GOVERNMENT OF INDIA
MINISTRY OF POWER

NITI Aayog

STATE ENERGY EFFICIENCY PREPAREDNESS INDEX

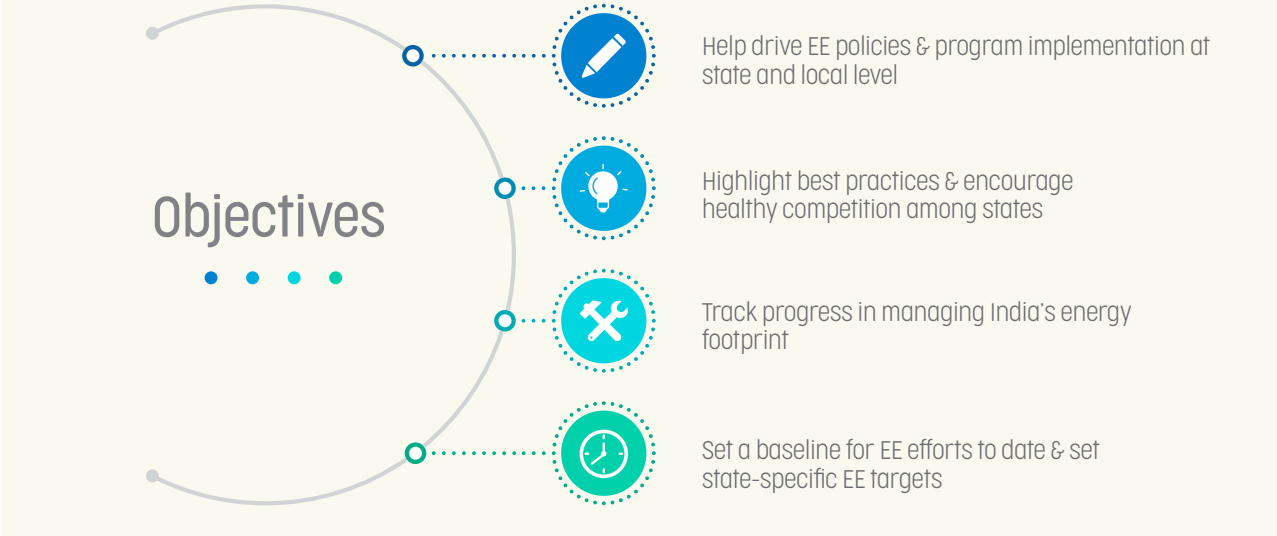
2018

ALLIANCE FOR AN ENERGY EFFICIENT ECONOMY (AEEE), under the guidance and leadership of the Bureau of Energy Efficiency (BEE) and NITI Aayog, has published India's first 'State Energy Efficiency Index' for the 29 Indian states and the National Capital Territory of Delhi.

States have a vital role in India's energy efficiency policy implementation, with State Designated Agencies being partners of the Government of India's Bureau of Energy Efficiency (BEE).

The Government of India has made excellent strides in Energy Efficiency over the last 15 years since the enactment of the ground-breaking Energy Conservation Act in 2001. This Act was instrumental in the formation of the Bureau of Energy Efficiency (BEE) and the State Designated Agencies (SDA) in the states. It also put in place the much-needed institutional framework for formulating energy efficiency policies and implementing them.

Since then, BEE has developed the Energy Conservation Building Code, a fairly successful Standards and Labelling programme for the most energy-intensive appliances and an ambitious & innovative industrial energy efficiency programme, Perform Achieve and Trade (PAT). Another milestone is NITI Aayog's energy scenario modelling tool *India Energy Security Scenarios (IESS)* 2047 which offers a platform to facilitate academic and policy discourse about potential pathways for the Indian energy sector. There is substantial potential to impact energy efficiency and reduce energy demand by 2047.



APPROACH

The State Energy Efficiency Index framework was jointly conceptualised by NITI Aayog and BEE wherein it went through extensive review both at NITI Aayog and BEE. American Council for an Energy Efficient Economy (ACEEE), which has published 11 editions of the US State Energy Efficiency Scorecard and 4 editions of the International Energy Efficiency Scorecard, provided technical support in developing the State Energy Efficiency Index.

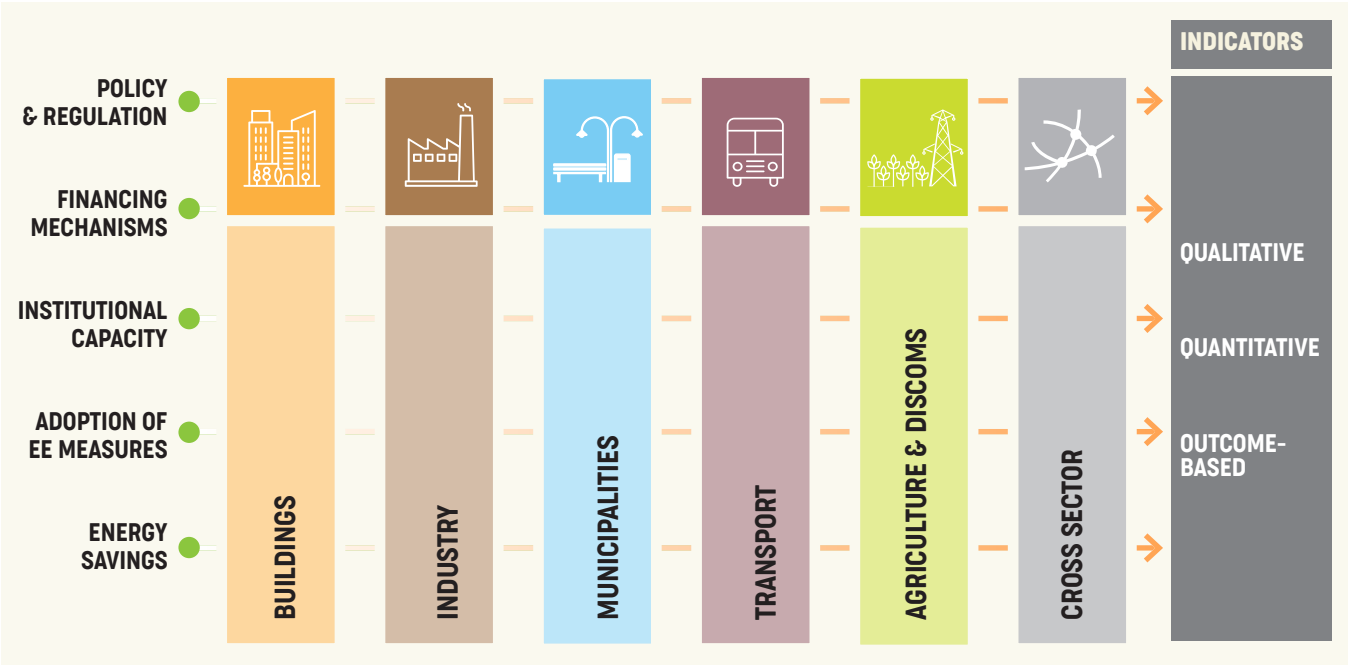
The composition of the Index has been developed considering energy consumption, energy saving potential and states' influence in implementing energy efficiency in buildings, industry, municipalities, transport, agriculture and DISCOMs. It examines states' policies and regulations, financing mechanisms, institutional capacity, adoption of energy efficiency and energy savings. The Index has 63 indicators in all - 59 across buildings, industry, municipalities, transport, agriculture and DISCOMs; and 4 cross-cutting indicators.

In each sector, energy efficiency indicators have been developed to measure the impact of state initiatives in driving energy efficiency in states. The indicators are both qualitative and quantitative, which include outcome-based indicators as well to signify realisation of the intended performance outcomes, to the extent possible, for various energy efficiency policies and programs.

The sector-wise score allocation also has been done considering energy consumption, energy saving potential and states' influence in each demand sector and DISCOMs. The building sector receives 30% weightage because it accounts for the second highest share of energy use, and states can be very influential in this sector. The industrial sector receives 25% weightage because it has the largest share of energy use, but there is less that states currently do for energy efficiency in this sector. The weightage for municipalities (10%), transport (15%), agriculture & DISCOM (15%), and cross sector initiatives (5%) are based on similar reasoning.

The SDAs were nominated by BEE to help collect data from the concerned state departments. Apart from the data furnished by SDAs, AEEE also collected data from various central government sources such as Central Electricity Authority (CEA) General Review, Ministry of Road Transport and Highways (MoRTH) annual report on performance of state road transport undertakings, programme implementation information of BEE, Petroleum Conservation Research Association (PCRA), and Energy Efficiency Services Limited (EESL), among others. All the data collected from various sources was compiled and shared with the respective SDAs for final review.

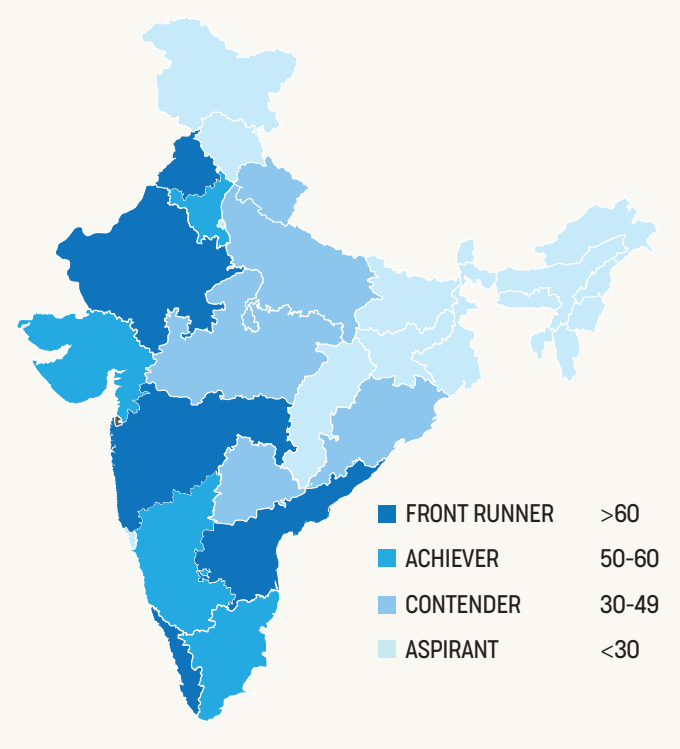
The states are indexed into four categories based upon their efforts and achievements towards energy efficiency – 'Front runner', 'Achiever', 'Contender' and 'Aspirant'.



KEY FINDINGS

Most states have implemented programmes driven by BEE and EESL. The 'Front runner' and 'Achiever' states have several state initiatives as well.

The 'Front runner' states in the inaugural edition of State Energy Efficiency Index are Andhra Pradesh, Kerala, Maharashtra, Punjab and Rajasthan.



BUILDINGS

10 states have notified Energy Conservation Building Code (ECBC) and 9 of these have also incorporated ECBC in municipal building bye-laws. Most states have implemented EESL's UJALA programme for LED bulbs and appliances. Some states additionally have their own initiatives to drive adoption of EE lighting and appliances, including adoption of BEE star rated appliances for all government buildings. 25 states have certified green buildings. Some leading states have financial incentives such as subsidies for energy audits, soft loans for retrofits, rebate in property tax, and extra FAR for ECBC compliant buildings.

INDUSTRY

Most states primarily focus on BEE's PAT programme. Only 5 states mandate energy audits for specific categories of industry other than PAT DCs. Though there have been several cluster-based programmes in the MSME sector, only 7 states were able to provide data on these programmes or on any other energy efficiency initiatives for MSMEs. 6 states provide financial incentives for implementing energy efficiency in industrial units.

MUNICIPALITIES

25 states have implemented EESL's Street Lighting National Programme (SLNP), while 15 of these also have state-level street lighting programmes. 23 states have signed up for EESL's Municipal Energy Efficiency Programme (MEEP) and 12 have additional state-level programmes as well.

TRANSPORT

Consumers in 26 states have utilised the Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) scheme to purchase subsidised passenger Electric Vehicles. 2 states have already announced EV policies and many others are working on the same. Many states have awareness programmes on fuel efficiency for State Road Transport Undertaking (SRTU) staff, primarily driven by PCRA. No states were able to provide data on proportion of population using public transportation and whether states have a policy for procurement of fuel-efficient vehicles for government organisations.

AGRICULTURE AND DISCOM

21 states have notified Demand Side Management (DSM) regulations. Several states have DSM programmes, of which 7 states have utility-driven DSM programmes. Only 3 states have Transmission and Distribution (T&D) losses less than 15%. While several DISCOMs have introduced Time of Day (ToD) billing for at least certain categories of consumers, other DSM initiatives such as appliance replacement programmes have primarily been restricted to pilot projects.

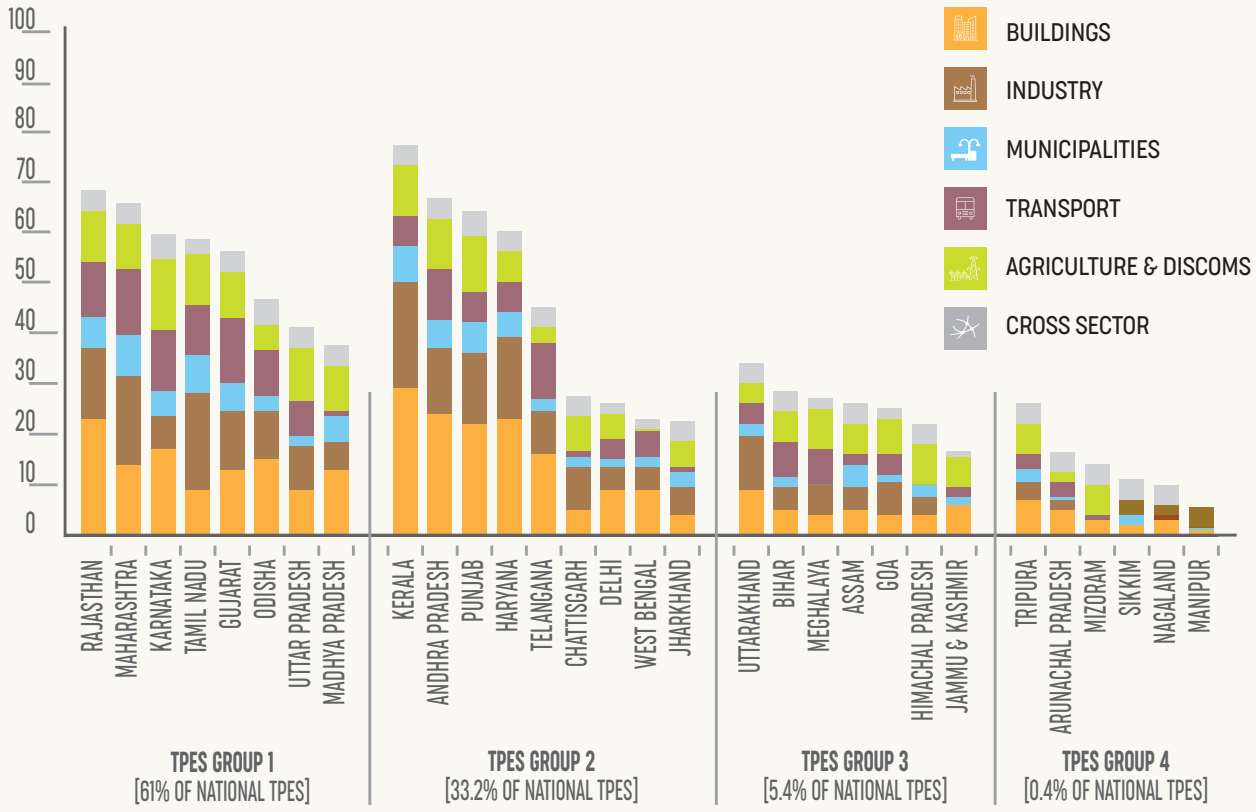
CROSS SECTOR / SDA

Most SDAs have set up State Energy Conservation Fund with BEE support and have received matching funds from the state government. Only a few states have initiated projects with Revolving Investment Fund (RIF) mechanism. 27 states regularly conducted general awareness programmes using BEE funds, with 25 of them having school awareness programmes as well.

STATE SECTOR WISE SCORES

States are grouped based on their share of national total primary energy supply (TPES), in presenting their sector wise scores in the State Energy Efficiency Index. Thus, a state's score can be viewed relative to others within its peer group.

STATE SCORES



WAY FORWARD

Streamline data collection from states towards national energy data management

Review and revise EE indicators to reflect the evolving landscape of EE in the country

Strengthen SDAs with independent charge of energy efficiency

Accelerate coordination among key stakeholders in states and the centre

Supported by

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