

Indian States' Electricity Transition (SET) Report

Evaluating preparedness of 21 Indian states towards the electricity transition pathway

Overview

Gujarat and Karnataka have effectively integrated renewable energy into their power sectors

Haryana, Andhra Pradesh, Punjab and Rajasthan exhibited considerable progress in certain aspects

Jharkhand, Bihar, West Bengal and Uttar Pradesh move more slowly than others this year

Macro Performance of 21 States on Electricity Transition Dimensions



Source: IEEFA and Ember analysis

While recognising the efforts states are making towards transitioning to clean electricity, we recommend the strengthening of **state-level regulatory ecosystems**.

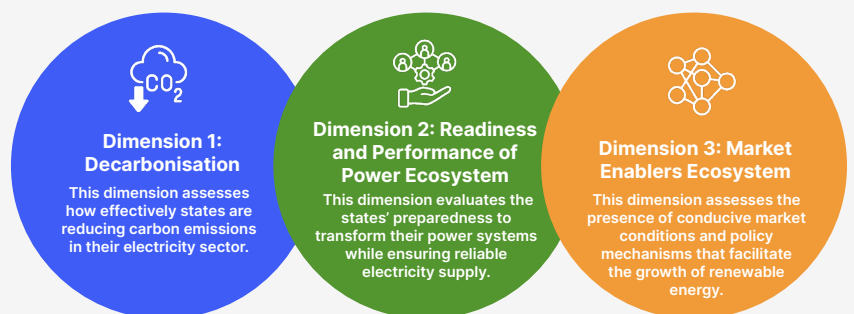
These ecosystems promote growth, data tracking and monitoring, and a conducive environment for business.

India has formulated many central and state-level policy schemes by supporting various reforms and regulatory interventions across the value chain.

There is also a need to shift focus from **national-level to state-level studies** as each state presents unique challenges.

This can be done through **state-level transition plans** and trajectories by delving into state-level dynamics, and identifying specific barriers and facilitators to provide a holistic view of the transition landscape.

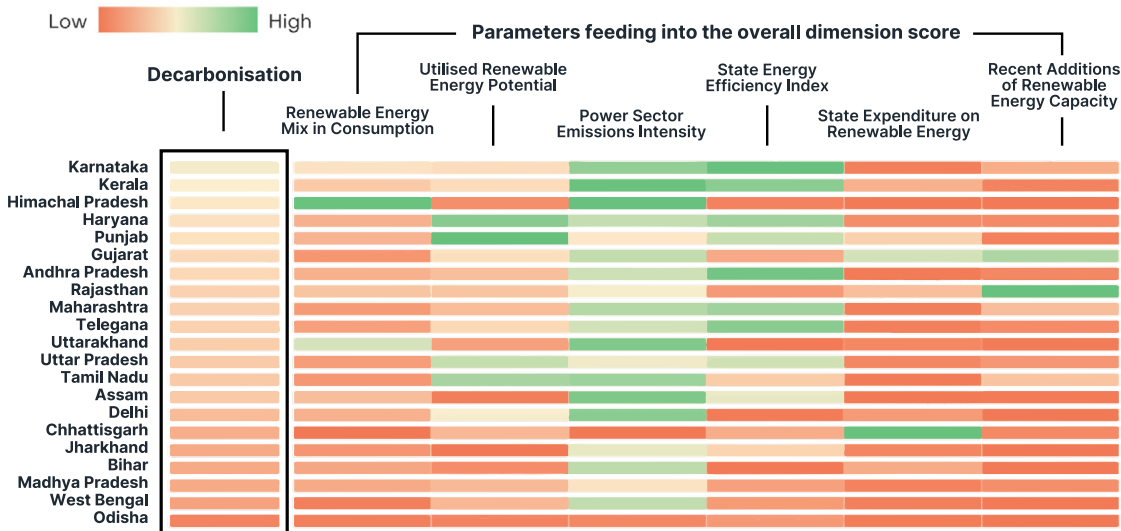
Parameters for Evaluation



Extensive discussions with sectoral experts from organisations, including the Energy and Resources Institute (TERI), Grid-India, EY-Parthenon and others, helped us refine the parameters for each of the three dimensions.

Detailed Evaluation

Dimension 1: Decarbonisation



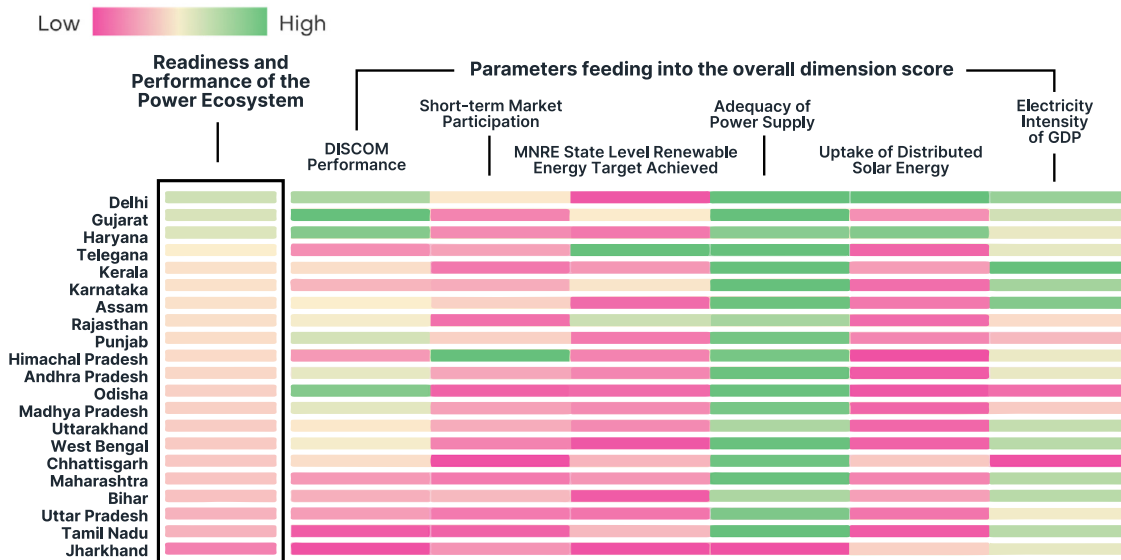
Source: IEEFA and Ember analysis

Karnataka stands out as the top performer in this dimension due to its strong performance across various parameters, particularly **faring well in the State Energy Efficiency Index (SEEI)**.

Kerala stands out for its **high renewable energy consumption** share (29%), the fourth highest among states in this dimension, despite its relatively lower renewable energy potential.

Himachal Pradesh stands out for its strong performance in this dimension due to its historically **heavy reliance on hydroelectric power**, which sets it apart from other states.

Dimension 2: Readiness and Performance of the Power Ecosystem



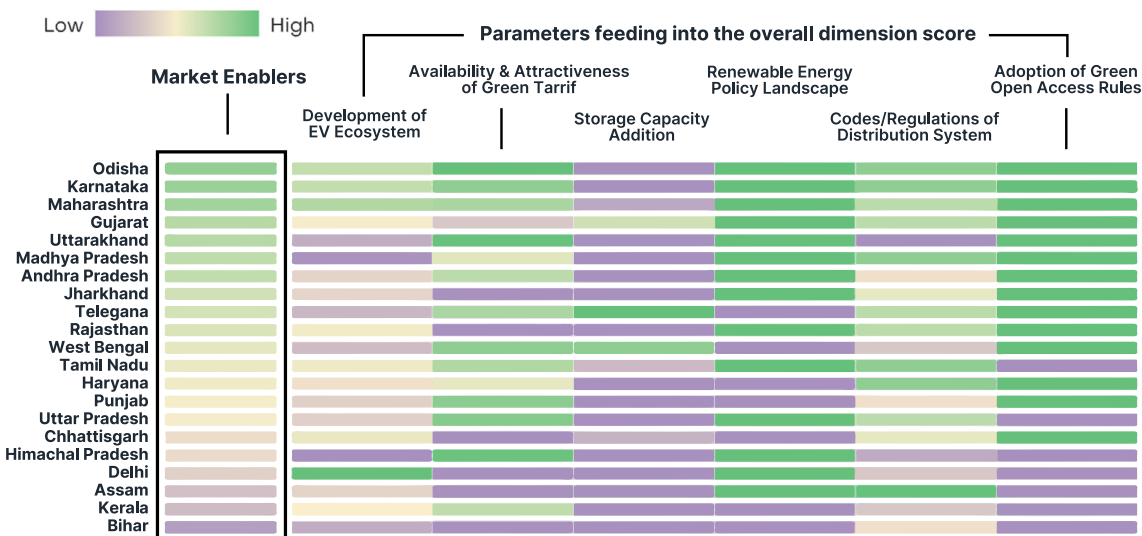
Source: IEEFA and Ember analysis

States such as **Delhi, Gujarat, Haryana and Telangana** performed well across all the parameters. Conversely, Jharkhand, Chhattisgarh, Bihar, Tamil Nadu and Uttar Pradesh scored low on most parameters.

Delhi stands out as the top performer across five out of six parameters, particularly **faring well in the uptake of distributed solar energy**.

Gujarat shines in this dimension, boasting the **highest DISCOM rating by the PFC**.

Dimension 3: Market Enablers



Source: IEEFA and Ember analysis

Odisha emerges as the **top-performing state** with the lowest incremental green tariff rate of Rs0.25/kWh (US\$0.003/kWh).

Karnataka excels with a **competitive incremental Green Tariff rate of Rs0.5/kWh (US0.6¢/kWh)**, existing renewable energy policy applicable until 2027 and adoption of Green Open Access Rules (GOAR).

Maharashtra, Gujarat and Uttarakhand were other frontrunners with functional **state renewable energy policies and successfully adopted GOAR**.