Company (DISCOM), and Cross-Sector initiatives. Like the last SEEI, there is an increased focus on programme-specific indicators to assess the outcomes of state-run EE/EC programmes and other capacity-building initiatives undertaken by the SDAs, state departments, or public-private partnerships. The maximum score in SEEI 2023 is 100.

Categories	Cross sector	Buildings	Industry	Municipal Services	Transport	Agriculture	DISCOMs	Total
Policy, Finance, Institutional Capacity, Adoption of EE Measures, Energy Savings	Common Indicators	Programme-specific Indicators						
Sector weights	15	22	17	11	16	8	11	100
Indicator Weights – Common	15	9	62		7	3	6	48
Indicator Weights – Programme		13	11	9	9	5	5	52

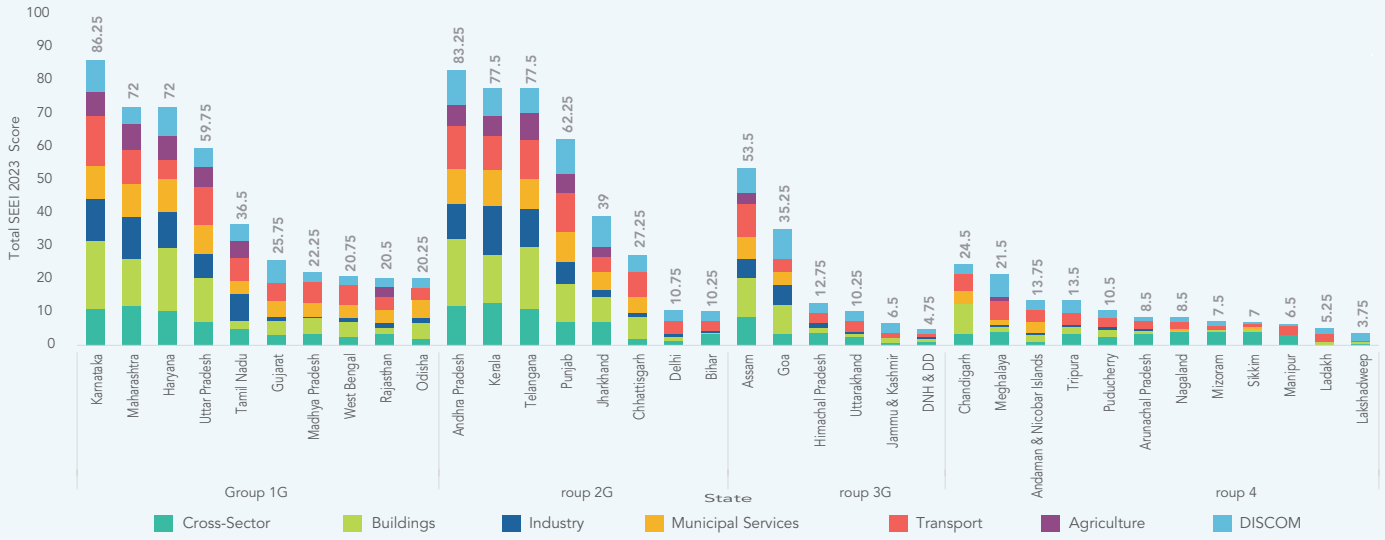
SEEI 2023 Results

SEEI 2023 categorises the states and UTs as 'Front runner' (>= 60), 'Achiever' (50-59.75), 'Contender' (30-49.75), or 'Aspirant' (<30) based on their total scores. Karnataka is the top-performing state in SEEI 2023. Seven (7) states, namely Andhra Pradesh, Haryana, Karnataka, Kerala, Maharashtra, Punjab, and Telangana in the 'Front runner' category in SEEI 2023. Two (2) states, namely Assam and Uttar Pradesh, are in the 'Achiever' category, and three (3) states, namely Goa, Jharkhand, and Tamil Nadu, are in the 'Contender' category. Fifteen (15) states improved their scores compared to SEEI 2021-22, of which four (4) states - Goa, Uttar Pradesh, Maharashtra, and Haryana have improved by more than 10 points. Maharashtra and Haryana are the two most improved states, increasing their scores by 18.5 and 17 points, respectively, with noticeable improvements in reporting the common indicators and the data furnished for the programme-specific indicators.

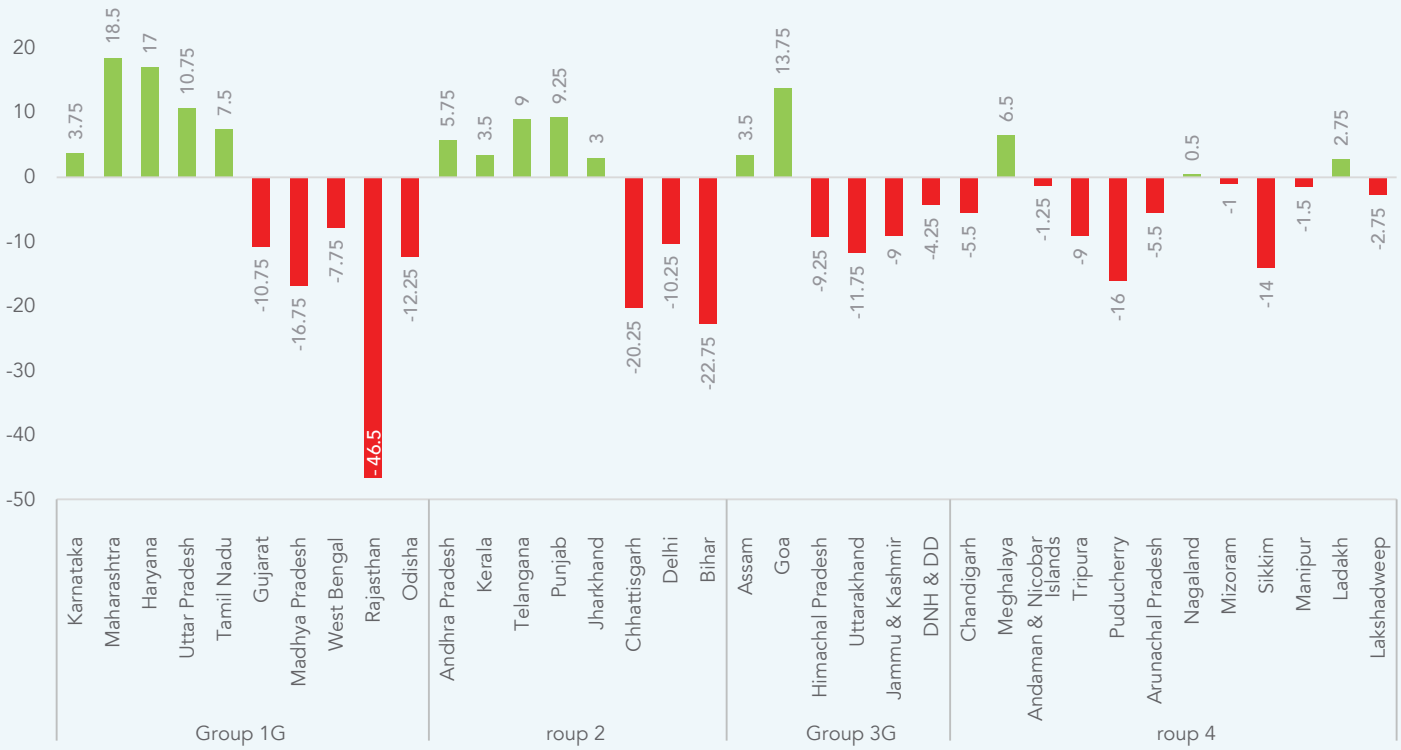


To enable peer-to-peer comparison, all the states and UTs are classified into four groups based on their total annual final energy consumption (TFEC) as Group 1 (>15 MTOE), Group 2 (5-15 MTOE), Group 3 (1-5 MTOE) and Group 4 (<1 MTOE). TFEC group-wise state total scores for all seven (7) sectors and the progress of each state in SEEI 2023 compared to SEEI 2021-22 is shown below.

TFEC group-wise state total scores



Progress in Total score: SEEI 2023 vs 2021-22



KEY FINDINGS

The states and UTs stepped up their efforts to gather and submit relevant data within the stipulated time. Increasing competition among the states regarding the reporting of EE practices is also observed. The states and UTs effectively provided data related to policy, institutional capacity, and various sector-specific state programmes. However, data on outcomes-based parameters like green building penetration, EV penetration, energy conservation awards, and sector-specific EE programmes are still limited and have been sourced from EESL, CII, IGBC, GRIHA, GBCI, and BEE. The energy intensity of the states and the proportion of hybrid and electric passenger vehicles have been calculated in-house with data from several govt sources.

ECBC 2017 has been notified in 2 additional states from SEEI 2021-22, bringing the total to 20. 16 states have adopted ECBC in municipal building bye-laws. 17 states have taken steps for the notification of Eco-Niwas Samhita 2021. Furthermore, 11 states have introduced policies mandating the use of energy-efficient appliances in government buildings. For energy use benchmarking, 4 states have taken initiated data disclosure. 15 states reported EE programmes in government/public buildings, while 14 and 9 states respectively reported similar initiatives in commercial buildings and residential buildings Lastly, 9 states reported conducting capacity-building programmes for building sector.

9 states reported having EE provisions in the state's Industry/MSME policy. 6 states adopted policies for carrying out Mandatory Energy Audits (MEA) and implementing the recommendations of MEA. 5 states reported implementing measures towards electrification of end-use energy in industries. 10 states reported having EE programmes in large industries, and 7 states in MSME. 11 states reported conducting capacity-building programmes for industry sector.

In the municipal services sector, 12 states reported taking steps to promote the use of EE pumps and motors in municipal water and sewerage systems. 20 states reported having EE street lighting programmes and 11 states in water/ sewerage systems. Also, 11 states reported conducting capacity building programmes for municipal service sector.

In transport, 12 states reported establishing transport policy advocating fuel efficiency, and 26 states notified electric mobility policies, with 3 in draft stage. 12 states reported having policy for procurement of EV for government use.32 states reported ethanol blended petrol available in the state. 8 states reported having EE programmes in public transport and 14 states in private transport. Further 7 states reported conducting capacity-building programmes for transport sector.

In the DISCOM sector, 95 utilities have T&D loss reduction targets in PAT cycle VII. ToD/ToU tariffs for industrial/ commercial consumers have been implemented in 26 states, and 10 states have them for domestic consumers. 9 states reported taking steps towards reduction of ACS-ARR gap to zero through RDSS scheme. Smart meter installation has been reported by 26 states and 10 states reported progress in agriculture feeder segregation. 28 states reported implementing DSM programmes and 10 states reported conducting capacity building programme.

8 states reported the finalization of State Energy Efficiency Action Plan in their state while 5 states reported SEEAP in the draft stage. 3 states reported having notified EE/EC policy while 3 states have in draft stage. 8 states reported having a state policy, programme, or financial instrument for promoting innovation and R&D in EE. 33 states have established State Energy Conservation Funds, with 27 contributing matching grants. However, only 2 states have utilized these funds on a Revolving Investment Fund (RIF) basis. 21 states have formed steering committees headed by the Chief Secretary for energy transition, and 9 SDAs have collaborated with government entities, while 8 have collaborated with private entities to promote EE.

Only 2 states have EE targets at both the state and sector levels. 5 states have innovation and R&D programs for EE, while 6 states have dedicated budgets for their State Designated Agencies (SDAs). Thirty One states have established State Energy Conservation Funds, with 26 contributing matching grants. However, only 5 states have utilized these funds on a Revolving Investment Fund (RIF) basis. Sixteen states have formed steering committees headed by the Chief Secretary for energy transition, and 8 SDAs have collaborated with government entities, while 6 have collaborated with private entities to promote EE.

TAKEAWAYS

Effective implementation of SEEAPs requires strategic policy packages, comprehensive investment analysis, and robust monitoring mechanisms, with a focus on sector-specific interventions and transparent communication strategies involving stakeholders for the achievement of energy savings targets and NDC goals.

Synergize efforts for state energy transition involves fostering collaboration among SLSC committee and other govt. departments, promoting systemic cooperation, addressing concerns, ensuring data-sharing mechanisms, engaging stakeholders, and implementing transparent reporting to advance a unified and interconnected approach towards a sustainable energy future in alignment with state goals

Leveraging the State Energy Conservation Fund in the revolving investment mode can accelerate energy efficiency projects in Indian states, promoting sustainability and growth through continuous reinvestment and partnerships with banks for low-interest loans.

Enabling the adoption of energy efficiency through ESCOs in states can unlocked through robust policy/guidelines to harness the underutilized potential of ESCOs, offering comprehensive turnkey services and creating a positive cycle of investment, job opportunities, and optimized energy use in critical sectors.

Integrating Gender Equality and Social Inclusion (GESI) in state-level energy efficiency policies and programs is essential for maximizing impact, addressing diverse needs, and fostering inclusive interventions that empower women, marginalized communities, and vulnerable groups.

Leverage the Carbon Market for energy efficiency promoting energy-efficient technologies in public procurement, raising awareness, undertaking strategic training, offering tailored incentives, and championing supportive policies, fostering a collaborative environment to integrate energy efficiency as a crucial element within the carbon market for reduced emissions and greater sustainability.

Alliance for an Energy Efficient Economy™

www.aeee.in

To find out more visit the State Energy Efficiency Index Portal

www.stateenergyefficiencyindex.in